for Preparation Click here

1.POWER WINDOW CONTROL SYSTEM PRECAUTIONS

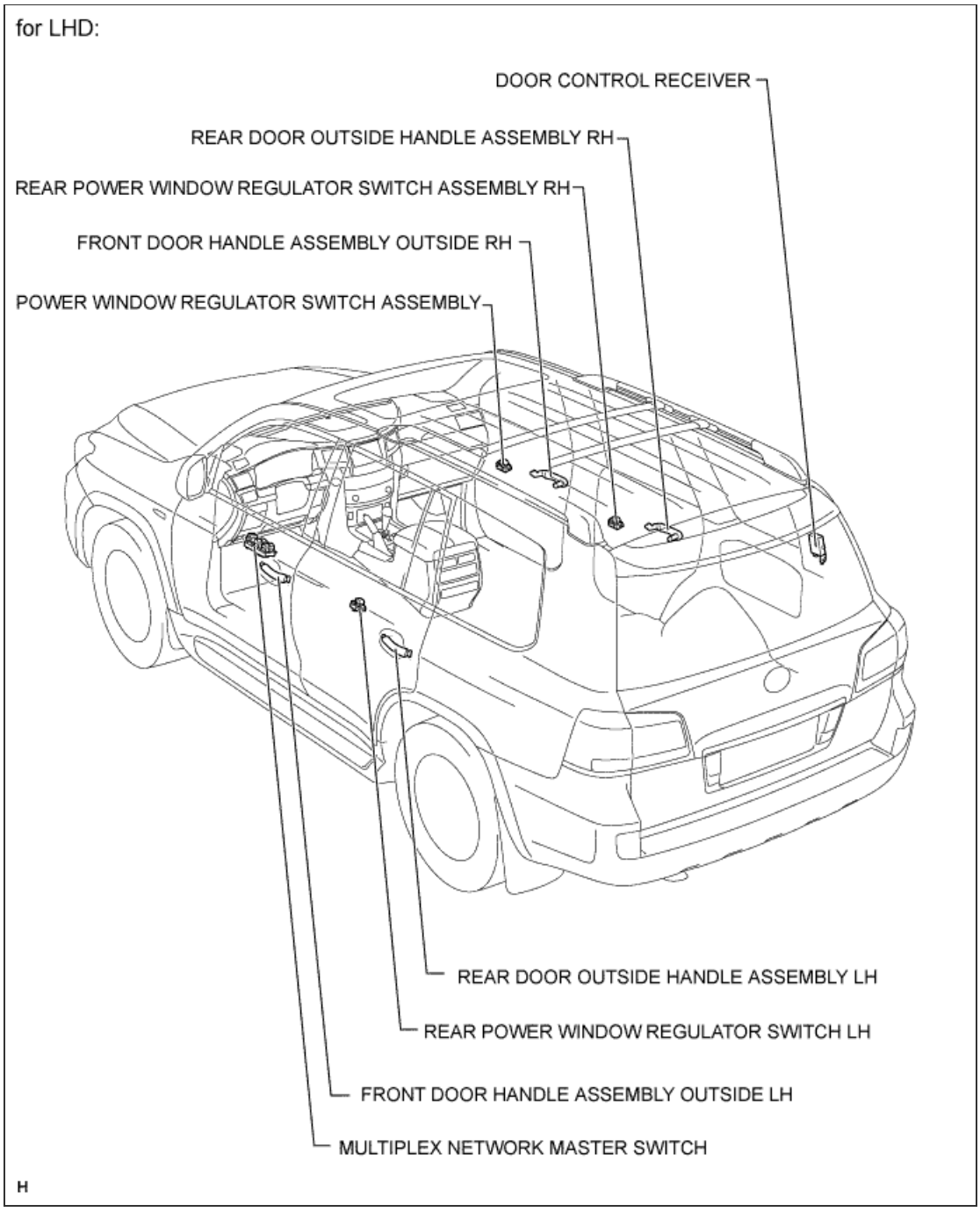
CAUTION:

- **The power window control system prohibits the auto up/down function when the jam protection function malfunctions. Therefore, troubleshoot the power window control system after confirming that no trouble codes are output.**
- **When a power window regulator or a power window regulator motor assembly is replaced, the power window control system must be initialized.**
- **After a door glass or a door glass run has been replaced, the jam protection function may operate unexpectedly when the auto up function is used. In such cases, the auto up function can be resumed by repeating the following operation at least 5 times:**
    1. **Close the power window by fully pulling up the power window switch and holding it at the auto up position.**
    2. **Open the power window by fully pushing down the power window switch.**
- **The jam protection function may operate unexpectedly even when the power window control system is normal, due to detection of a value different from the operation learned value when the door glass moving speed changes sharply under any of the following conditions:**
    1. **A power window is being opened or closed while the vehicle is driving on a rough road.**
    2. **A power window is being opened or closed while the door is being opened or closed.**
    3. **A sharp voltage change.**

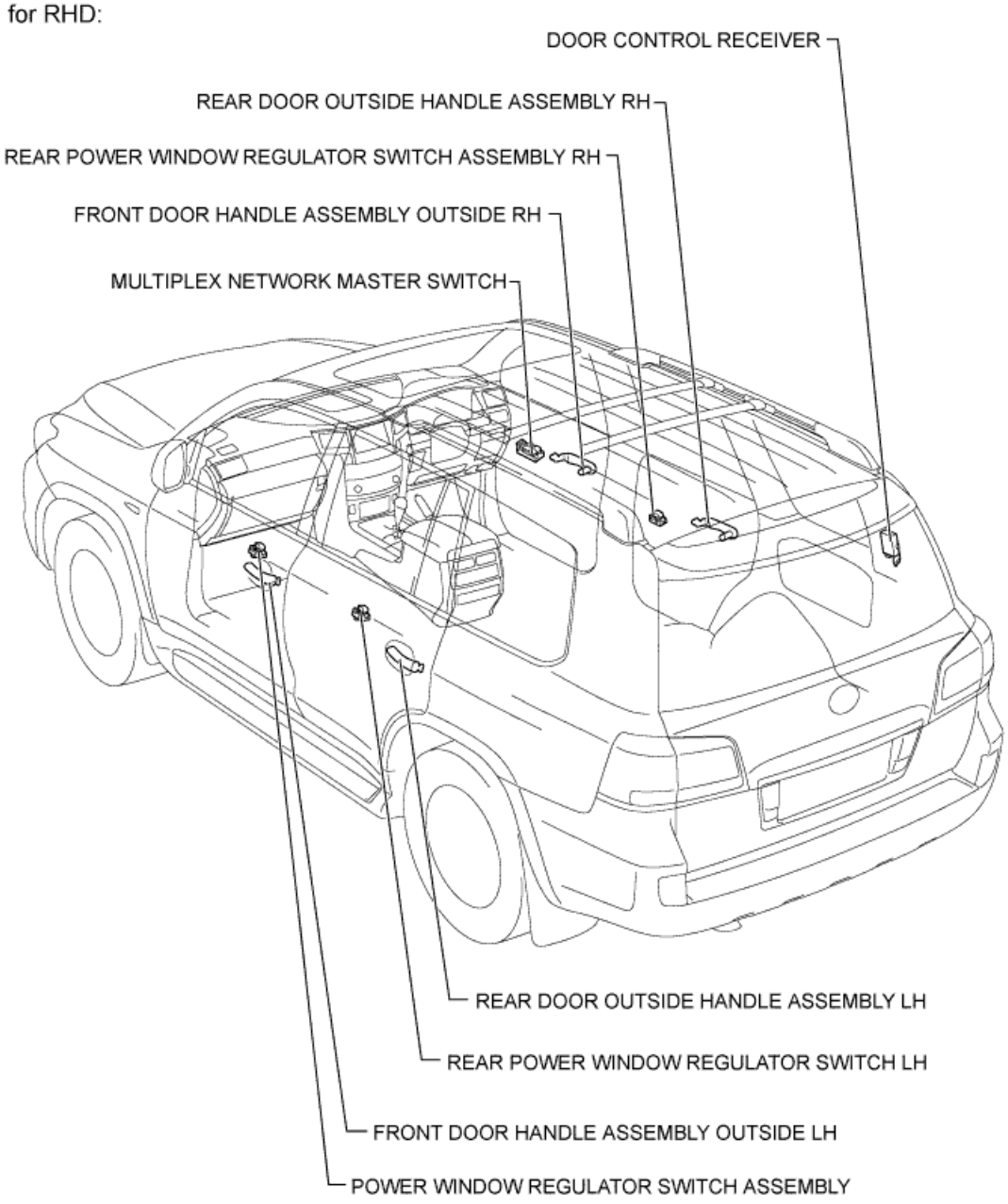
NOTICE:

Do not disconnect the cable from the negative (-) battery terminal while the engine switch is on (IG). Otherwise, DTC B2311 will be output.

for Preparation Click here

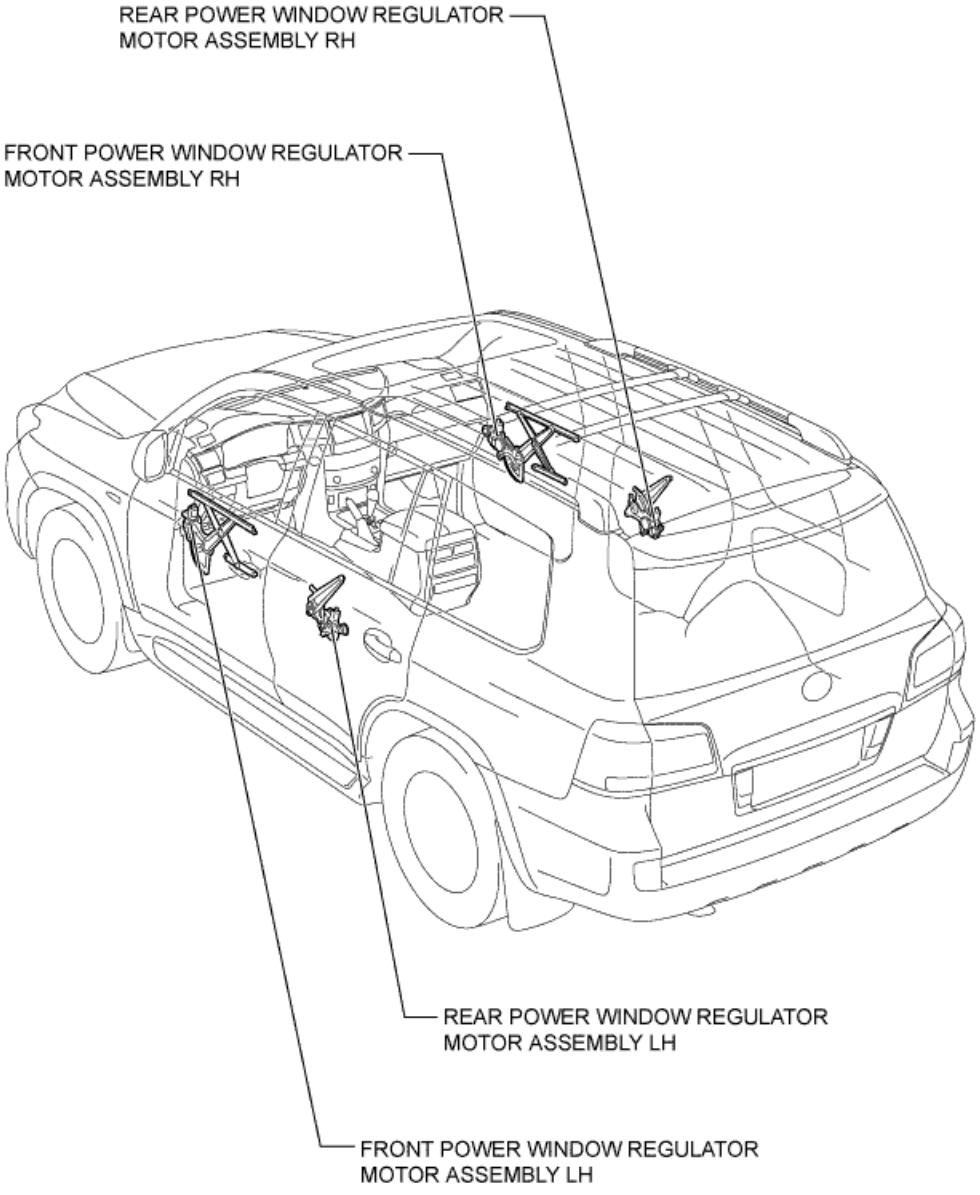


for RHD:


DOOR CONTROL RECEIVER
REAR DOOR OUTSIDE HANDLE ASSEMBLY RH
REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY RH
FRONT DOOR HANDLE ASSEMBLY OUTSIDE RH
MULTIPLEX NETWORK MASTER SWITCH
REAR DOOR OUTSIDE HANDLE ASSEMBLY LH
REAR POWER WINDOW REGULATOR SWITCH LH
FRONT DOOR HANDLE ASSEMBLY OUTSIDE LH
POWER WINDOW REGULATOR SWITCH ASSEMBLY

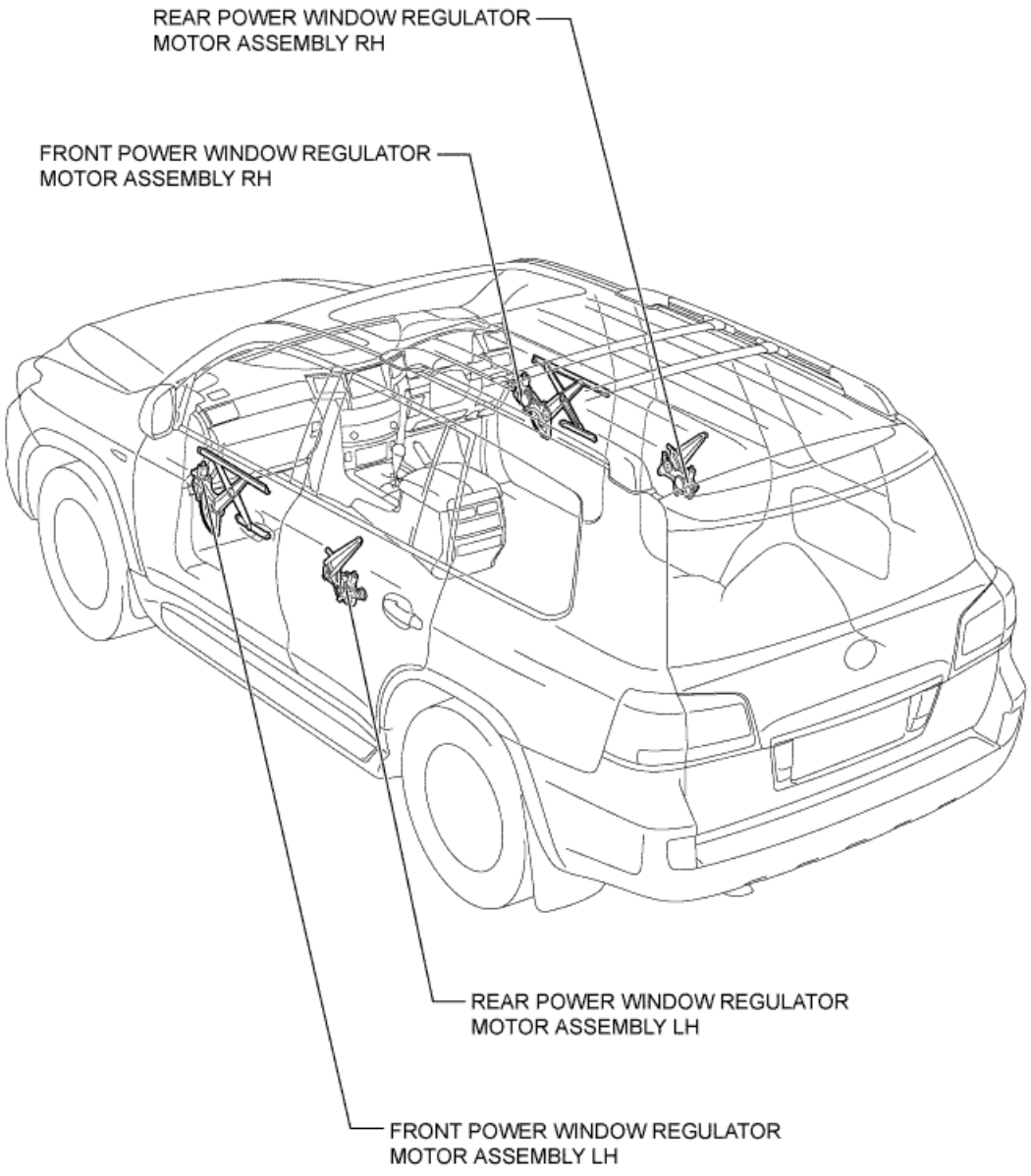
H

for LHD:


REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH
FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH
REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH
FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH

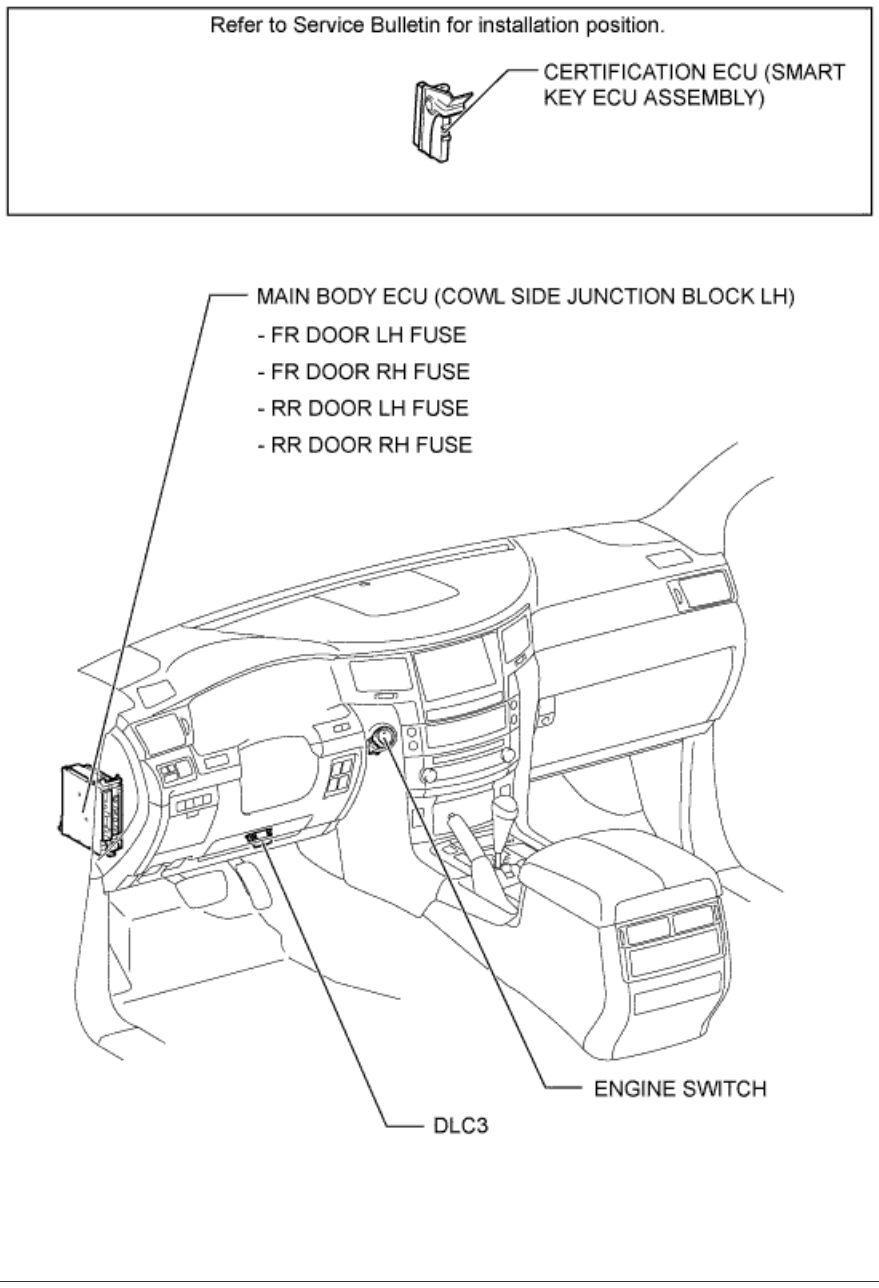
H

for RHD:

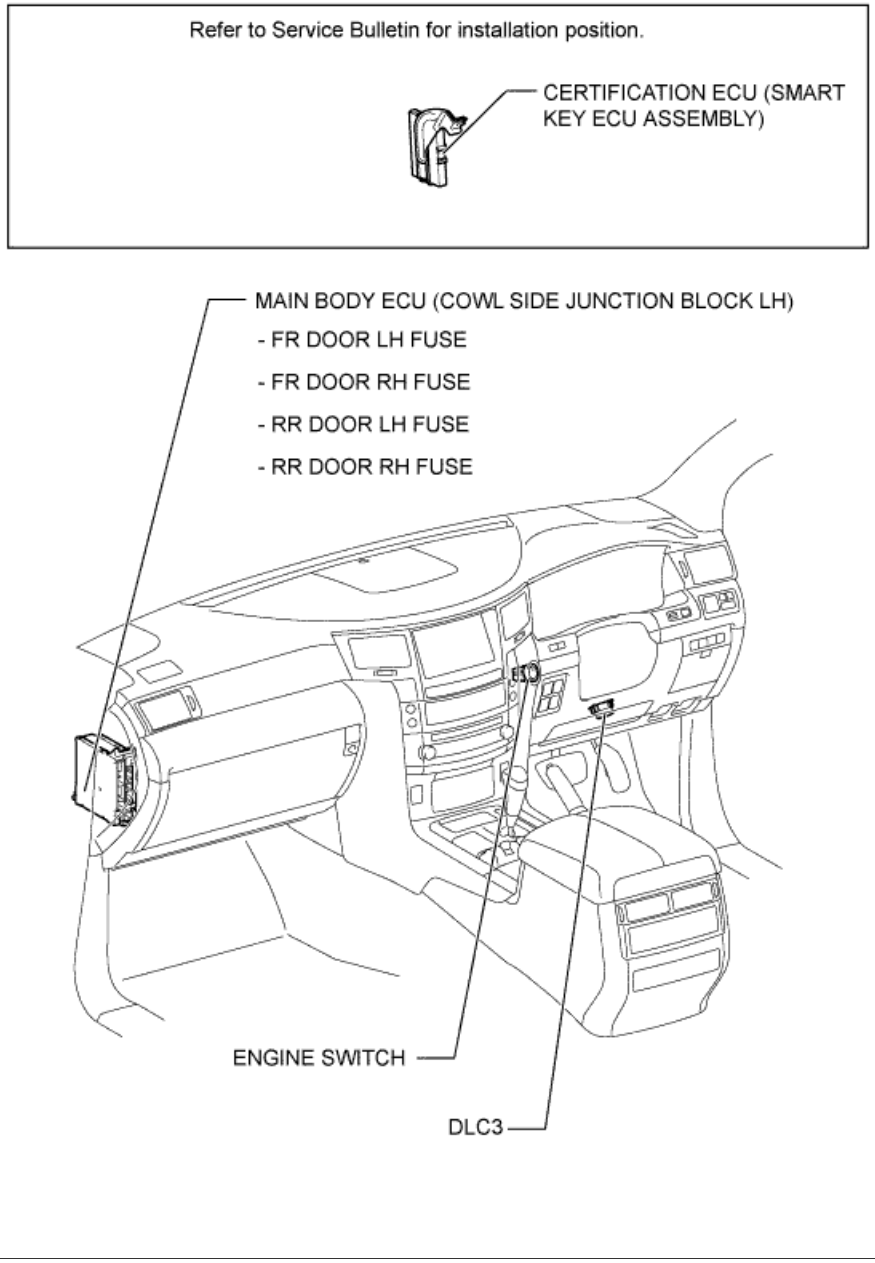

REAR POWER WINDOW REGULATOR
MOTOR ASSEMBLY RH
FRONT POWER WINDOW REGULATOR
MOTOR ASSEMBLY RH
REAR POWER WINDOW REGULATOR
MOTOR ASSEMBLY LH
FRONT POWER WINDOW REGULATOR
MOTOR ASSEMBLY LH

H

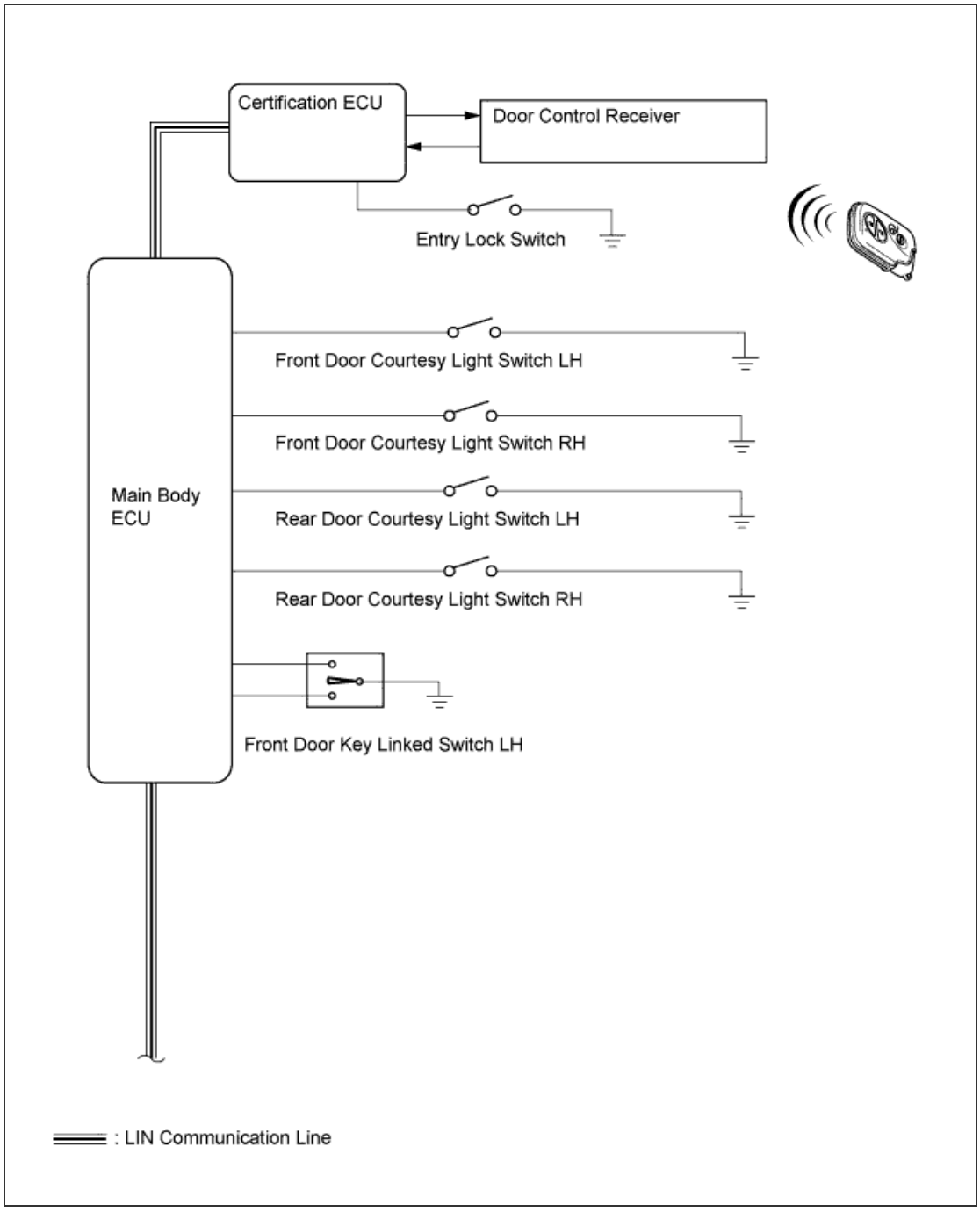
for LHD:


Refer to Service Bulletin for installation position.
CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- FR DOOR LH FUSE
- FR DOOR RH FUSE
- RR DOOR LH FUSE
- RR DOOR RH FUSE
ENGINE SWITCH
DLC3

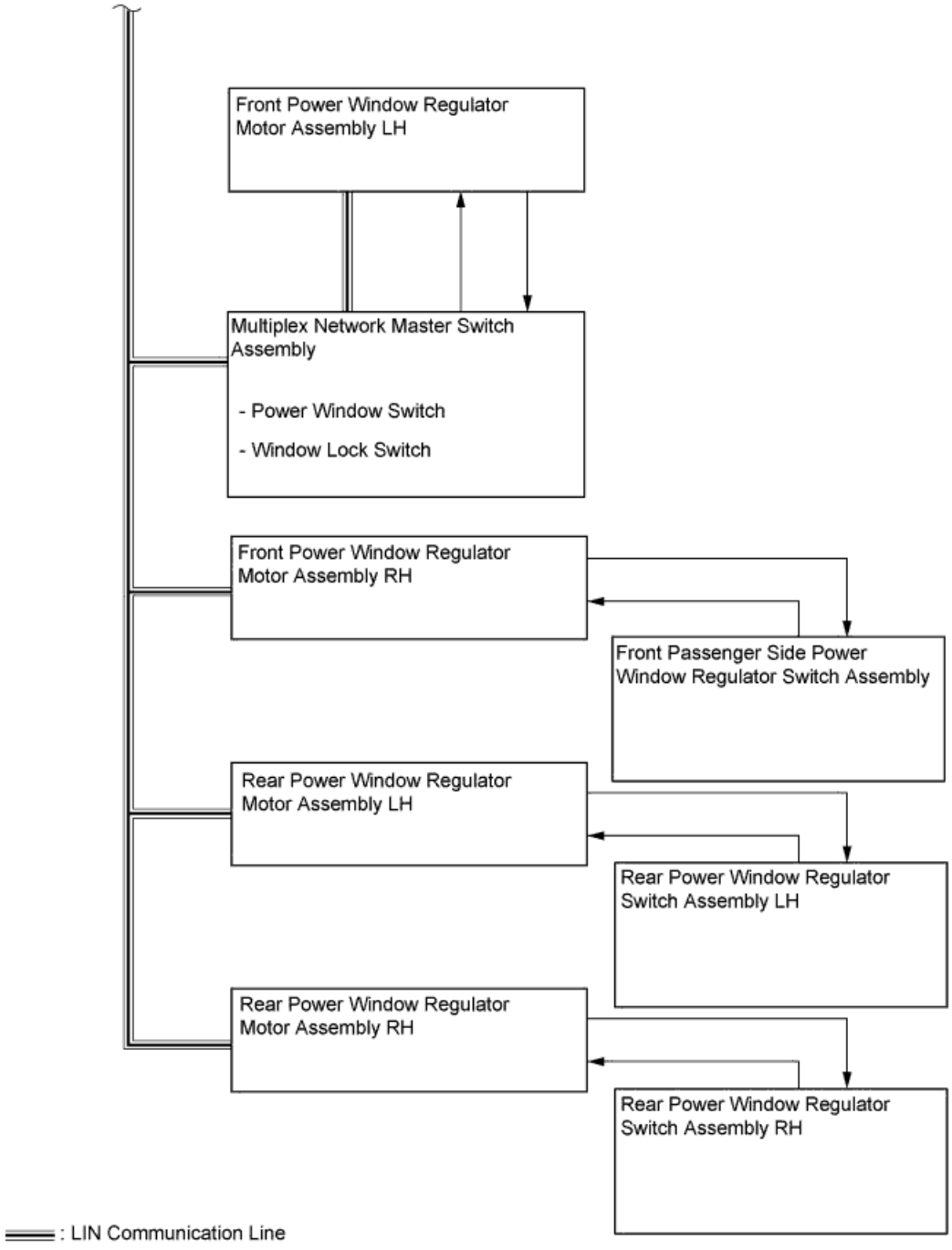
for RHD:

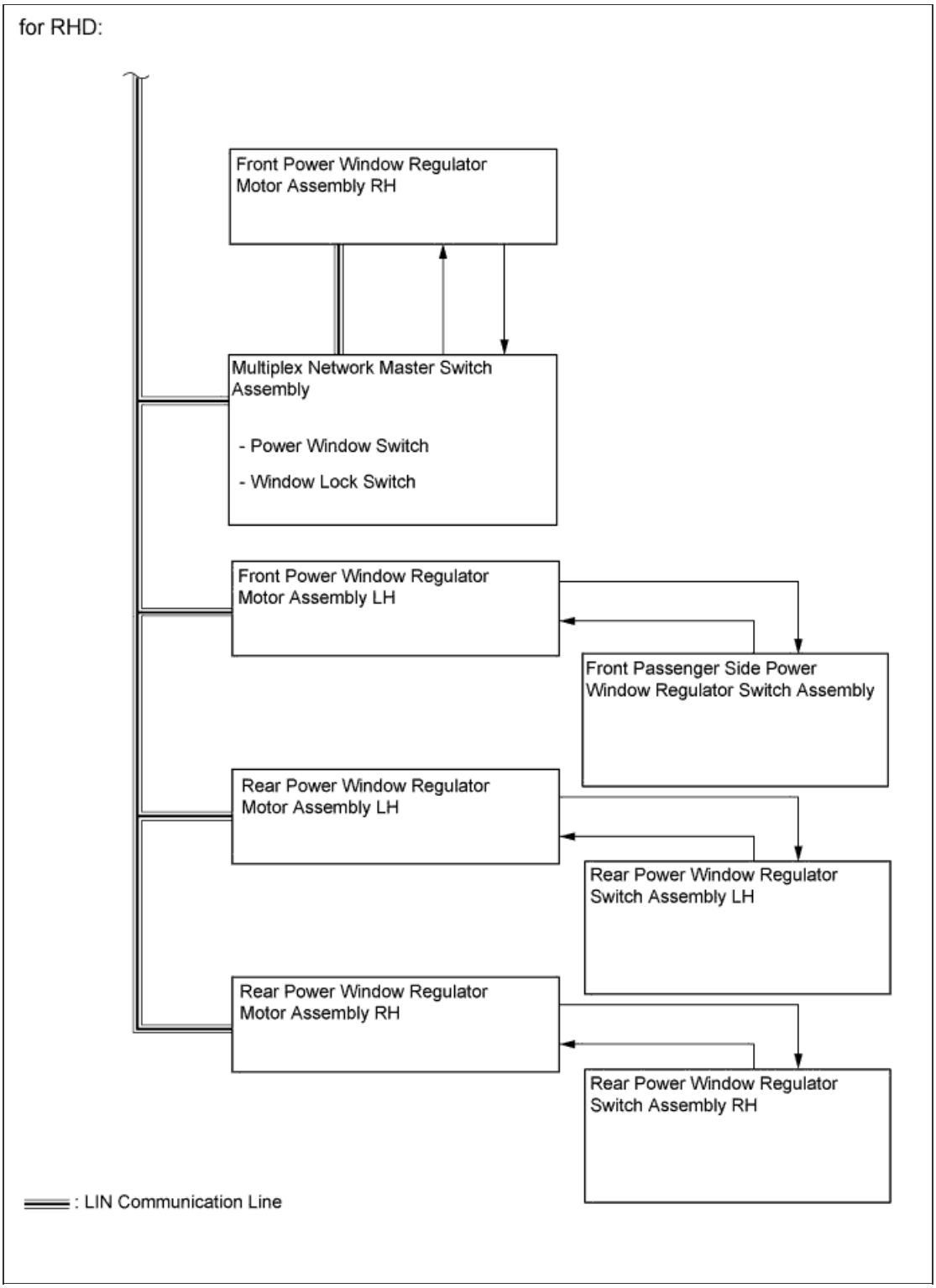

Refer to Service Bulletin for installation position.
CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- FR DOOR LH FUSE
- FR DOOR RH FUSE
- RR DOOR LH FUSE
- RR DOOR RH FUSE
ENGINE SWITCH
DLC3

for Preparation Click here



for LHD:


Front Power Window Regulator Motor Assembly LH
Multiplex Network Master Switch Assembly
- Power Window Switch
- Window Lock Switch
Front Power Window Regulator Motor Assembly RH
Front Passenger Side Power Window Regulator Switch Assembly
Rear Power Window Regulator Motor Assembly LH
Rear Power Window Regulator Switch Assembly LH
Rear Power Window Regulator Motor Assembly RH
Rear Power Window Regulator Switch Assembly RH
: LIN Communication Line



Communication Table

Sender	Receiver	Signal	Line
Multiplex network master switch assembly	• Front power window regulator motor assembly LH • Front power window regulator motor assembly RH • Rear power window regulator motor assembly LH • Rear power window regulator motor assembly RH	Power window up/down signal	LIN
Main body ECU	• Multiplex network master switch • Front power window regulator motor assembly RH • Front power window regulator motor assembly LH • Rear power window regulator motor assembly LH	• Key-linked power window up/down signal • Wireless power window up/down signal • Entry power window up signal	LIN

	• Rear power window regulator motor assembly RH		
Certification ECU	Main body ECU	• Wireless power window up/down signal • Entry power window up signal	LIN

for Preparation Click here

POWER WINDOW CONTROL SYSTEM DESCRIPTION

- The power window control system controls the power window up/down function using the power window regulator motor. The main controls of this system are the multiplex network master switch which is built into the driver side door, and the power window regulator switches which are built into the front passenger side door and rear doors.
- Pressing either of the power window switches on the power window regulator switches or either of the power window switches on the multiplex network master switch transmits an up/down signal to the corresponding power window regulator motor.
- An ECU is built into the power window regulator motor.

FUNCTION OF MAIN COMPONENT

The power window control system consists of the following components:

Component	Outline
Multiplex network master switch	• Controls power window operation for all windows. • When window lock switch is on position, window operation will only be possible with multiplex network master switch.
Power window regulator switch	• Located on front passenger side door and rear doors. • Each power window switch controls power window operations for its respective window.
Power window regulator motor	• Receives power window switch signals and activates motor to change window position. • Uses Hall-IC in regulator motor with ECU to detect window position and jamming.

SYSTEM FUNCTION

The power window control system has the following functions:

Function	Outline
Manual up/down function	Function that raises a window while a power window switch is pulled halfway up, and lowers the window while pushed halfway down (the window stops as soon as the power window switch is released).
Auto up/down function (All auto)	Function that enables a window to be fully opened or closed by one full push or pull of the power window switch.
Remote up/down function	Function that allows the multiplex network master switch to control the front passenger side power window and rear power windows.
Key-off operation function	• Function that makes it possible to operate all power windows for approximately 45 sec. after the engine switch is turned off when the driver side door has not been opened and closed. • If 45 sec. have passed or a front door is opened and closed while the auto function is operating, the window operation will continue until the auto function is completed..
Window lock function	• Function where the front passenger side power window regulator switch and rear power window regulator switch operations are disabled when the window lock switch is on. • The front passenger side power window regulator switch and rear power window regulator switches can be operated when the window lock switch is off.
Jam protection function	• Function that automatically stops a power window and moves it downward if an object is jammed in the power window. • The jam protection function works for the auto up and manual up operations.
Key-linked open and close	• When the key is not inside the vehicle, the driver side door is locked, and the key inserted into the driver side door key cylinder is turned and maintained in the lock position for 2.3 sec. or more, the main body ECU activates the power window regulator motors to close all power windows while the key is turned.. • Similarly, when the driver side door is unlocked, turning and maintaining the driver side door key cylinder in the unlock position for 2.3 seconds or more will cause all power windows to open.

Wireless transmitter-linked open and close	When the certification ECU receives an lock or unlock signal from the door control transmitter for 3 seconds or more, the main body ECU sends an operation permission signal to the ECU in the power window regulator motor. The ECU that receives the signal controls the power window regulator motor to close or open all the power windows.
Entry lock switch-linked close	When the door ECU receives a lock signal from the lock switch on the door outside handle for 3 seconds or more, the main body ECU sends an operation permission signal to the ECU in the power window regulator motor. The ECU that receives the signal controls the power window regulator motor to close all the power windows.
Diagnosis	• Function where the ECU in the power window regulator motor detects malfunctions in the power window system and makes a diagnosis. • The power window switch light blinks to inform the driver of the malfunction.
Fail-safe	If the pulse sensor(s) (Hall IC(s)) in the power window regulator motor malfunctions, the power window auto up/down function is disabled.

for Preparation Click here

HINT:

- **Use these procedures to troubleshoot the power window 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 make a note of any codes that are output.

b. Clear the DTCs.

c. Recheck for DTCs. Based on the DTCs output in the first step, try to force output of the same DTC by simulating the symptoms indicated by the DTC.

Result

Result	Proceed to
No DTCs output	A
B2311 is output	B
B2312 is output	B
B2313 is output	B
LIN communication system DTCs are output	C

B. GO TO DIAGNOSTIC TROUBLE CODE CHART (Click here)

C. GO TO LIN COMMUNICATION SYSTEM (Click here)

A

4.PROBLEM SYMPTOMS TABLE

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

Result

Result	Proceed to
Fault not listed in problem symptoms table	A
Fault 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

Result

Result	Proceed to
Door window regulator and power window regulator motor assembly is replaced or removed/installed.	A
Door window regulator and power window regulator motor assembly is not replaced or removed/installed.	B

B. → GO TO STEP 8

A

7.RESET POWER WINDOW REGULATOR MOTOR

a. If a power window switch LED is blinking, initialize the power window regulator motor (Click here).

NEXT

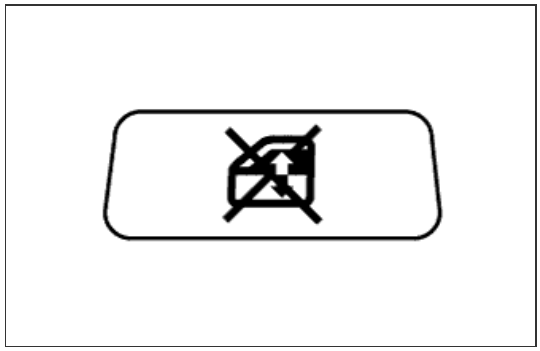
8.CONFIRMATION TEST

NEXT

END

for Preparation Click here

CHECK WINDOW LOCK SWITCH



HINT:

Before performing the window lock switch operation check, make sure that the window lock switch is off (the switch is not pushed in).

a. Check that the front passenger side power window and the rear power windows cannot be operated when the window lock switch of the multiplex network master switch is pressed.

OK:
Operation of front passenger side power window and rear power windows are disabled.

b. Check that the front passenger side power window and the rear power windows can be operated when the window lock switch is pressed again.

OK:
Front passenger side power window and rear power windows can be operated.

CHECK MANUAL UP/DOWN FUNCTION

a. Check that the driver side power window operates as follows:

OK

Condition	Multiplex Network Master Switch	Switch Operation	Power Window
Engine switch on (IG)	Driver side	Pulled halfway up	Up (Closes)
		Pushed halfway down	Down (Opens)

b. Check that the front passenger side and rear power windows operate as follows:

OK

Condition	Power Window Regulator Switch	Switch Operation	Power Window
• Engine switch on (IG) • Window lock switch off	Front passenger side	Pulled halfway up	Up (Closes)
		Pushed halfway down	Down (Opens)
	Rear LH side	Pulled halfway up	Up (Closes)
		Pushed halfway down	Down (Opens)
	Rear RH side	Pulled halfway up	Up (Closes)
		Pushed halfway down	Down (Opens)

CHECK AUTO UP/DOWN FUNCTION

a. Check that the driver side power window operates as follows:

OK

Condition	Multiplex Network Master Switch	Switch Operation	Power Window
Engine switch on (IG)	Driver side	Pulled up (One touch operation)	Auto up (Closes)
		Pushed down (One touch operation)	Auto down (Opens)

b. Check that the front passenger side and rear power windows operate as follows:

OK

Condition	Power Window Regulator Switch	Switch Operation	Power Window
• Engine switch on (IG) • Window lock switch off	Front passenger side	Pulled up (One touch operation)	Auto up (Closes)
		Pushed down (One touch operation)	Auto down (Opens)
	Rear LH side	Pulled up (One touch operation)	Auto up (Closes)
		Pushed down (One touch operation)	Auto down (Opens)
	Rear RH side	Pulled up (One touch operation)	Auto up (Closes)

		Pushed down (One touch operation)	Auto down (Opens)

CHECK REMOTE MANUAL UP/DOWN FUNCTION

a. Check that the front passenger side and rear power windows operate as follows:

OK

Condition	Multiplex Network Master Switch	Switch Operation	Power Window
• Engine switch on (IG) • Window lock switch off	Front passenger side	Pulled halfway up	Up (Closes)
		Pushed halfway down	Down (Opens)
	Rear LH side	Pulled halfway up	Up (Closes)
		Pushed halfway down	Down (Opens)
	Rear RH side	Pulled halfway up	Up (Closes)
		Pushed halfway down	Down (Opens)

CHECK REMOTE AUTO UP/DOWN FUNCTION

a. Check that the front passenger side and rear power windows operate as follows:

OK

Condition	Multiplex Network Master Switch	Switch Operation	Power Window
• Engine switch on (IG) • Window lock switch off	Front passenger side	Pulled up (One touch operation)	Auto up (Closes)
		Pushed down (One touch operation)	Auto down (Opens)
	Rear LH side	Pulled up (One touch operation)	Auto up (Closes)
		Pushed down (One touch operation)	Auto down (Opens)
	Rear RH side	Pulled up (One touch operation)	Auto up (Closes)
		Pushed down (One touch operation)	Auto down (Opens)

CHECK POWER WINDOW OPERATION FUNCTION AFTER ENGINE SWITCH OFF

a. Check that all the power windows can be operated with the multiplex network master switch after the engine switch is turned off.

b. Check that the key-off operation function does not operate after a driver side door is opened and closed.

c. Check that all the power windows cannot be operated after more than approximately 45 seconds have elapsed since the engine switch was turned off.

CHECK TRANSMITTER-LINKED FUNCTION

a. Check that all power windows operate as follows when operating the transmitter.

OK

Condition	Transmitter Operation	Power Window
No key is inside vehicle, and all doors are closed and locked.	Unlock switch pressed for more than 3.0 sec.	Down (Opens)
No key is inside vehicle, and all doors are closed and locked.	Unlock switch released.	Stop

CHECK KEY-LINKED FUNCTION USING DRIVER SIDE DOOR KEY CYLINDER

a. Check that all power windows operate as follows.

OK

Condition	Door Key Cylinder Operation	Power Window
No key is inside vehicle, and all doors are closed.	Turned to lock for more than 2.3 sec.	Up (Closes)
No key is inside vehicle, and all doors are closed.	Returned to neutral position.	Stop
No key is inside vehicle, and all doors are closed.	Turned to unlock for more than 2.3 sec.	Down (Opens)
No key is inside vehicle, and all doors are closed.	Returned to neutral position.	Stop

CHECK ENTRY LOCK SWITCH-LINKED CLOSE FUNCTION

a. Check that all power windows operate as follows when the entry lock switch is pressed and held.

OK

Condition	Switch Operation	Power Window
No key is inside vehicle, and all doors are closed.	Entry lock switch pressed for more than 3.0 sec.	Up (Closes)
No key is inside vehicle, and all doors are closed.	Entry lock switch released.	Stop

CHECK JAM PROTECTION FUNCTION

a. Check the basic function.

CAUTION:

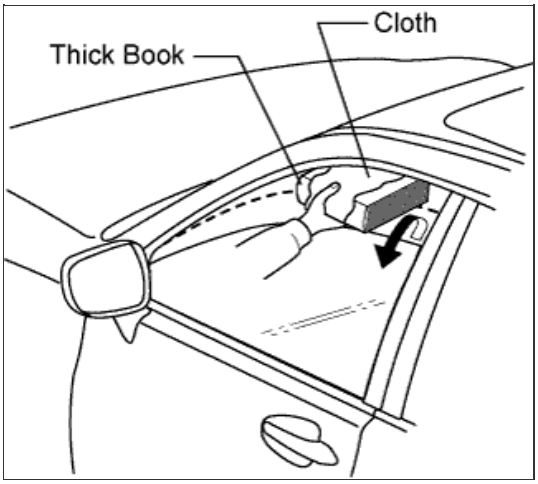
- **The jam protection function is operative during both the auto up and manual up operation.**
- **Do not put your fingers between the door frame and door glass to check functions. Also, prevent any part of your body from being caught during inspection.**

HINT:

The jam protection function is operative during both the auto up and manual up operation while the engine is running or the engine switch is on (IG), and also 45 seconds after the engine switch is off.

i. Fully open the window.

ii. Hold a thick book wrapped with cloth in the position shown in the illustration.



iii. Operate the auto up or manual up function to check that the power window goes down when the window contacts the book, and stops when the opening reaches approximately 200 mm (7.87 in.).

HINT:

The power window moves down approximately 125 mm (4.93 in.). However, when the opening does not reach 200 mm (7.87 in.), the power window continues to go down until the opening reaches 200 mm (7.87 in.) or until approximately 5 seconds. have elapsed.

iv. While the power window is moving down, check that the door glass cannot be moved up even when the power window regulator switch is used.

CHECK POWER WINDOW REGULATOR SWITCH LED ILLUMINATION

a. Inspect the power window switch LED illumination for each seat when turning the window lock switch on/off.

i. Driver Seat:

1. When the window lock switch is on, check that all LEDs of the multiplex network master switch turn off except for the LED of the switch corresponding to the driver seat.
2. When the window lock switch is off, check that all LEDs of the multiplex network master switch turn on.

ii. Front passenger, rear left and rear right seats:

1. When the window lock switch is on, check that the power window regulator switch LED of each seat turns off.
2. When the window lock switch is off, check that power window regulator switch LED of each seat turns on.

for Preparation Click here

CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER (REFERENCE) (w/ REMOTE FUNCTION)

NOTICE:

- **When the customer requests a change in a function, first make sure the function(s) can be customized.**
- **Be sure to make 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: Utility / Customize Setting / Power Window.

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

Power Window

Display	Default	Contents	Setting
Door Key P/W Up	ON	Function that raises all the power windows when, with the engine switch off, a key is used to hold the driver door key cylinder to the lock position for more than 2.3 sec.	ON/OFF
Door Key P/W Down	ON	Function that lowers all the power windows when, with the engine switch off, a key is used to hold the driver door key cylinder to the unlock position for more than 2.3 sec.	ON/OFF
P/W Up W/ Transmit	ON	Function that raise all the power windows when, with the engine switch off, the unlock switch on the transmitter is pressed and held for more than 3.0 sec.	ON/OFF
P/W Down W/ Transmit	ON	Function that lowers all the power windows when, with the engine switch off, the unlock switch on the transmitter is pressed and held for more than 3.0 sec.	ON/OFF
P/W Up W/ Smart	ON	Function that raises all the power windows when, with the engine switch off, the entry lock switch on the driver side door outside handle is pressed and held for more than 3.0 sec.	ON/OFF

for Preparation Click here

CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER (REFERENCE) (w/ REMOTE FUNCTION)

NOTICE:

- **When the customer requests a change in a function, first make sure the function(s) can be customized.**
- **Be sure to make 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: Utility / Customize Setting / Power Window.

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

Power Window

Display	Default	Contents	Setting
Door Key P/W Up	OFF	Function that raises all the power windows when, with the engine switch off, a key is used to hold the driver door key cylinder to the lock position for more than 2.3 sec.	ON/OFF
Door Key P/W Down	OFF	Function that lowers all the power windows when, with the engine switch off, a key is used to hold the driver door key cylinder to the unlock position for more than 2.3 sec.	ON/OFF
P/W Up W/ Transmit	OFF	Function that raises all the power windows when, with the engine switch off, the unlock switch on the transmitter is pressed and held for more than 3.0 sec.	ON/OFF
P/W Down W/ Transmit	OFF	Function that lowers all the power windows when, with the engine switch off, the unlock switch on the transmitter is pressed and held for more than 3.0 sec.	ON/OFF
P/W Up W/ Smart	OFF	Function that raises all the power windows when, with the engine switch off, the entry lock switch on the driver side door outside handle is pressed and held for more than 3.0 sec.	ON/OFF

for Preparation Click here

INITIALIZE POWER WINDOW CONTROL SYSTEM (POWER WINDOW REGULATOR MOTOR (ALL DOORS))

CAUTION:

When the power window regulator motor is reinstalled or replaced, the power window control system must be initialized. Functions such as the auto up/down, jam protection and key-off do not operate if the initialization is not performed.

HINT:

When the battery is replaced, it is not necessary to initialize the power window regulator motor.

NOTICE:

- **When the power window regulator motor is replaced, DTC B2313 is output. Clear the DTC after the initialization.**
- **When performing initialization, do not perform any other procedures.**
- **After a door glass or a door glass run has been replaced, the jam protection function may operate unexpectedly when the auto up function is used, due to detection of a value different from the operation learned value of the door glass movement speed. In such cases, the auto up function can be resumed by repeating the following operation at least 5 times:**
    1. **Open the power window by fully pushing down the power window switch.**
    2. **Close the power window by fully pulling up the power window switch and holding it at the auto up position.**
- **If the initialization is not completed properly, the LIN communication system may have a malfunction (Click here).**

a. Initialization procedures when replacing the power window regulator motor with a new one:

i. Connect the battery and turn the engine switch on (IG) (at this time, the LED on the power window switch blinks to indicate that it is ready for initialization).

ii. Fully open the window by fully pushing the power window switch, and hold the switch for 1 second or more after the window is fully opened.

iii. Fully close the power window by fully pulling the power window switch, and hold the switch for 1 second or more after the window is fully closed to reset the glass position. The LED on the power window switch stops blinking and illuminated to indicate that the initialization is complete.

b. Initialization procedures when removing/installing the power window regulator motor:

i. Connect the battery and turn the engine switch on (IG).

ii. Fully close the power window by fully pulling the power window switch, and hold the switch for 6 seconds or more after the window is fully closed (if the power window does not move or stops halfway even when the switch is fully pulled, release the switch and fully pull it again).

iii. Fully open the window by pushing down the power window switch, and hold the switch for 1 second or more after the window is fully opened.

iv. Release the power window switch. Then fully push and hold the switch for 4 seconds or more.

v. Fully close the power window by fully pulling the power window switch, and hold the switch for 1 second or more after the window is fully closed to reset the glass position and complete the initialization.

c. Initialization procedures when the power window does not fully open:

i. Connect the battery and turn the engine switch on (IG).

ii. Fully close the power window by fully pulling the power window switch, and hold the switch for 6 seconds or more after the window is fully closed (if the power window does not move or stops halfway even when the switch is fully pulled, release the switch and fully pull it again).

iii. Fully open the window by pushing down the power window switch, and hold the switch for 1 second or more after the window is fully opened.

iv. Release the power window switch. Then fully push and hold the switch 4 seconds or more.

v. Fully close the power window by fully pulling the power window switch, and hold the switch 1 second or more after the window is fully closed to reset the glass position and complete the 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.**

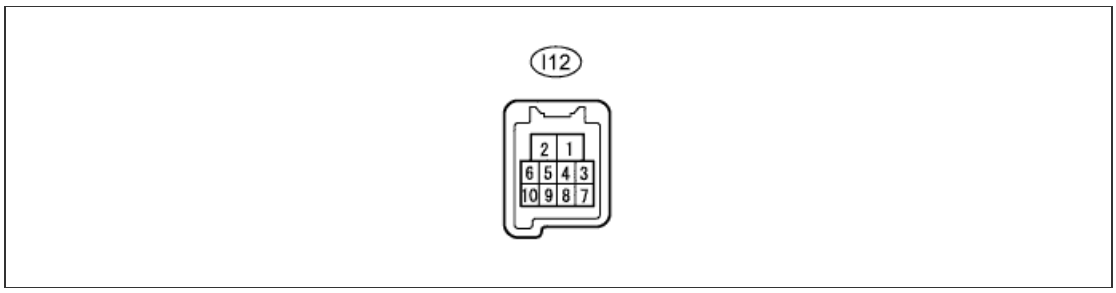
Power Window Control System

Symptom	Suspected Area	See page
Remote up/down function does not operate	LIN communication system	Click here
	Multiplex network master switch	-
Driver side power window does not operate with power window master switch	LIN communication system	Click here
	Multiplex network master switch	-
	Front power window regulator motor	-
	Harness or connector	-
Front passenger side power window does not operate with front passenger side power window switch	LIN communication system	Click here
	Front passenger side power window regulator switch	-
	Front power window regulator motor	-
	Harness or connector	-
Rear power window LH does not operate with rear power window switch LH	LIN communication system	Click here
	Rear power window regulator switch LH	-
	Rear power window regulator motor LH	-
	Harness or connector	-
Rear power window RH does not operate with rear power window switch RH	LIN communication system	Click here
	Rear power window regulator switch RH	-
	Rear power window regulator motor RH	-
	Harness or connector	-
Driver side power window auto up/down function does not operate with power window master switch	LIN communication system	Click here
	Multiplex network master switch	-
	Front power window regulator motor	-
	Harness or connector	-
Front passenger side power window auto up/down function does not operate with front passenger side power window switch	LIN communication system	Click here
	Power window regulator switch	-
	Power window regulator motor	-
	Harness or connector	-
Rear power window LH auto up/down function does not operate with rear power window switch LH	LIN communication system	Click here
	Rear power window regulator switch LH	-
	Rear power window regulator motor LH	-
	Harness or connector	-
Rear power window RH auto up/down function does not operate with rear power window switch RH	LIN communication system	Click here
	Rear power window regulator switch RH	-
	Rear power window regulator motor RH	-
	Harness or connector	-
		Click

All power windows do not operate with driver side door key cylinder or wireless transmitter	Wireless door lock control system	here
	Power door lock control system	-
	Main body ECU	-
Key-off operation function operates even if operating conditions are not satisfied	LIN communication system	Click here
	Front door courtesy light switch	-
	Main body ECU	-
Auto up operation does not fully close power window (jam protection function is activated)	Glass position initialization	Click here
	Improper installation (door glass run)	-
	Power window regulator motor (applicable location)	-
Jam protection function does not operate	Glass position initialization	Click here
	Power window regulator motor (applicable location)	-
All power window up functions do not operate with entry lock switch	Entry lock switch	Click here
	Main body ECU	-

for Preparation Click here

CHECK FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH



a. Disconnect the I12 motor 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
I12-2 (B) - I12-1 (GND)	L - W-B	Battery power supply	Always	11 to 14 V
I12-1 (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.

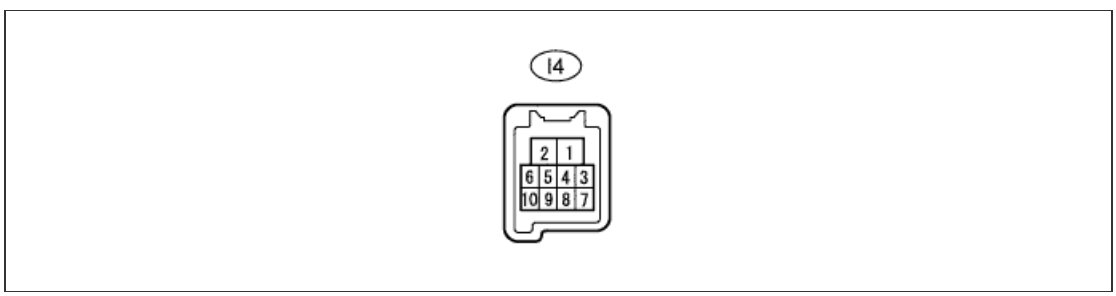
c. Reconnect the I12 motor connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I12-10 (UP) - I12-1 (GND)	L - W-B	Power window up operation	Engine switch on (IG), multiplex network master switch off → up	11 to 14 V → Below 1 V
I12-10 (UP) - I12-1 (GND)	L - W-B	Power window up operation	Engine switch on (IG), door glass fully open → power window auto up operation → door glass fully closed	11 to 14 V → Below 1 V → 11 to 14 V
I12-7 (DOWN) - I12-1 (GND)	B - W-B	Power window down operation	Engine switch on (IG), multiplex network master switch off → down	11 to 14 V → Below 1 V
I12-7 (DOWN) - I12-1 (GND)	B - W-B	Power window down operation	Engine switch on (IG), door glass fully closed → power window auto down operation → door glass fully open	11 to 14 V → Below 1 V → 11 to 14 V

If the result is not as specified, the motor may be malfunctioning.

CHECK FRONT POWER WINDOW REGULATOR MOTOR RH



a. Disconnect the I4 motor 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
I4-2 (B) - I4-1 (GND)	L - W-B	Battery power supply	Always	11 to 14 V
I4-1 (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.

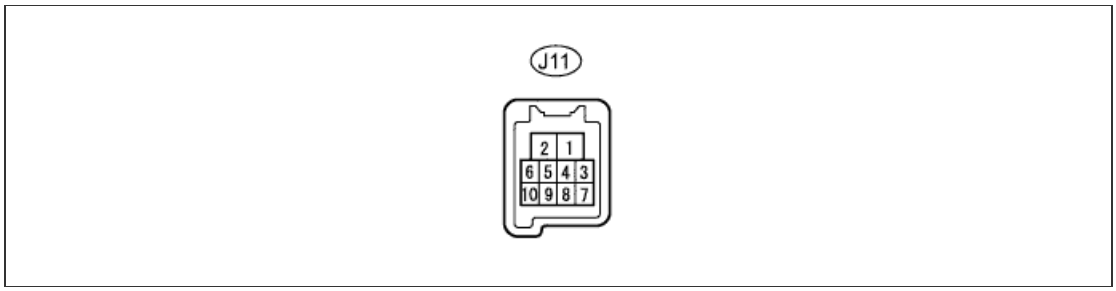
c. Reconnect the I4 motor connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I4-10 (UP) - I4-1 (GND)	L - W-B	Power window up operation	Engine switch on (IG), power window regulator switch off → up	11 to 14 V → Below 1 V
I4-10 (UP) - I4-1 (GND)	L - W-B	Power window up operation	Engine switch on (IG), door glass fully open → power window auto up operation → door glass fully closed	11 to 14 V → Below 1 V → 11 to 14 V
I4-7 (DOWN) - I4-1 (GND)	B - W-B	Power window down operation	Engine switch on (IG), power window regulator switch off → down	11 to 14 V → Below 1 V
I4-7 (DOWN) - I4-1 (GND)	B - W-B	Power window down operation	Engine switch on (IG), door glass fully closed → power window auto down operation → door glass fully open	11 to 14 V → Below 1 V → 11 to 14 V

If the result is not as specified, the motor may be malfunctioning.

CHECK REAR POWER WINDOW REGULATOR MOTOR LH



a. Disconnect the J11 motor 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
J11-2 (B) - J11-1 (GND)	L - W-B	Battery power supply	Always	11 to 14 V
J11-1 (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 J11 motor connector.

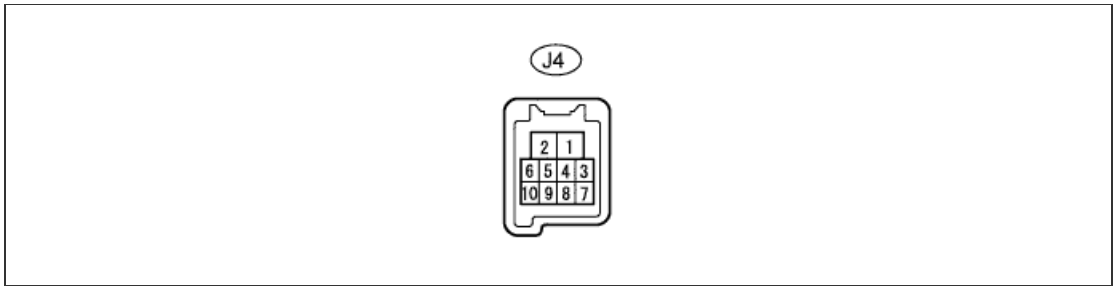
d. Measure the voltage according to the value(s) in the table below.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
J11-10 (UP) - J11-1 (GND)	L - W-B	Power window up operation	Engine switch on (IG), power window regulator switch off → up	11 to 14 V → Below 1 V
J11-10 (UP) - J11-1 (GND)	L - W-B	Power window up operation	Engine switch on (IG), door glass fully open → power window auto up operation → door glass fully closed	11 to 14 V → Below 1 V → 11 to 14 V
J11-7 (DOWN) - J11-1 (GND)	B - W-B	Power window down operation	Engine switch on (IG), power window regulator switch off → down	11 to 14 V → Below 1 V

J11-7 (DOWN) - J11-1 (GND)	B - W-B	Power window down operation	Engine switch on (IG), door glass fully closed → power window auto down operation → door glass fully open	11 to 14 V → Below 1 V → 11 to 14 V

If the result is not as specified, the motor may be malfunctioning.

CHECK REAR POWER WINDOW REGULATOR MOTOR RH



a. Disconnect the J4 motor 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
J4-2 (B) - J4-1 (GND)	L - W-B	Battery power supply	Always	11 to 14 V
J4-1 (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.

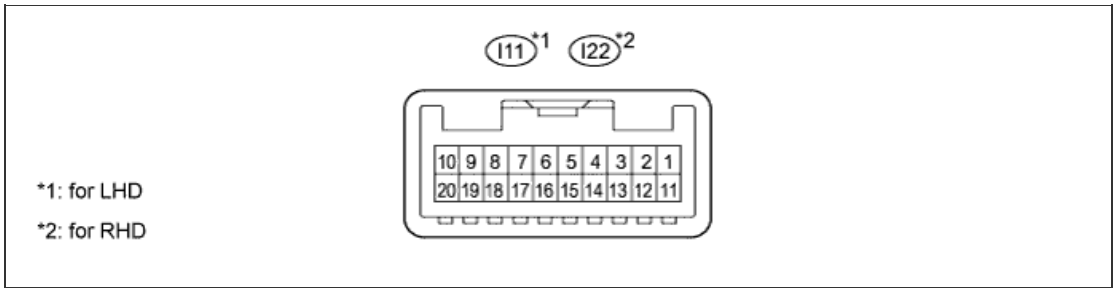
c. Reconnect the J4 motor connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
J4-10 (UP) - J4-1 (GND)	L - W-B	Power window up operation	Engine switch on (IG), power window regulator switch off → up	11 to 14 V → Below 1 V
J4-10 (UP) - J4-1 (GND)	L - W-B	Power window up operation	Engine switch on (IG), door glass fully open → power window auto up operation → door glass fully closed	11 to 14 V → Below 1 V → 11 to 14 V
J4-7 (DOWN) - J4-1 (GND)	B - W-B	Power window down operation	Engine switch on (IG), power window regulator switch off → down	11 to 14 V → Below 1 V
J4-7 (DOWN) - J4-1 (GND)	B - W-B	Power window down operation	Engine switch on (IG), door glass fully closed → power window auto down operation → door glass fully open	11 to 14 V → Below 1 V → 11 to 14 V

If the result is not as specified, the motor may be malfunctioning.

CHECK MULTIPLEX NETWORK MASTER SWITCH



a. Disconnect the I11*1 or I22*2 master switch connector.

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

for LHD

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

for RHD

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I22-11 (B) - I22-12 (GND)	L - W-B	Battery power supply	Always	11 to 14 V
I22-12 (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 I11*1 or I22*2 master switch connector.

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

for LHD

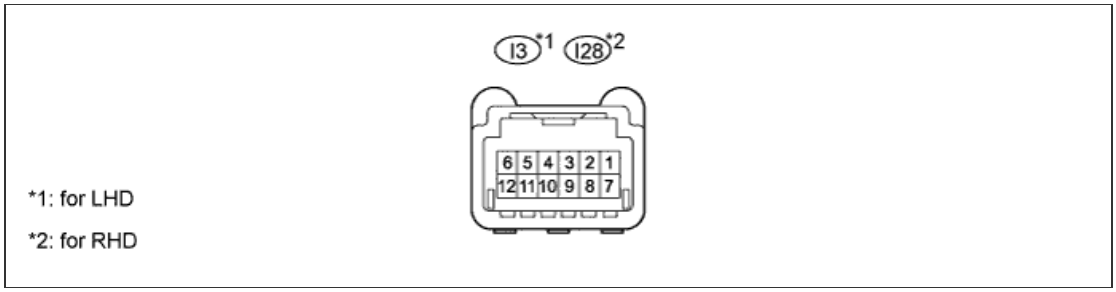
Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I11-20 (UP) - I11-12 (GND)	L - W-B	Power window up operation	Engine switch on (IG), multiplex network master switch off → up	11 to 14 V → Below 1 V
I11-20 (UP) - I11-12 (GND)	L - W-B	Power window up operation	Engine switch on (IG), door glass fully open → power window auto up operation → door glass fully closed	11 to 14 V → Below 1 V → 11 to 14 V
I11-15 (DOWN) - I11-12 (GND)	B - W-B	Power window down operation	Engine switch on (IG), multiplex network master switch off → down	11 to 14 V → Below 1 V
I11-15 (DOWN) - I11-12 (GND)	B - W-B	Power window down operation	Engine switch ON (IG), door glass fully closed → power window auto down operation → door glass fully open	11 to 14 V → Below 1 V → 11 to 14 V

for RHD

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I22-20 (UP) - I22-12 (GND)	L - W-B	Power window up operation	Engine switch on (IG), multiplex network master switch off → up	11 to 14 V → Below 1 V
I22-20 (UP) - I22-12 (GND)	L - W-B	Power window up operation	Engine switch on (IG), door glass fully open → power window auto up operation → door glass fully closed	11 to 14 V → Below 1 V → 11 to 14 V
I22-15 (DOWN) - I22-12 (GND)	B - W-B	Power window down operation	Engine switch on (IG), multiplex network master switch off → down	11 to 14 V → Below 1 V
I22-15 (DOWN) - I22-12 (GND)	B - W-B	Power window down operation	Engine switch ON (IG), door glass fully closed → power window auto down operation → door glass fully open	11 to 14 V → Below 1 V → 11 to 14 V

If the result is not as specified, the master switch may be malfunctioning.

CHECK FRONT PASSENGER SIDE POWER WINDOW REGULATOR SWITCH



a. Disconnect the I3*1 or I28*2 switch connector.

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

for LHD

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I3-5 (GND) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

for RHD

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I28-5 (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 I3*1 or I28*2 switch connector.

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

for LHD

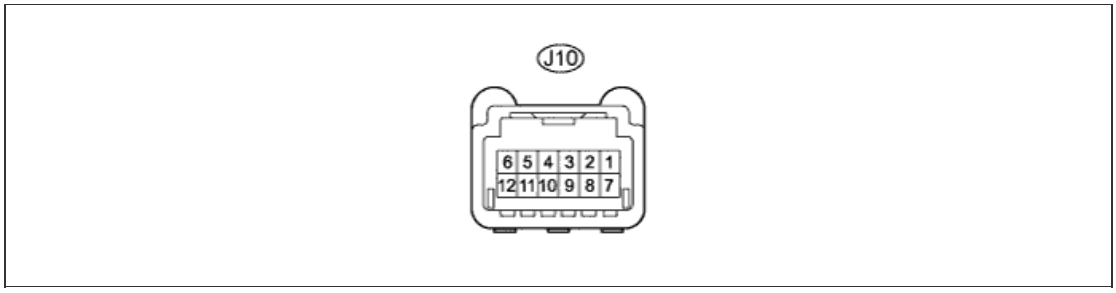
Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I3-2 (UP) - I3-5 (GND)	L - W-B	Power window up operation	Engine switch on (IG), power window regulator switch off → up	11 to 14 V → Below 1 V
I3-10 (DOWN) - I3-5 (GND)	B - W-B	Power window down operation	Engine switch on (IG), power window regulator switch off → down	11 to 14 V → Below 1 V
I3-4 (AUTO) - I3-5 (GND)	R - W-B	Power window up operation	Engine switch on (IG)and door glass fully open → power window auto up operation → door glass fully closed	11 to 14 V → Below 1 V → 11 to 14 V
I3-4 (AUTO) - I3-5 (GND)	R - W-B	Power window down operation	Engine switch on (IG), door glass fully closed → power window auto down operation → door glass fully open	11 to 14 V → Below 1 V → 11 to 14 V

for RHD

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I28-2 (UP) - I28-5 (GND)	L - W-B	Power window up operation	Engine switch on (IG), power window regulator switch off → up	11 to 14 V → Below 1 V
I28-10 (DOWN) - I28-5 (GND)	B - W-B	Power window down operation	Engine switch on (IG), power window regulator switch off → down	11 to 14 V → Below 1 V
I28-4 (AUTO) - I28-5 (GND)	R - W-B	Power window up operation	Engine switch on (IG)and door glass fully open → power window auto up operation → door glass fully closed	11 to 14 V → Below 1 V → 11 to 14 V
I28-4 (AUTO) - I28-5 (GND)	R - W-B	Power window down operation	Engine switch on (IG), door glass fully closed → power window auto down operation → door glass fully open	11 to 14 V → Below 1 V → 11 to 14 V

If the result is not as specified, the switch may be malfunctioning.

CHECK REAR POWER WINDOW REGULATOR SWITCH LH



a. Disconnect the J10 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
J10-5 (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 J10 switch connector.

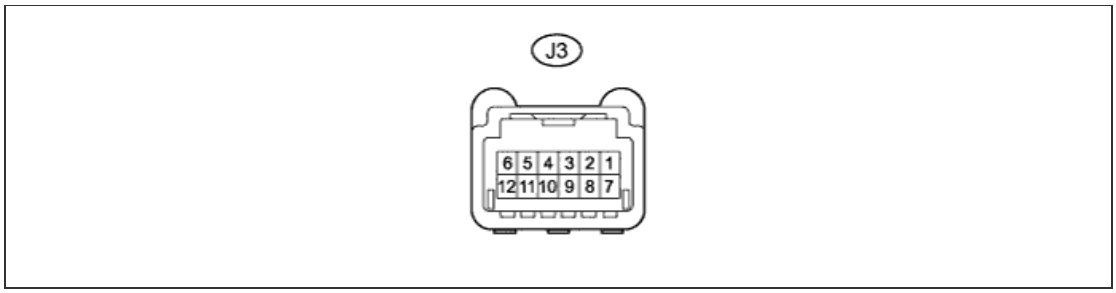
d. Measure the voltage according to the value(s) in the table below.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
J10-2 (UP) - J10-5 (GND)	L - W-B	Power window up operation	Engine switch on (IG), power window regulator switch off → up	11 to 14 V → Below 1 V
J10-10 (DOWN) - J10-5 (GND)	B - W-B	Power window down operation	Engine switch on (IG), power window regulator switch off → down	11 to 14 V → Below 1 V
J10-4 (AUTO) - J10-5 (GND)	R - W-B	Power window up operation	Engine switch on (IG), door glass fully open → power window auto up operation → door glass	11 to 14 V → Below 1 V → 11 to 14 V

			fully closed	
J10-4 (AUTO) - J10-5 (GND)	R - W-B	Power window down operation	Engine switch on (IG), door glass fully closed → power window auto down operation → door glass fully open	11 to 14 V → Below 1 V → 11 to 14 V

If the result is not as specified, the switch may be malfunctioning.

CHECK REAR POWER WINDOW REGULATOR SWITCH RH



a. Disconnect the J3 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
J3-5 (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.

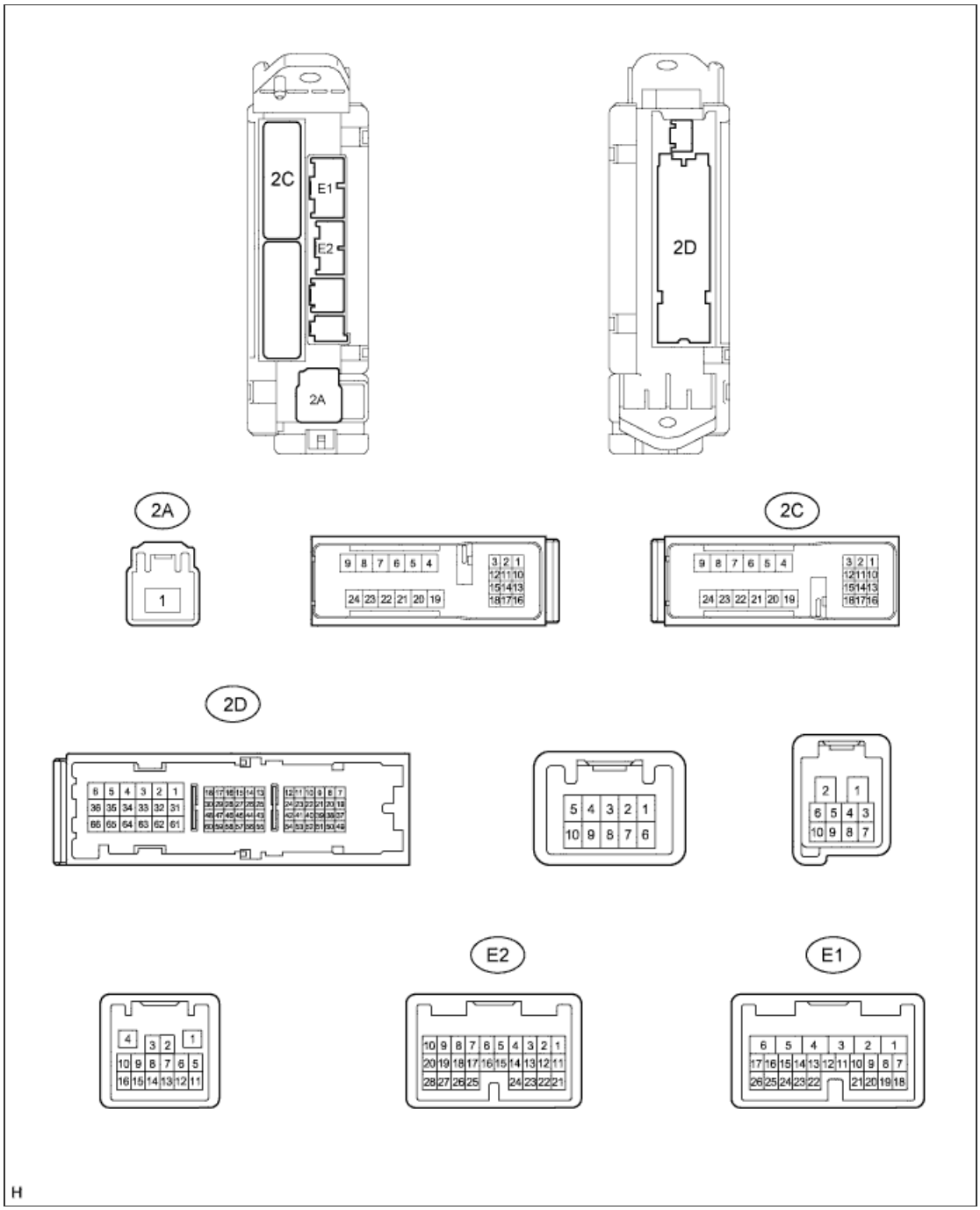
c. Reconnect the J3 switch connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
J3-2 (UP) - J3-5 (GND)	L - W-B	Power window up operation	Engine switch on (IG), power window regulator switch off → up	11 to 14 V → Below 1 V
J3-10 (DOWN) - J3-5 (GND)	B - W-B	Power window down operation	Engine switch on (IG), power window regulator switch off → down	11 to 14 V → Below 1 V
J3-4 (AUTO) - J3-5 (GND)	R - W-B	Power window up operation	Engine switch on (IG), door glass fully open → power window auto up operation → door glass fully closed	11 to 14 V → Below 1 V → 11 to 14 V
J3-4 (AUTO) - J3-5 (GND)	R - W-B	Power window down operation	Engine switch on (IG), door glass fully closed → power window auto down operation → door glass fully open	11 to 14 V → Below 1 V → 11 to 14 V

If the result is not as specified, the switch may be malfunctioning.

CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)



a. Disconnect the 2A, 2C, E1, E2 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
E3-1 (GND3) - 2D-62 (GND2)	BR - W-B	Ground	Always	Below 1 Ω
2D-62 (GND2) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
2A-1 (+B) - Body ground	B - Body ground	Battery power supply	Always	11 to 14 V
2A-1 (IG) - Body ground	B - Body ground	IG power supply	Always	11 to 14 V
E2-1 (AM2) - Body ground	W - Body ground	Battery power supply	Always	11 to 14 V
E1-6 (AM1) - Body ground	W - Body ground	Battery power supply	Always	11 to 14 V
E1-24 (DCTY) - Body ground	L - Body ground	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	Front passenger side door courtesy light switch input	Front passenger side door open	Below 1 Ω
			Front passenger side door closed	10 kΩ or higher

E2-7 (RCTY) - Body ground	G - Body ground	Rear RH side door courtesy light switch input	Rear RH side door open	Below 1 Ω
			Rear RH side door closed	10 kΩ or higher
2C-2 (LCTY) - Body ground	W - Body ground	Rear LH side door courtesy light switch input	Rear LH side door open	Below 1 Ω
			Rear LH side door closed	10 kΩ or higher

If the result is not as specified, the wire harness side 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. Check for DTCs by following the directions on the tester screen.

HINT:

Refer to the intelligent tester operator's manual for further details.

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 by following the directions on the tester screen.

HINT:

Refer to the intelligent tester operator's manual for further details.

for Preparation Click here

POWER WINDOW OPERATION IN FAIL-SAFE MODE

HINT:

If the pulse sensor built into the power window regulator motor malfunctions, the power window control system enters fail-safe mode.

a. The pulse sensor for the jam protection function has problems and the window position or the learned value is abnormal.

HINT:

The power window control system prohibits the following power window operations when the pulse sensor for the jam protection function has problems and the window position or the learned value is abnormal.

Multiplex Network Master Switch

Power Window Operation	Condition		
	Engine Switch on (IG)	Engine Switch off (Key-off operation permitted)	Engine Switch off (Key-off operation prohibited)
Manual up (Driver side door window)	X	X	-
Manual down (Driver side door window)	○*1	X	-
Auto up (Driver side door window) (hold switch at auto up position)	○*2	X	-
Auto up (Driver side door window)	X	X	-
Auto down (Driver side door window)	X	X	-
Manual up (Remote switch operation)	X	X	-
Manual down (Remote switch operation)	X	X	-
Auto up (Remote switch operation) (hold switch at auto up position)	X	X	-
Auto up (Remote switch operation)	X	X	-
Auto down (Remote switch operation)	X	X	-
Door key interlock	-	X	X
Wireless interlock	-	X	X
Smart interlock	-	X	X

HINT:

○: Operative
X: Operation prohibited
***1: Jam protection not operative**
***2: In manual mode and jam protection not operative**

Power Window Regulator Switch (for Front Passenger Side, Rear LH and Rear RH)

Power Window Operation	Condition		
	Engine Switch on (IG)	Engine Switch off (Key-off operation permitted)	Engine Switch off (Key-off operation prohibited)
Manual up	X	X	-
Manual down	○*1	X	-
Auto up (hold switch at auto up position)	○*2	X	-
Auto up	X	X	-
Auto down	X	X	-
Door key interlock	-	X	X
Wireless interlock	-	X	X
Smart interlock	-	X	X

HINT:

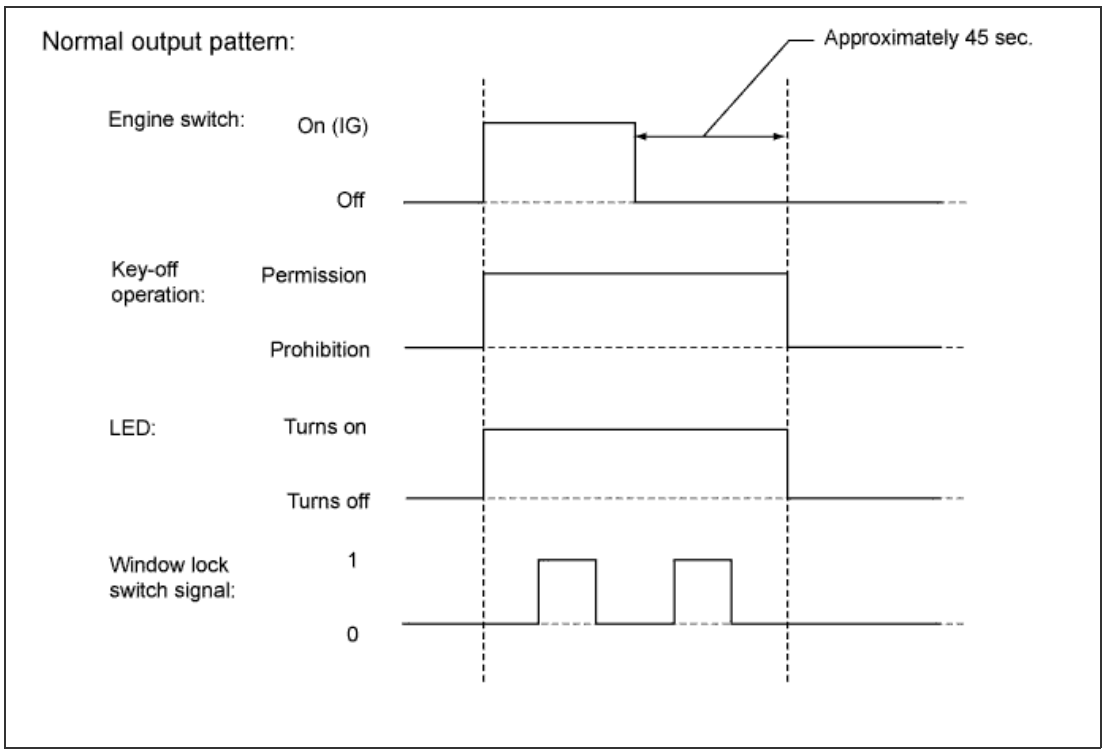
○: Operative
X: Operation prohibited
***1: Jam protection not operative**
***2: In manual mode and jam protection not operative**

i. Power window switch LED control

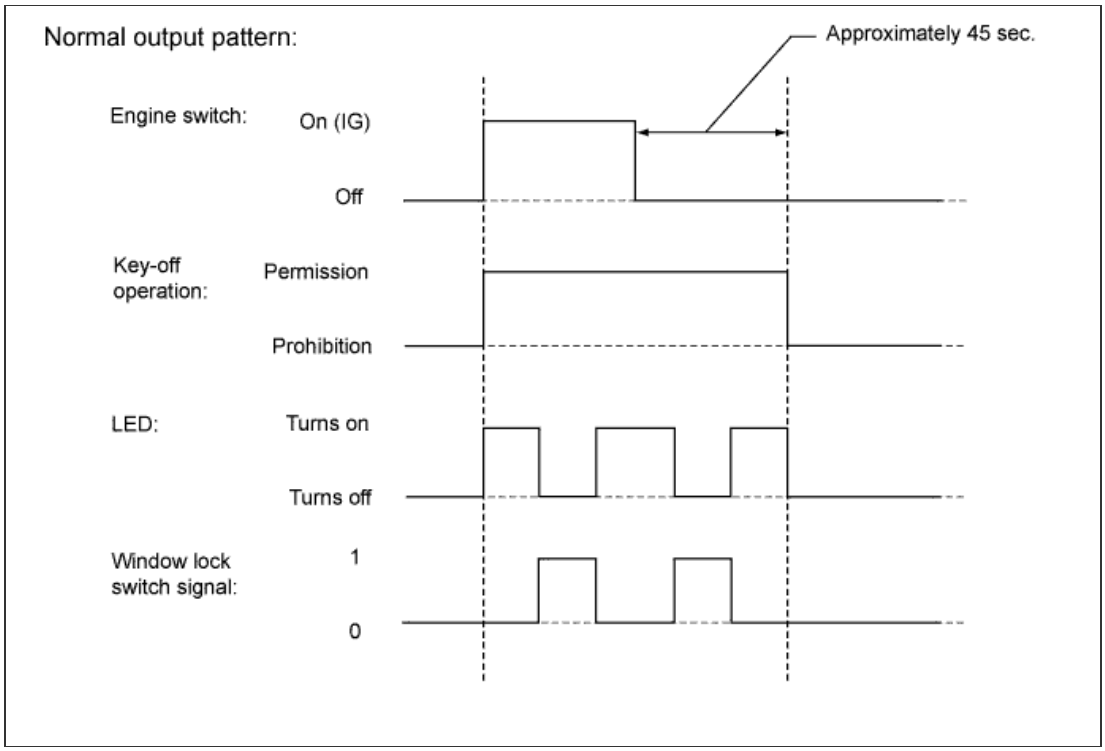
HINT:

During normal operation (fail-safe is not operating), or during fail-safe mode when there is a pulse sensor malfunction or the window position or learned value is abnormal, the LED illuminates as shown in the illustration.

1. for driver side:



2. for front passenger side, rear LH and rear RH:



ii. Fail-safe Deactivation Condition

When the pulse sensor is normal, to deactivate fail-safe mode, pull up the power window switch to the auto up position and hold it for at least 1 second to fully close the window from the fully open position. As a result, the auto up/down function will return.

b. Initialization failure

HINT:

During initialization of the power window regulator motor ECU, when the window position or initialization complete status cannot be properly read from the EEPROM, the power window control system prohibits the following operations.

Multiplex Network Master Switch

Power Window Operation	Condition		
	Engine Switch on (IG)	Engine Switch off (Key-off operation permitted)	Engine Switch off (Key-off operation prohibited)
Manual up (Driver side door window)	X	X	-
Manual down (Driver side door window)	○*1	X	-
Auto up (Driver side door window) (hold switch at auto up position)	○*2	X	-
Auto up (Driver side door window)	X	X	-
Auto down (Driver side door window)	X	X	-
Manual up (Remote switch operation)	X	X	-
Manual down (Remote switch operation)	X	X	-
Auto up (Remote switch operation) (hold switch at auto up position)	X	X	-
Auto up (Remote switch operation)	X	X	-
Auto down (Remote switch operation)	X	X	-
Door key interlock	-	X	X
Wireless interlock	-	X	X
Smart interlock	-	X	X

HINT:

○: Operative
X: Operation prohibited
***1: Jam protection not operative**

***2: In manual mode and jam protection not operative**

Power Window Regulator Switch (for Front Passenger Side, Rear LH and Rear RH)

Power Window Operation	Condition		
	Engine Switch on (IG)	Engine Switch off (Key-off operation permitted)	Engine Switch off (Key-off operation prohibited)
Manual up	X	X	-
Manual down	○*1	X	-
Auto up (hold switch at auto up position)	○*2	X	-
Auto up	X	X	-
Auto down	X	X	-
Door key interlock	-	X	X
Wireless interlock	-	X	X
Smart interlock	-	X	X

HINT:

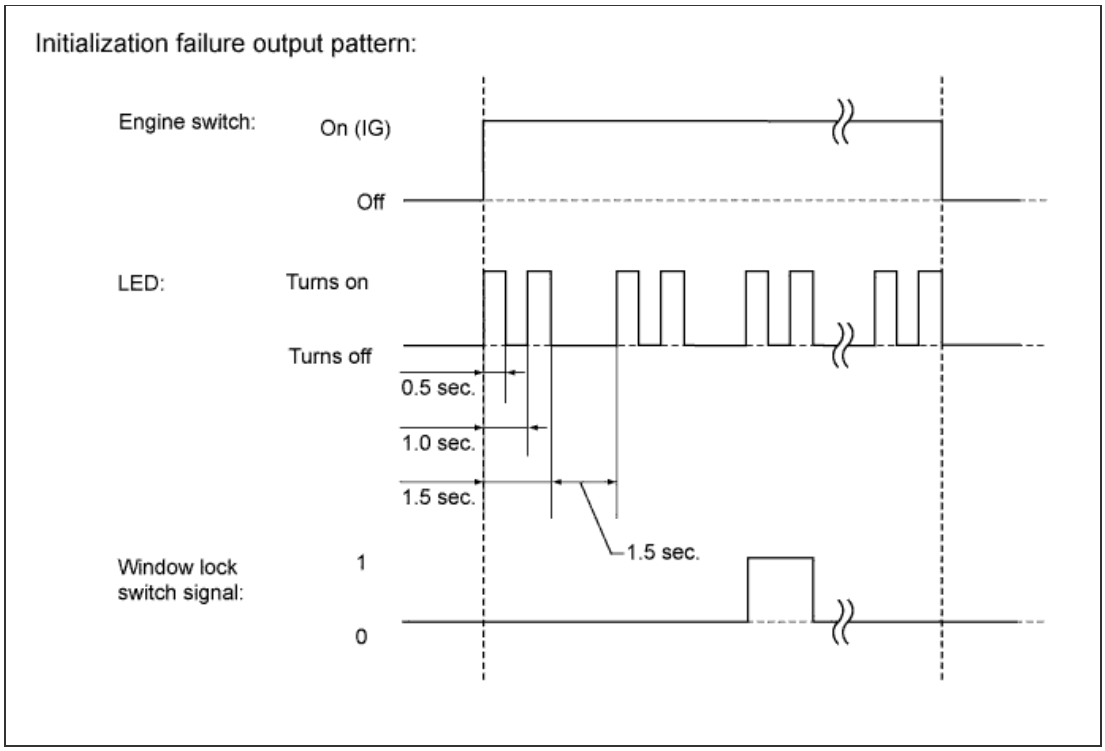
○: Operative
X: Operation prohibited
***1: Jam protection not operative**
***2: In manual mode and jam protection not operative**

i. Power window switch LED control

HINT:

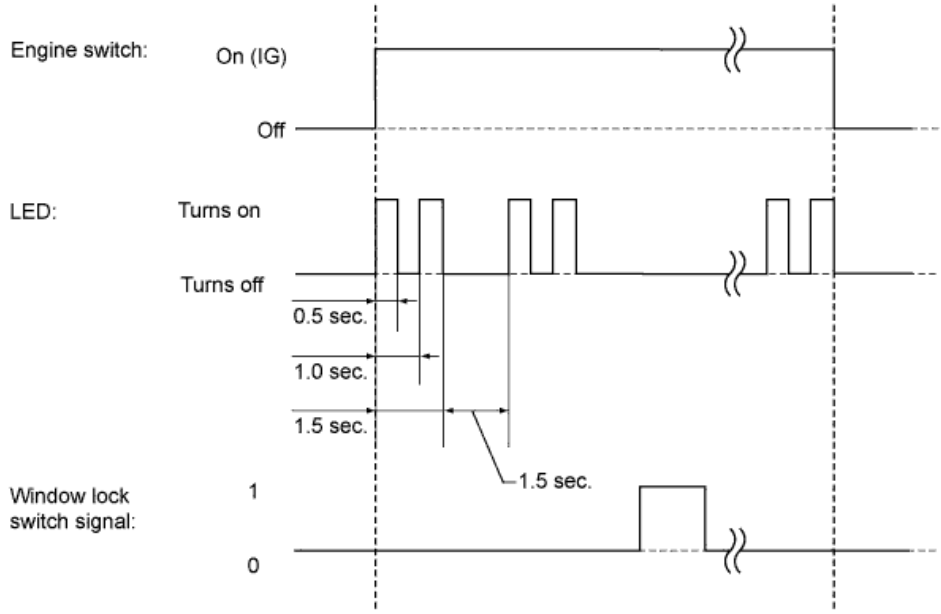
During initialization of the power window regulator motor ECU, when the window position or initialization complete status cannot be properly read from the EEPROM during fail-safe mode, the LED illuminates as shown in the illustration.

1. for driver side:



2. for front passenger side, rear LH and rear RH:

Initialization failure output pattern:



c. LIN communication failure

HINT:

If the LIN communication line malfunctions (communication stop), the power window control system prohibits the following operations.

Multiplex Network Master Switch

Power Window Operation	Engine Switch on (IG)
Manual up	○*1
Manual down	○*2
Auto up (hold switch at auto up position)	X
Auto up	X
Auto down	X

HINT:

○: Operative
X: Operation prohibited
***1: Jam protection operative**
***2: Jam protection not operative**
Remote up/down function does not operate.

Power Window Regulator Switch (for Front Passenger Side, Rear LH and Rear RH)

Power Window Operation	Engine Switch on (IG)
Manual up	○*1
Manual down	○*2
Auto up (hold switch at auto up position)	○*1
Auto up	○*1
Auto down	○*2

HINT:

○: Operative
X: Operation prohibited
***1: Jam protection operative**
***2: Jam protection not operative**

d. LIN communication failure and pulse sensor failure

HINT:

If the LIN communication line malfunctions (communication stop) and the pulse sensor for the jam protection function has problems, the power window control system prohibits the following operations.

Multiplex Network Master Switch

Power Window Operation	Always
Manual up	X
Manual down	X
Auto up (hold switch at auto up position)	X
Auto up	X
Auto down	X

HINT:

- **○: Operative**
- **X: Operation prohibited**
- **Driver side door window: When there is no jam protection control due to a LIN communication failure, the manual up and auto up functions will not operate.**
- **Remote switch operation: Not operative during LIN communication failure.**

Power Window Regulator Switch (for Front Passenger Side, Rear LH and Rear RH)

Power Window Operation	Always
Manual up	X
Manual down	X
Auto up (hold switch at auto up position)	X
Auto up	X
Auto down	X

HINT:

○: Operative
X: Operation prohibited

e. LIN communication failure and displacement of non-detection range in direction window opens or initialization failure

HINT:

If the LIN communication line malfunctions (communication stop) and the window position or the learned value is abnormal, the power window control system prohibits the following operations.

Multiplex Network Master Switch

Power Window Operation	Always
Manual up	○*1
Manual down	○*2
Auto up (hold switch at auto up position)	-
Auto up	-
Auto down	-

HINT:

- **○: Operative**
- ***1: Jam protection operative and window reverses direction upon reaching the fully closed position**
- ***2: Jam protection not operative**
- **Remote switch operation: Operation is not possible during a LIN communication failure.**

Power Window Regulator Switch (for Front Passenger Side, Rear LH and Rear RH)

Power Window Operation	Always
Manual up	○*1
Manual down	○*2
Auto up (hold switch at auto up position)	○*1
Auto up	X
Auto down	X

HINT:

○: Operative
X: Operation prohibited
***1: Jam protection operative and window reverses direction upon reaching the fully closed position**
***2: Jam protection not operative**

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 / (desired system) / Data List.

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

Master Switch

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
D Door P/W Auto SW	Driver side power window auto up/down signal / ON or OFF	ON: Driver side power window auto up/down switch on multiplex network master switch operated OFF: Driver side power window switch on multiplex network master switch not operated	-
P Door P/W Auto SW	Front passenger side power window remote auto up/down signal / ON or OFF	ON: Front passenger side power window remote auto up/down switch on multiplex network master switch operated OFF: Front passenger side power window switch on multiplex network master switch not operated	-
RR Door P/W Auto SW	Rear power window RH remote auto up/down signal / ON or OFF	ON: Rear power window RH remote auto up/down switch on multiplex network master switch operated OFF: Rear power window switch RH on multiplex network master switch not operated	-
RL Door P/W Auto SW	Rear power window LH remote auto up/down signal / ON or OFF	ON: Rear power window LH remote auto up/down switch on multiplex network master switch operated OFF: Rear power window switch LH on multiplex network master switch not operated	-
P Door P/W Up SW	Front passenger side power window remote manual up signal / ON or OFF	ON: Front passenger side power window remote manual up switch on multiplex network master switch operated OFF: Front passenger side power window switch on multiplex network master switch not operated	-
RR Door P/W up switch	Rear power window RH remote manual up signal / ON or OFF	ON: Rear power window RH remote manual up switch on multiplex network master switch operated OFF: Rear power window switch RH on multiplex network master switch not operated	-
RL Door P/W up switch	Rear power window LH remote manual up signal / ON or OFF	ON: Rear power window LH remote manual up switch on multiplex network master switch operated OFF: Rear power window switch LH on multiplex network master switch not operated	-
P Door P/W Down SW	Front passenger side power window remote manual down signal / ON or OFF	ON: Front passenger side power window remote manual down switch on multiplex network master switch operated OFF: Front passenger side power window switch on multiplex network master switch not operated	-
RR Door P/W Down SW	Rear power window RH remote manual down signal / ON or OFF	ON: Rear power window RH remote manual down switch on multiplex network master switch operated OFF: Rear power window switch RH on multiplex network master switch not operated	-
RL Door P/W Down SW	Rear power window LH remote manual down signal / ON or OFF	ON: Rear power window LH remote manual down switch on multiplex network master switch operated OFF: Rear power window switch LH on multiplex network master switch not operated	-

Window Lock Switch Status	Power window lock switch / ON or OFF	ON: Power window lock switch on OFF: Power window lock switch off	-
Number of Trouble Codes	Number of trouble codes / Min.: 0, Max.: 255	Number of DTCs will be displayed	-

D-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
D Door P/W Auto SW	Driver side power window auto up/down signal / ON or OFF	ON: Driver side power window auto up/down switch operated OFF: Driver side power window switch not operated	-
D Door P/W Up SW	Driver side power window manual up signal / ON or OFF	ON: Driver side power window manual up switch operated OFF: Driver side power window switch not operated	-
D Door P/W Down SW	Driver side power window manual down signal / ON or OFF	ON: Driver side power window manual down switch operated OFF: Driver side power window switch not operated	-
Glass Position (Close-1/4)	Jam protection status of window glass within range of fully closed to 1/4 open position / OK or Caution	OK: Motor normally operates between fully closed to 1/4 open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Glass Position (1/4-2/4)	Jam protection status of window glass within range of 1/4 to 1/2 open position / OK or Caution	OK: Motor normally operates between 1/4 to 1/2 open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Glass Position (2/4-3/4)	Jam protection status of window glass within range of 1/2 to 3/4 open position / OK or Caution	OK: Motor normally operates between 1/2 to 3/4 open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Glass Position (3/4-Open)	Jam protection status of window glass within range of 3/4 to fully open position / OK or Caution	OK: Motor normally operates between 3/4 to fully open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Number of Trouble Codes	Number of trouble codes / Min.: 0, Max.: 255	Number of DTCs will displayed	-

P-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
P Door P/W Auto SW	Front passenger side power window auto up/down signal / ON or OFF	ON: Front passenger side power window auto up/down switch operated OFF: Front passenger side power window regulator switch not operated	-
P Door P/W Up SW	Front passenger side power window manual up signal / ON or OFF	ON: Front passenger side power window manual up switch operated OFF: Front passenger side power window regulator switch not operated	-
P Door P/W Down SW	Front passenger side power window manual down signal / ON or OFF	ON: Front passenger side power window manual down switch operated OFF: Front passenger side power window regulator switch not operated	-
Glass Position (Close-1/4)	Jam protection status of window glass within range of fully closed to 1/4 open position / OK or Caution	OK: Motor normally operates between fully closed to 1/4 open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Glass Position (1/4-2/4)	Jam protection status of window glass within range of 1/4 to 1/2 open position / OK or Caution	OK: Motor normally operates between 1/4 to 1/2 open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Glass Position (2/4-3/4)	Jam protection status of window glass within range of 1/2 to 3/4 open position / OK or Caution	OK: Motor normally operates between 1/2 to 3/4 open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
		OK: Motor normally operates between 3/4 to fully	

Glass Position (3/4-Open)	Jam protection status of window glass within range of 3/4 to fully open position / OK or Caution	open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Number of Trouble Codes	Number of trouble codes / Min.: 0, Max.: 255	Number of DTCs will be displayed	-

RL-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
RL Door P/W Auto SW	Rear power window LH auto up/down signal / ON or OFF	ON: Rear power window LH auto up/down switch operated OFF: Rear power window LH switch not operated	-
RL Door P/W Up SW	Rear power window LH manual up signal / ON or OFF	ON: Rear power window LH manual up switch operated OFF: Rear power window LH switch not operated	-
RL Door P/W Down SW	Rear power window LH manual down signal / ON or OFF	ON: Rear power window LH manual down switch operated OFF: Rear power window LH switch not operated	-
Glass Position (Close-1/4)	Jam protection status of window glass within range of fully closed to 1/4 open position / OK or Caution	OK: Motor normally operates between fully closed to 1/4 open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Glass Position (1/4-2/4)	Jam protection status of window glass within range of 1/4 to 1/2 open position / OK or Caution	OK: Motor normally operates between 1/4 to 1/2 open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Glass Position (2/4-3/4)	Jam protection status of window glass within range of 1/2 to 3/4 open position / OK or Caution	OK: Motor normally operates between 1/2 to 3/4 open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Glass Position (3/4-Open)	Jam protection status of window glass within range of 3/4 to fully open position / OK or Caution	OK: Motor normally operates between 3/4 to fully open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Number of Trouble Codes	Number of trouble codes / Min.: 0, Max.: 255	Number of DTCs will be displayed	-

RR-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
RR Door P/W Auto SW	Rear power window RH auto up/down signal / ON or OFF	ON: Rear power window RH auto up/down switch operated OFF: Rear power window RH switch not operated	-
RR Door P/W Up SW	Rear power window RH manual up signal / ON or OFF	ON: Rear power window RH manual up switch operated OFF: Rear power window RH switch not operated	-
RR Door P/W Down SW	Rear power window RH manual down signal / ON or OFF	ON: Rear power window RH manual down switch operated OFF: Rear power window RH switch not operated	-
Glass Position (Close-1/4)	Jam protection status of window glass within range of fully closed to 1/4 open position / OK or Caution	OK: Motor normally operates between fully closed to 1/4 open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Glass Position (1/4-2/4)	Jam protection status of window glass within range of 1/4 to 1/2 open position / OK or Caution	OK: Motor normally operates between 1/4 to 1/2 open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Glass Position (2/4-3/4)	Jam protection status of window glass within range of 1/2 to 3/4 open position / OK or Caution	OK: Motor normally operates between 1/2 to 3/4 open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Glass Position (3/4-Open)	Jam protection status of window glass within range of 3/4 to fully open position / OK or Caution	OK: Motor normally operates between 3/4 to fully open position Caution: Jam protection function operates due to detection of foreign object or irregular movement	-
Number of Trouble	Number of trouble codes / Min.: 0, Max.: 255	Number of DTCs will be displayed	-

Codes			

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Communication D-Door Motor	Connection status between power window regulator motor (for driver side) and main body ECU / OK or Stop	OK: Connection Stop: No connection	-
Communication P-Door Motor	Connection status between power window regulator motor (for front passenger side) and main body ECU / OK or Stop	OK: Connection Stop: No connection	-
Communication RR-Door Motor	Connection status between rear power window regulator motor LH and main body ECU / OK or Stop	OK: Connection Stop: No connection	-
Communication RL-Door Motor	Connection status between rear power window regulator motor RH and main body ECU / OK or Stop	OK: Connection Stop: No connection	-
Communication Master SW	Connection status between master switch and main body ECU / OK or Stop	OK: Connection Stop: No connection	-
D Door Courtesy SW	Driver side door courtesy signal / ON or OFF	ON: Driver door open OFF: Driver door closed	-
P Door Courtesy SW	Front passenger side door courtesy signal / ON or OFF	ON: Front passenger door open OFF: Front passenger door closed	-
RL Door Courtesy SW	Rear LH side door courtesy signal / ON or OFF	ON: Rear LH side door open OFF: Rear LH side door closed	-
RR Door Courtesy SW	Rear RH side door courtesy signal / ON or OFF	ON: Rear RH side door open OFF: Rear RH side door closed	-

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.

CAUTION:

Be careful to avoid injuries as this test causes vehicle parts to move. During the Active Test, the jam protection function does not operate.

D-Door Motor

Tester Display	Test Part	Control Range	Diagnostic Note
Power Window	Driver side power window	OFF/UP/DOWN	-

P-Door Motor

Tester Display	Test Part	Control Range	Diagnostic Note
Power Window	Front passenger side power window	OFF/UP/DOWN	-

RL-Door Motor

Tester Display	Test Part	Control Range	Diagnostic Note
Power Window	Rear LH side power window	OFF/UP/DOWN	-

RR-Door Motor

Tester Display	Test Part	Control Range	Diagnostic Note

Power Window	Rear RH side power window	OFF/UP/DOWN	-

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.

Power Window Control System

DTC Code	Detection Item	Trouble Area	See page
B2311	Power Window Motor Malfunction	- Power window regulator motor - Battery disconnection when engine switch on (IG) - Incorrect installation of power window components - Overheated power window regulator motor	Click here
B2312	Power Window Switch Malfunction	- Multiplex network master switch - Power window regulator switch - Power window regulator motor - Harness or connector - Multiplex network master switch held in same position for more than 20 sec. - Power window regulator switch held in same position for more than 20 sec.	Click here
B2313	Glass Position Initialization Incomplete	- Power window regulator motor - Power window regulator motor is not initialized	Click here

DTC B2311 Power Window Motor Malfunction

for Preparation Click here

DESCRIPTION

The power window regulator motor is driven by operating the power window regulator switch. The power window regulator motor consists of the motor, regulator and ECU.
This DTC is stored when the power window regulator motor has a malfunction, or the ECU built into the power window regulator motor determines that the fully closed window position has deviated approximately 20 mm (0.787 in.) or more from the normal position.

HINT:

This DTC may be stored for all the windows.

NOTICE:

- **When the power window regulator motor is reinstalled or replaced, the power window control system must be initialized.**
- **After a door glass or a door glass run has been replaced, the jam protection function may operate unexpectedly when the auto up function is used. In such cases, the auto up function can be resumed by repeating the following operation at least 5 times:**
  1. **Close the power window by fully pulling up the power window switch and holding it in the auto up position.**
  2. **Open the power window by fully pushing down the switch.**

Front Power Window Regulator Motor LH

DTC Code	DTC Detection Condition	Trouble Area
B2311	When either condition below is met: 1. The power window regulator motor malfunctions. 2. When the ECU in the power window regulator motor determines that the fully closed window position has deviated approximately 20 mm (0.787 in.) or more from the normal position.	• Battery disconnection when engine switch on (IG) • Power window regulator motor • Incorrect installation of power window components • Overheated power window regulator motor

Front Power Window Regulator Motor RH

DTC Code	DTC Detection Condition	Trouble Area
B2311	When either condition below is met: 1. The power window regulator motor malfunctions. 2. When the ECU in the power window regulator motor determines that the fully closed window position has deviated approximately 20 mm (0.787 in.) or more from the normal position.	• Battery disconnection when engine switch on (IG) • Power window regulator motor • Incorrect installation of power window components • Overheated power window regulator motor

Rear Power Window Regulator Motor LH

DTC Code	DTC Detection Condition	Trouble Area
B2311	When either condition below is met: 1. The power window regulator motor malfunctions. 2. When the ECU in the power window regulator motor determines that the fully closed window position has deviated approximately 20 mm (0.787 in.) or more from the normal position.	• Battery disconnection when engine switch on (IG) • Power window regulator motor • Incorrect installation of power window components • Overheated power window regulator

		motor

Rear Power Window Regulator Motor RH

DTC Code	DTC Detection Condition	Trouble Area
B2311	When either condition below is met: 1. The power window regulator motor malfunctions. 2. When the ECU in the power window regulator motor determines that the fully closed window position has deviated approximately 20 mm (0.787 in.) or more from the normal position.	• Battery disconnection when engine switch on (IG) • Power window regulator motor • Incorrect installation of power window components • Overheated power window regulator motor

INSPECTION PROCEDURE

1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (POWER WINDOW)

a. Select the Active Test, use the intelligent tester to generate a control command, and then check that each power window regulator motor operates (Click here).

CAUTION:

Be careful to avoid injuries as this test causes vehicle parts to move. During the Active Test, the jam protection function does not operate.

D-Door Motor

Tester Display	Test Part	Control Range	Diagnostic Note
Power Window	Driver side power window	OFF/UP/DOWN	-

P-Door Motor

Tester Display	Test Part	Control Range	Diagnostic Note
Power Window	Front passenger side power window	OFF/UP/DOWN	-

RL-Door Motor

Tester Display	Test Part	Control Range	Diagnostic Note
Power Window	Rear LH side power window	OFF/UP/DOWN	-

RR-Door Motor

Tester Display	Test Part	Control Range	Diagnostic Note
Power Window	Rear RH side power window	OFF/UP/DOWN	-

OK:

Each power window motor operates.

Result

Result	Proceed to
OK	A
NG (Front LH side power window)	B
NG (Front RH side power window)	C
NG (Rear LH side power window)	D
NG (Rear RH side power window)	E

B	REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)
C	REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)
D	REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

E → REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

A

2.PERFORM INITIALIZATION

a. Initialize the power window regulator motor (Click here).

b. Check that each power window operates normally by opening and closing the window (Click here).

OK:
Each power window operates normally.

Result

Result	Proceed to
OK	A
NG (Front LH side power window)	B
NG (Front RH side power window)	C
NG (Rear LH side power window)	D
NG (Rear RH side power window)	E

B → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

C → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

D → REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

E → REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

A

3.CHECK WHETHER PARTS HAVE BEEN INSTALLED CORRECTLY

a. Check that the power window components are installed correctly.

OK:
Power window components are installed correctly.

HINT:

When the power window components are installed correctly, the problem has been caused by battery disconnection while the engine switch is on (IG) or the motor being overheated.

NG → INSTALL PARTS CORRECTLY

OK

END

DTC B2313 Glass Position Initialization Incomplete

for Preparation Click here

DESCRIPTION

The power window regulator motor assembly is driven by operating the power window switch. The power window regulator motor assembly has motor, regulator and ECU functions.
When the ECU determines that the power window regulator motor has not been initialized, DTC B2313 is stored.

HINT:

This DTC may be stored for all the windows.

NOTICE:

- **When the power window regulator motor is reinstalled or replaced, the power window control system must be initialized.**
- **After a door glass or a door glass run has been replaced, the jam protection function may operate unexpectedly when the auto up function is used. In such cases, the auto up function can be resumed by repeating the following operation at least 5 times:**
  1. **Close the power window by fully pulling up the power window switch and holding it in the auto up position.**
  2. **Open the power window by fully pushing down the switch.**

Front Power Window Regulator Motor LH

DTC Code	DTC Detection Condition	Trouble Area
B2313	• The power window regulator motor is not initialized. • The power window regulator motor malfunctions.	Front power window regulator motor assembly LH

Front Power Window Regulator Motor RH

DTC Code	DTC Detection Condition	Trouble Area
B2313	• The power window regulator motor is not initialized. • The power window regulator motor malfunctions.	Front power window regulator motor assembly RH

Rear Power Window Regulator Motor LH

DTC Code	DTC Detection Condition	Trouble Area
B2313	• The power window regulator motor is not initialized. • The power window regulator motor malfunctions.	Rear power window regulator motor assembly LH

Rear Power Window Regulator Motor RH

DTC Code	DTC Detection Condition	Trouble Area
B2313	• The power window regulator motor is not initialized. • The power window regulator motor malfunctions.	Rear power window regulator motor assembly RH

INSPECTION PROCEDURE

1.PERFORM INITIALIZATION (APPLICABLE LOCATION)

a. Initialize the power window regulator motor (Click here).

NEXT

2.CHECK FOR DTC

a. Check for DTCs (Click here).

Result

Result	Proceed to
B2313 is not output	A
B2313 output from front power window regulator motor LH	B
B2313 output from front power window regulator motor RH	C

B2313 output from rear power window regulator motor LH	D
B2313 output from rear power window regulator motor RH	E

B	REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)
C	REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)
D	REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)
E	REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

A

END

DTC B2312 Power Window Switch Malfunction

for Preparation Click here

DESCRIPTION

The power window regulator motor consists of the motor, regulator and ECU. The power window regulator motor is driven by operating the power window switch.
This DTC is stored when the ECU built into the regulator motor determines that the power window switch is stuck.

HINT:

This DTC may be stored for all the windows.

NOTICE:

- **When the power window regulator motor is reinstalled or replaced, the power window control system must be initialized.**
- **After a door glass or a door glass run has been replaced, the jam protection function may operate unexpectedly when the auto up function is used. In such cases, the auto up function can be resumed by repeating the following operation at least 5 times:**
  1. **Close the power window by fully pulling up the power window switch and holding it in the auto up position.**
  2. **Open the power window by fully pushing down the power window switch.**

Multiplex Network Master Switch

DTC Code	DTC Detection Condition	Trouble Area
B2312	• The multiplex network master switch is stuck. • The multiplex network master switch is held in the same position for more than 20 sec.	• Multiplex network master switch • Harness or connector

Front Power Window Regulator Motor LH

DTC Code	DTC Detection Condition	Trouble Area
B2312	• The multiplex network master switch is stuck. • The multiplex network master switch is held in the same position for more than 20 sec.	• Multiplex network master switch • Power window regulator motor • Harness or connector

Front Power Window Regulator Motor RH

DTC Code	DTC Detection Condition	Trouble Area
B2312	• The power window regulator switch is stuck. • The power window regulator switch is held in same position for more than 20 sec.	• Power window regulator switch • Power window regulator motor • Harness or connector

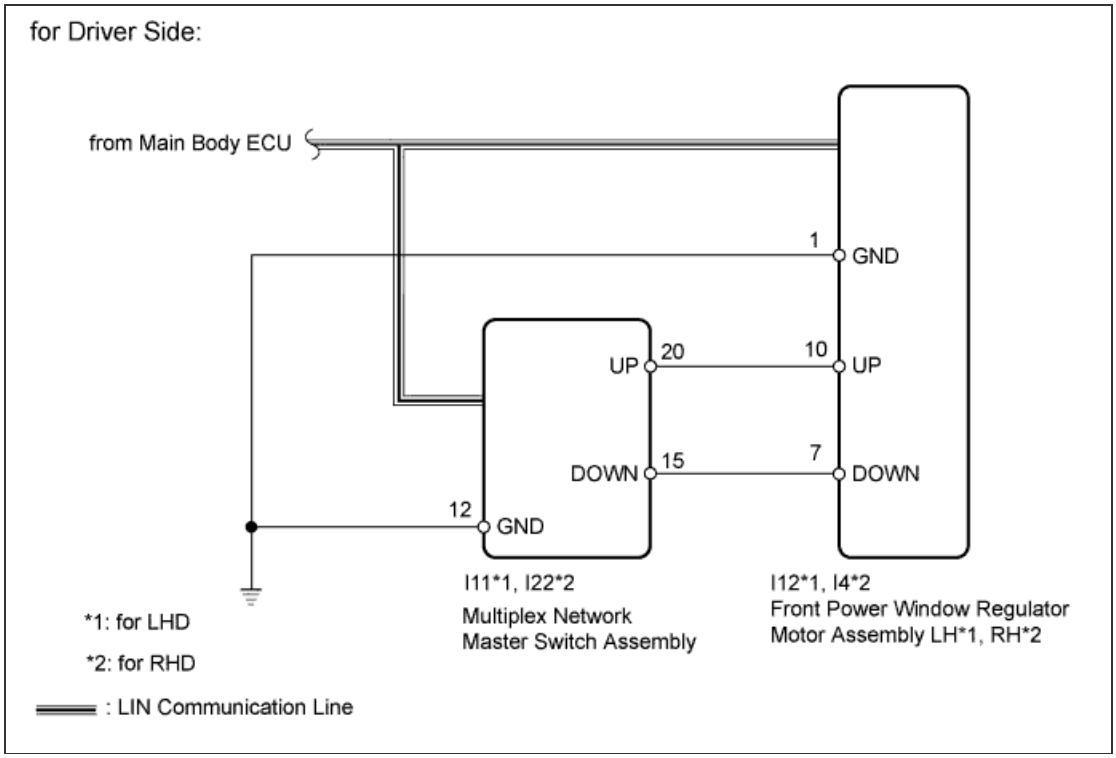
Rear Power Window Regulator Motor LH

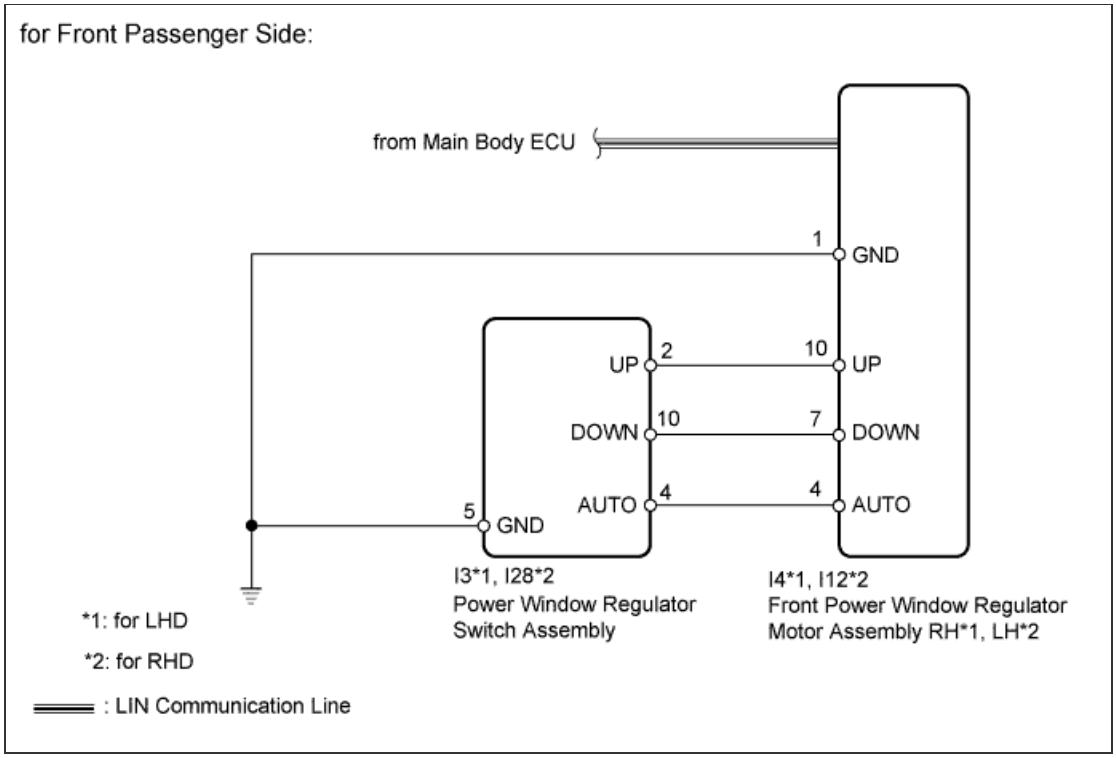
DTC Code	DTC Detection Condition	Trouble Area
B2312	• The power window regulator switch is stuck. • The power window regulator switch is held in same position for more than 20 sec.	• Power window regulator switch • Power window regulator motor • Harness or connector

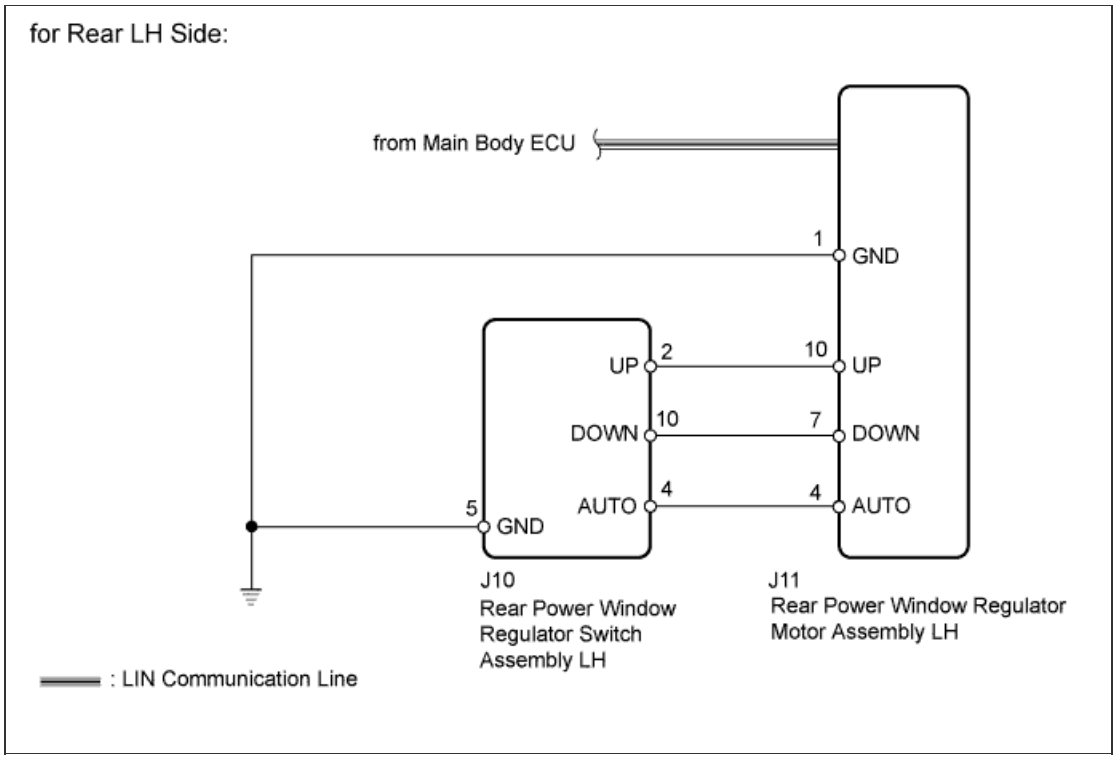
Rear Power Window Regulator Motor RH

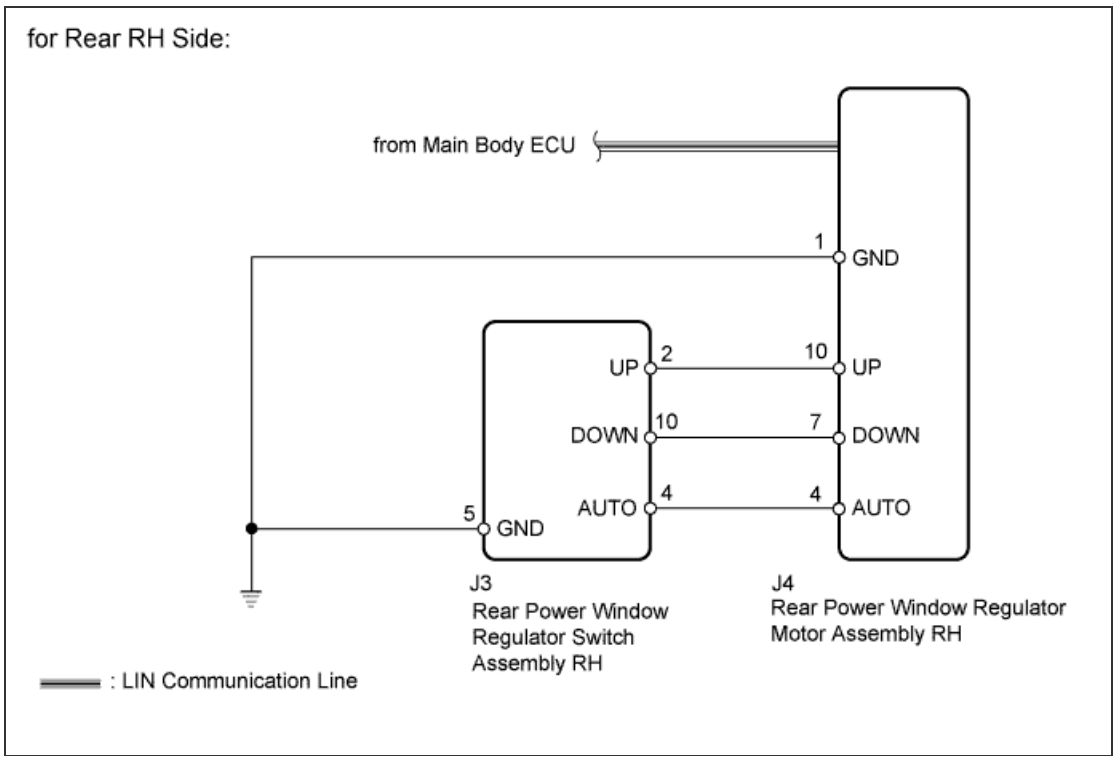
DTC Code	DTC Detection Condition	Trouble Area
B2312	• The power window regulator switch is stuck. • The power window regulator switch is held in same position for more than 20 sec.	• Power window regulator switch • Power window regulator motor • Harness or connector

WIRING DIAGRAM









INSPECTION PROCEDURE

1.CLEAR DTC

a. Clear the DTCs (Click here).

NEXT

2.CHECK FOR DTC

a. Check for DTCs (Click here).

Result

Result	Proceed to
B2312 is output.	A

LIN communication DTCs are output.	B
No DTCs output.	C

B → GO TO LIN COMMUNICATION SYSTEM (Click here)

C → END (DUE TO KEEPING SWITCH OPERATED FOR 20 SEC. OR MORE)

A

3.CHECK MALFUNCTION LOCATION

a. Check where DTC B2312 is output from.

Result

Result	Proceed to
B2312 output from multiplex network master switch.	A
B2312 output from driver side power window regulator motor.	B
B2312 output from passenger side power window regulator motor.	C
B2312 output from rear power window regulator motor LH.	D
B2312 output from rear power window regulator motor RH.	E

B → Go to step 4

C → Go to step 6

D → Go to step 9

E → Go to step 12

A

REPLACE MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY (Click here)

4.READ VALUE USING INTELLIGENT TESTER (DRIVER SIDE POWER WINDOW REGULATOR MOTOR)

a. Use the Data List to check if the power window regulator motor is functioning properly (Click here).

D-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
D Door P/W Auto SW	Driver side power window auto up/down signal / ON or OFF	ON: Driver side power window auto up/down switch operated OFF: Driver side power window switch not operated	-
D Door P/W Up SW	Driver side power window manual up signal / ON or OFF	ON: Driver side power window manual up switch operated OFF: Driver side power window switch not operated	-
D Door P/W Down SW	Driver side power window manual down signal / ON or OFF	ON: Driver side power window manual down switch operated OFF: Driver side power window switch not operated	-

Result

Result	Proceed to
Display does not change according to operation of multiplex network master switch.	A
Display changes according to operation of multiplex	B

network master switch (for LHD).	
Display changes according to operation of multiplex network master switch (for RHD).	C

B → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

C → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

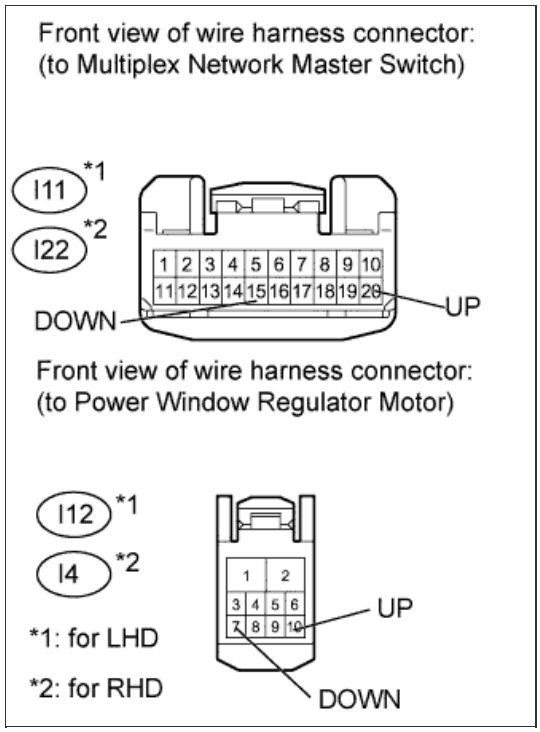
A

5.CHECK HARNESS AND CONNECTOR (MULTIPLEX NETWORK MASTER SWITCH - FRONT POWER WINDOW REGULATOR MOTOR)

a. Disconnect I11*1 or I22*2 switch connector.

b. Disconnect I12*1 or I4*2 motor connector.

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



Standard Resistance:

for LHD

Tester Connection	Condition	Specified Condition
I11-20 (UP) - I12-10 (UP)	Always	Below 1 Ω
I11-15 (DOWN) - I12-7 (DOWN)	Always	Below 1 Ω
I11-20 (UP) or I12-10 (UP) - Body ground	Always	10 kΩ or higher
I11-15 (DOWN) or I12-7 (DOWN) - Body ground	Always	10 kΩ or higher

for RHD

Tester Connection	Condition	Specified Condition
I22-20 (UP) - I4-10 (UP)	Always	Below 1 Ω
I22-15 (DOWN) - I4-7 (DOWN)	Always	Below 1 Ω
I22-20 (UP) or I4-10 (UP) - Body ground	Always	10 kΩ or higher
I22-15 (DOWN) or I4-7 (DOWN) - Body ground	Always	10 kΩ or higher

Result

Result	Proceed to

NG	A
OK (for LHD)	B
OK (for RHD)	C

B → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

C → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

A → REPAIR OR REPLACE HARNESS OR CONNECTOR

6.READ VALUE USING INTELLIGENT TESTER (FRONT PASSENGER SIDE POWER WINDOW REGULATOR MOTOR)

a. Use the Data List to check if the power window regulator motor is functioning properly (Click here).

P-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
P Door P/W Auto SW	Front passenger side power window auto up/down signal / ON or OFF	ON: Front passenger side power window auto up/down switch operated OFF: Front passenger side power window regulator switch not operated	-
P Door P/W Up SW	Front passenger side power window manual up signal / ON or OFF	ON: Front passenger side power window manual up switch operated OFF: Front passenger side power window regulator switch not operated	-
P Door P/W Down SW	Front passenger side power window manual down signal / ON or OFF	ON: Front passenger side power window manual down switch operated OFF: Front passenger side power window regulator switch not operated	-

Result

Result	Proceed to
Display does not change according to operation of power window regulator switch.	A
Display changes according to operation of power window regulator switch (for LHD).	B
Display changes according to operation of power window regulator switch (for RHD).	C

B → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

C → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

A

7.INSPECT POWER WINDOW REGULATOR SWITCH ASSEMBLY

a. Remove the power window regulator switch (Click here).

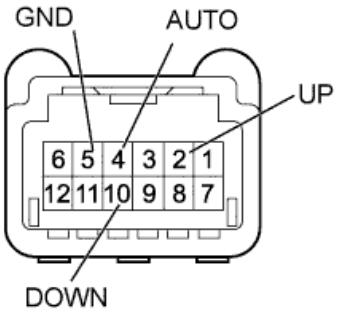
b. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
2 (UP) - 5 (GND)	Manual up operation	Below 1 Ω

10 (DOWN) - 5 (GND)	Manual down operation	Below 1 Ω
4 (AUTO) - 5 (GND)	Auto up/down operation	Below 1 Ω

Component without harness connected:
(Power Window Regulator Switch)



NG → REPLACE POWER WINDOW REGULATOR SWITCH ASSEMBLY (Click here)

OK →

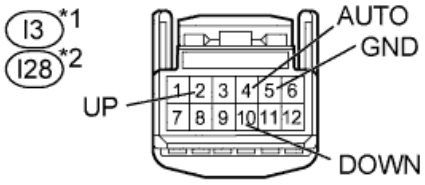
8.CHECK HARNESS AND CONNECTOR (POWER WINDOW REGULATOR SWITCH - FRONT POWER WINDOW REGULATOR MOTOR)

a. Disconnect the I3*1 or I28*2 switch connector.

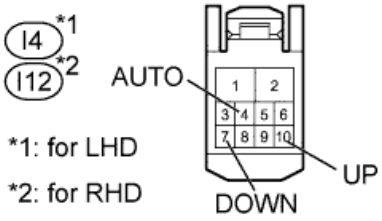
b. Disconnect the I4*1 or I12*2 motor connector.

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

Front view of wire harness connector:
(to Power Window Regulator Switch)



Front view of wire harness connector:
(to Power Window Regulator Motor)



*1: for LHD

*2: for RHD

Standard Resistance:

for LHD

Tester Connection	Condition	Specified Condition
I3-2 (UP) - I4-10 (UP)	Always	Below 1 Ω
I3-10 (DOWN) - I4-7 (DOWN)	Always	Below 1 Ω
I3-4 (AUTO) - I4-4 (AUTO)	Always	Below 1 Ω
I3-2 (UP) or I4-10 (UP) - Body ground	Always	10 kΩ or higher
I3-10 (DOWN) or I4-7 (DOWN) - Body ground	Always	10 kΩ or higher
I3-4 (AUTO) or I4-4 (AUTO) - Body ground	Always	10 kΩ or higher

for RHD

Tester Connection	Condition	Specified Condition
I28-2 (UP) - I12-10 (UP)	Always	Below 1 Ω
I28-10 (DOWN) - I12-7 (DOWN)	Always	Below 1 Ω
I28-4 (AUTO) - I12-4 (AUTO)	Always	Below 1 Ω
I28-2 (UP) or I12-10 (UP) - Body ground	Always	10 kΩ or higher
I28-10 (DOWN) or I12-7 (DOWN) - Body ground	Always	10 kΩ or higher
I28-4 (AUTO) or I12-4 (AUTO) - Body ground	Always	10 kΩ or higher

Result

Result	Proceed to
NG	A
OK (for LHD)	B
OK (for RHD)	C

B → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

C → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

A

REPAIR OR REPLACE HARNESS OR CONNECTOR

9.READ VALUE USING INTELLIGENT TESTER (REAR POWER WINDOW REGULATOR MOTOR LH)

a. Use the Data List to check if the power window regulator motor is functioning properly (Click here).

RL-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
RL Door P/W Auto SW	Rear power window LH auto up/down signal / ON or OFF	ON: Rear power window LH auto up/down switch operated OFF: Rear power window LH switch not operated	-
RL Door P/W Up SW	Rear power window LH manual up signal / ON or OFF	ON: Rear power window LH manual up switch operated OFF: Rear power window LH switch not operated	-
RL Door P/W Down SW	Rear power window LH manual down signal / ON or OFF	ON: Rear power window LH manual down switch operated OFF: The rear power window LH switch not operated	-

OK:
Display changes according to operation of rear power window regulator switch LH.

NG → Go to step 10

OK

REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

10.INSPECT REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY LH

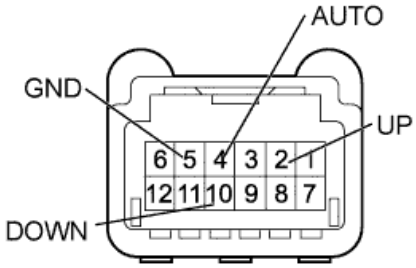
a. Remove the rear power window regulator switch (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
2 (UP) - 5 (GND)	Manual up operation	Below 1 Ω
10 (DOWN) - 5 (GND)	Manual down operation	Below 1 Ω
4 (AUTO) - 5 (GND)	Auto up/down operation	Below 1 Ω

Component without harness connected:
(Rear Power Window Regulator Switch LH)



NG → REPLACE REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY LH (Click here)

OK

11.CHECK HARNESS AND CONNECTOR (REAR POWER WINDOW REGULATOR SWITCH LH - POWER WINDOW REGULATOR MOTOR LH)

a. Disconnect the J10 switch connector.

b. Disconnect the J11 motor connector.

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

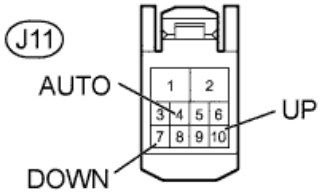
Standard Resistance:

Tester Connection	Condition	Specified Condition
J10-2 (UP) - J11-10 (UP)	Always	Below 1 Ω
J10-10 (DOWN) - J11-7 (DOWN)	Always	Below 1 Ω
J10-4 (AUTO) - J11-4 (AUTO)	Always	Below 1 Ω
J10-2 (UP) or J11-10 (UP) - Body ground	Always	10 kΩ or higher
J10-10 (DOWN) or J11-7 (DOWN) - Body ground	Always	10 kΩ or higher
J10-4 (AUTO) or J11-4 (AUTO) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Rear Power Window Regulator Switch)



Front view of wire harness connector:
(to Power Window Regulator Motor)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

12.READ VALUE USING INTELLIGENT TESTER (REAR POWER WINDOW REGULATOR MOTOR RH)

a. Use the Data List to check if the power window regulator motor is functioning properly (Click here).

RR-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
		ON: The rear power window RH auto up/down	

RR Door P/W Auto SW	Rear power window RH auto up/down signal / ON or OFF	switch operated OFF: The rear power window RH switch not operated	-
RR Door P/W Up SW	Rear power window RH manual up signal / ON or OFF	ON: The rear power window RH manual up switch operated OFF: The rear power window RH switch not operated	-
RR Door P/W Down SW	Rear power window RH manual down signal / ON or OFF	ON: The rear power window RH manual down switch operated OFF: The rear power window RH switch not operated	-

OK:

Display changes according to operation of rear power window regulator switch RH.

NG → Go to step 13

OK ↓

REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

13.INSPECT REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY RH

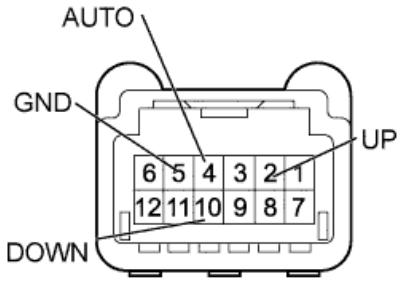
a. Remove the rear power window regulator switch (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
2 (UP) - 5 (GND)	Manual up operation	Below 1 Ω
10 (DOWN) - 5 (GND)	Manual down operation	Below 1 Ω
4 (AUTO) - 5 (GND)	Auto up/down operation	Below 1 Ω

Component without harness connected:
(Rear Power Window Regulator Switch RH)



NG → REPLACE REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY RH (Click here)

OK ↓

14.CHECK HARNESS AND CONNECTOR (REAR POWER WINDOW REGULATOR SWITCH RH - POWER WINDOW REGULATOR MOTOR RH)

a. Disconnect the J3 switch connector.

b. Disconnect the J4 motor connector.

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

Standard Resistance:

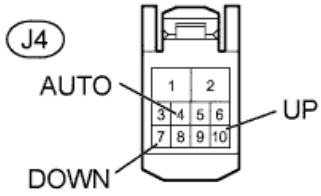
Tester Connection	Condition	Specified Condition
J3-2 (UP) - J4-10 (UP)	Always	Below 1 Ω
J3-10 (DOWN) - J4-7 (DOWN)	Always	Below 1 Ω
J3-4 (AUTO) - J4-4 (AUTO)	Always	Below 1 Ω
J3-2 (UP) or J4-10 (UP) - Body ground	Always	10 kΩ or higher
J3-10 (DOWN) or J4-7 (DOWN) -	Always	10 kΩ or higher

Body ground		
J3-4 (AUTO) or J4-4 (AUTO) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Rear Power Window Regulator Switch)



Front view of wire harness connector:
(to Power Window Regulator Motor)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

for Preparation Click here

DESCRIPTION

When the engine switch is on (IG) and window lock switch is off, the multiplex network master switch sends remote up/down signals to each power window regulator motor via the LIN communication line.

INSPECTION PROCEDURE

1.CHECK LIN COMMUNICATION SYSTEM

a. Check for LIN communication system DTCs related to the power window control system (Click here).

OK:
LIN communication system DTCs are not output.

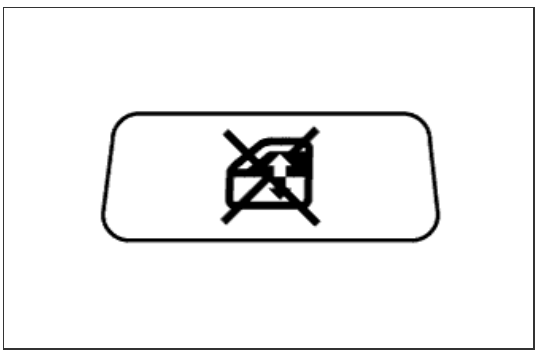
NG → GO TO LIN COMMUNICATION SYSTEM (Click here)

OK ↓

2.CHECK MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY (WINDOW LOCK SWITCH)

a. Turn the window lock switch off and operate the switches on the multiplex network master switch. Check that the remote up/down function operates (Click here).

OK:
Remote up/down function operates.



NG → REPLACE MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY (Click here)

OK ↓

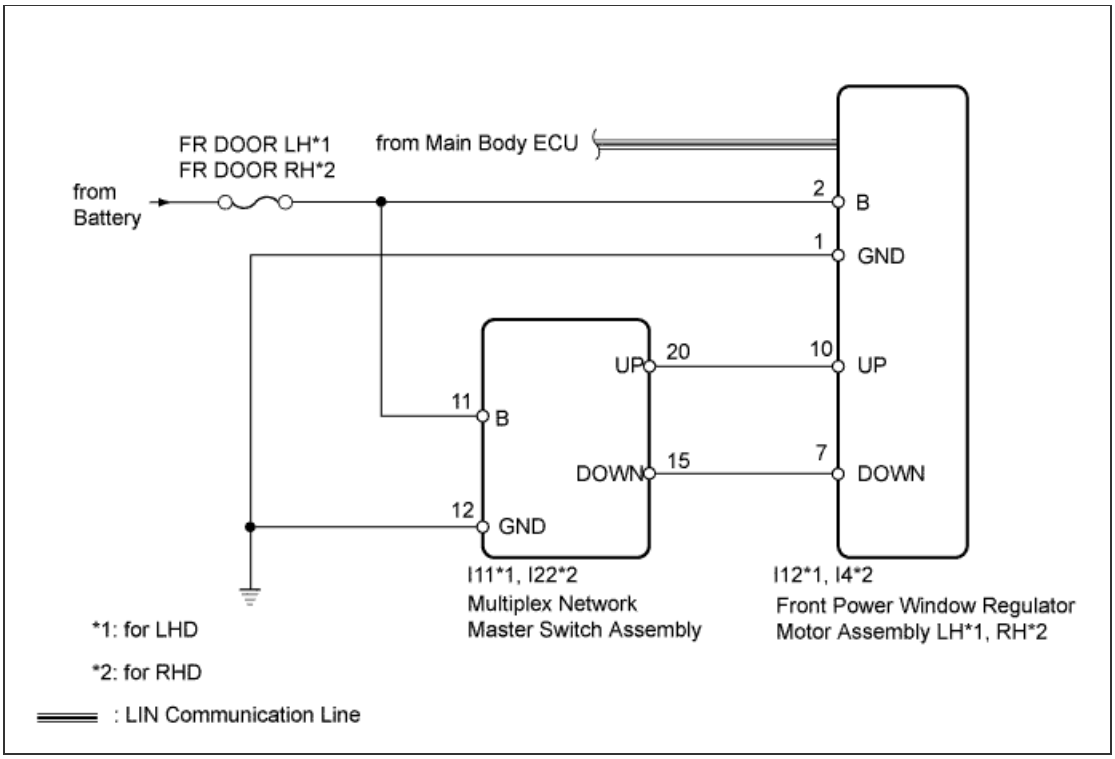
END

for Preparation Click here

DESCRIPTION

If the manual up/down function does not operate, there may be a malfunction in the multiplex network master switch, power window regulator motor, harness or connector.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK LIN COMMUNICATION SYSTEM

a. Check for LIN communication system DTCs related to the power window control system (Click here).

OK:
LIN communication system DTCs are not output.

NG → GO TO LIN COMMUNICATION SYSTEM (**Click here**)

OK

2.CHECK FOR DTC (B2312)

a. Check if DTC B2312 is output (Click here).

OK:
DTC B2312 is not output.

NG → GO TO DTC B2312 (**Click here**)

OK

3.READ VALUE USING INTELLIGENT TESTER (POWER WINDOW REGULATOR MOTOR)

a. Use the Data List to check if the power window regulator motor is functioning properly (Click here).

D-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
D Door P/W Up SW	Driver side power window manual up signal / ON or OFF	ON: Driver side power window manual up switch operated OFF: Driver side power window switch not operated	-
D Door P/W Down SW	Driver side power window manual down signal / ON or OFF	ON: Driver side power window manual down switch operated OFF: Driver side power window switch not operated	-

OK:

Display changes according to operation of multiplex network master switch.

Result

Result	Proceed to
NG	A
OK (for LHD)	B
OK (for RHD)	C

B → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

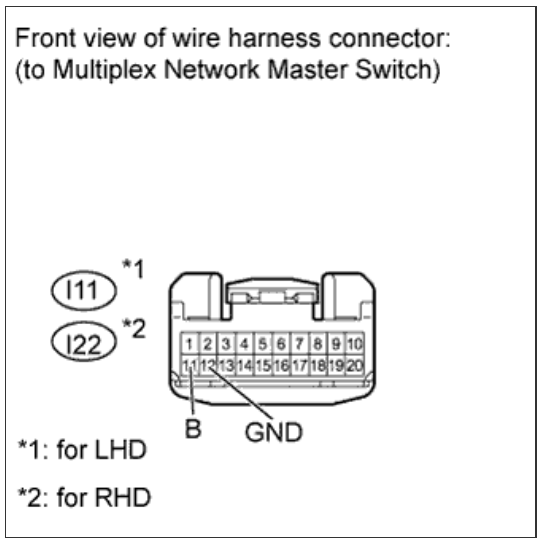
C → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

A

4.CHECK HARNESS AND CONNECTOR (MULTIPLEX NETWORK MASTER SWITCH - BATTERY AND BODY GROUND)

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

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



Standard Voltage:

for LHD

Tester Connection	Condition	Specified Condition
I11-11 (B) - Body ground	Always	11 to 14 V

for RHD

Tester Connection	Condition	Specified Condition
I22-11 (B) - Body ground	Always	11 to 14 V

Standard Resistance:

for LHD

Tester Connection	Condition	Specified Condition
I11-12 (GND) - Body ground	Always	Below 1 Ω

for RHD

Tester Connection	Condition	Specified Condition
I22-12 (GND) - Body ground	Always	Below 1 Ω

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

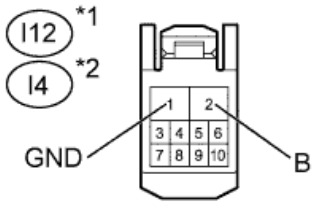
OK

5.CHECK HARNESS AND CONNECTOR (FRONT POWER WINDOW REGULATOR MOTOR - BATTERY AND BODY GROUND)

a. Disconnect the I12*1 or I4*2 motor connector.

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

Front view of wire harness connector:
(to Power Window Regulator Motor)



*1: for LHD

*2: for RHD

Standard Voltage:

for LHD

Tester Connection	Condition	Specified Condition
I12-2 (B) - Body ground	Always	11 to 14 V

for RHD

Tester Connection	Condition	Specified Condition
I4-2 (B) - Body ground	Always	11 to 14 V

Standard Resistance:

for LHD

Tester Connection	Condition	Specified Condition
I12-1 (GND) - Body ground	Always	Below 1 Ω

for RHD

Tester Connection	Condition	Specified Condition
I4-1 (GND) - Body ground	Always	Below 1 Ω

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

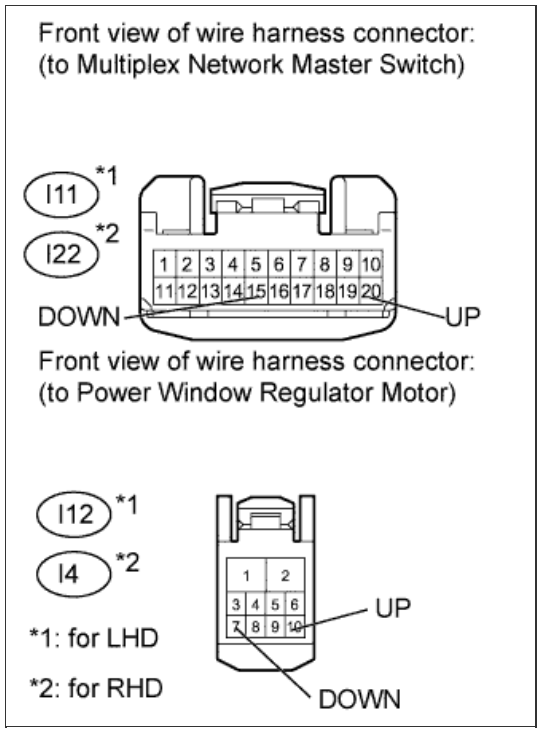
OK

6.CHECK HARNESS AND CONNECTOR (MULTIPLEX NETWORK MASTER SWITCH - FRONT POWER WINDOW REGULATOR MOTOR)

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

b. Disconnect the I12*1 or I4*2 motor connector.

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



Standard Resistance:

for LHD

Tester Connection	Condition	Specified Condition
I11-20 (UP) - I12-10 (UP)	Always	Below 1 Ω
I11-15 (DOWN) - I12-7 (DOWN)	Always	Below 1 Ω
I11-20 (UP) or I12-10 (UP) - Body ground	Always	10 kΩ or higher
I11-15 (DOWN) or I12-7 (DOWN) - Body ground	Always	10 kΩ or higher

for RHD

Tester Connection	Condition	Specified Condition
I22-20 (UP) - I4-10 (UP)	Always	Below 1 Ω
I22-15 (DOWN) - I4-7 (DOWN)	Always	Below 1 Ω
I22-20 (UP) or I4-10 (UP) - Body ground	Always	10 kΩ or higher
I22-15 (DOWN) or I4-7 (DOWN) - Body ground	Always	10 kΩ or higher

Result

Result	Proceed to
NG	A
OK (for LHD)	B
OK (for RHD)	C

B	Go to step 7
C	Go to step 8

A

REPAIR OR REPLACE HARNESS OR CONNECTOR

7.INSPECT FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH

a. Remove the motor (Click here).

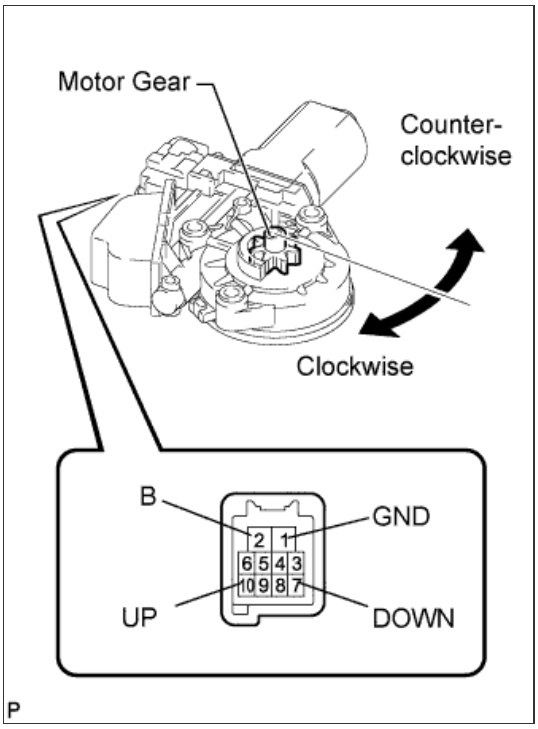
b. Apply positive (+) battery voltage to connector terminal 2 (B).

NOTICE:

- **Do not apply positive (+) battery voltage to any terminals, except terminal 2 (B), to avoid damaging the pulse sensor inside the motor.**
- **Reset the power window regulator motor (initialize the pulse sensor) after installing the power window regulator motor and regulator assembly onto the door.**

c. Apply negative (-) battery voltage to connector terminals 1 (GND), and 7 (DOWN) or 10 (UP).

d. Check that the motor gear rotates smoothly as follows.



OK:

Measurement Condition	Specified Condition
1. Connect the positive (+) battery cable to terminal 2 (B), and connect the negative (-) battery cable to terminal 1 (GND), and keep them connected for 3 seconds or more. 2. With terminals 2 (B) and 1 (GND) connected, connect the negative (-) battery cable to terminal 10 (UP). 3. Disconnect and reconnect the negative (-) battery cable to terminal 10 (UP) within 1 second.	Motor gear rotates clockwise (Up)
1. Connect the positive (+) battery cable to terminal 2 (B), and connect the negative (-) battery cable to terminal 1 (GND), and keep them connected for 3 seconds or more. 2. With terminals 2 (B) and 1 (GND) connected, connect the negative (-) battery cable to terminal 7 (DOWN). 3. Disconnect and reconnect the negative (-) battery cable to terminal 7 (DOWN) within 1 second.	Motor gear rotates counterclockwise (Down)

NG → **REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)**

OK

REPLACE MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY (Click here)

8.INSPECT FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH

a. Remove the motor (Click here).

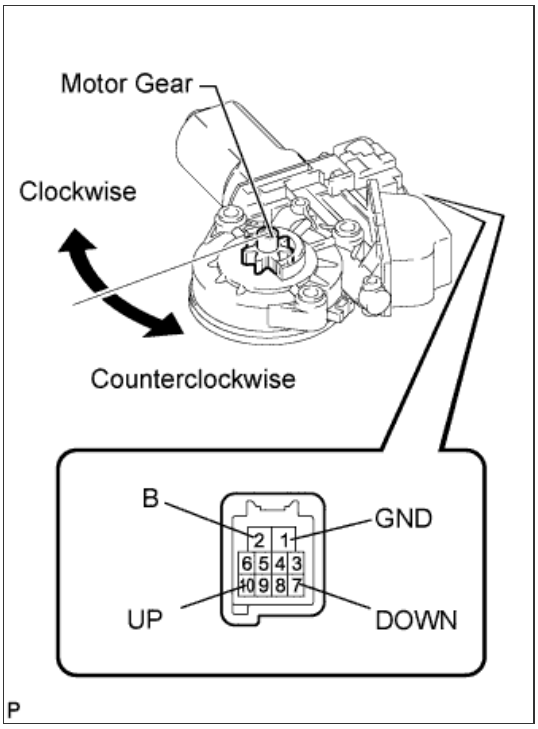
b. Apply positive (+) battery voltage to connector terminal 2 (B).

NOTICE:

- **Do not apply positive (+) battery voltage to any terminals, except terminal 2 (B), to avoid damaging the pulse sensor inside the motor.**
- **Reset the power window regulator motor (initialize the pulse sensor) after installing the power window regulator motor and regulator assembly onto the door.**

c. Apply negative (-) battery voltage to the connector terminals 1 (GND), and 7 (DOWN) or 10 (UP).

d. Check that the motor gear rotates smoothly as follows.



OK:

Measurement Condition	Specified Condition
1. Connect the positive (+) battery cable to terminal 2 (B), and connect the negative (-) battery cable to terminal 1 (GND), and keep them connected for 3 seconds or more. 2. With terminals 2 (B) and 1 (GND) connected, connect the negative (-) battery cable to terminal 10 (UP). 3. Disconnect and reconnect the negative (-) battery cable to terminal 10 (UP) within 1 second.	Motor gear rotates counterclockwise (Up)
1. Connect the positive (+) battery cable to terminal 2 (B), and connect the negative (-) battery cable to terminal 1 (GND), and keep them connected for 3 seconds or more. 2. With terminals 2 (B) and 1 (GND) connected, connect the negative (-) battery cable to terminal 7 (DOWN). 3. Disconnect and reconnect the negative (-) battery cable to terminal 7 (DOWN) within 1 second.	Motor gear rotates clockwise (Down)

NG → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

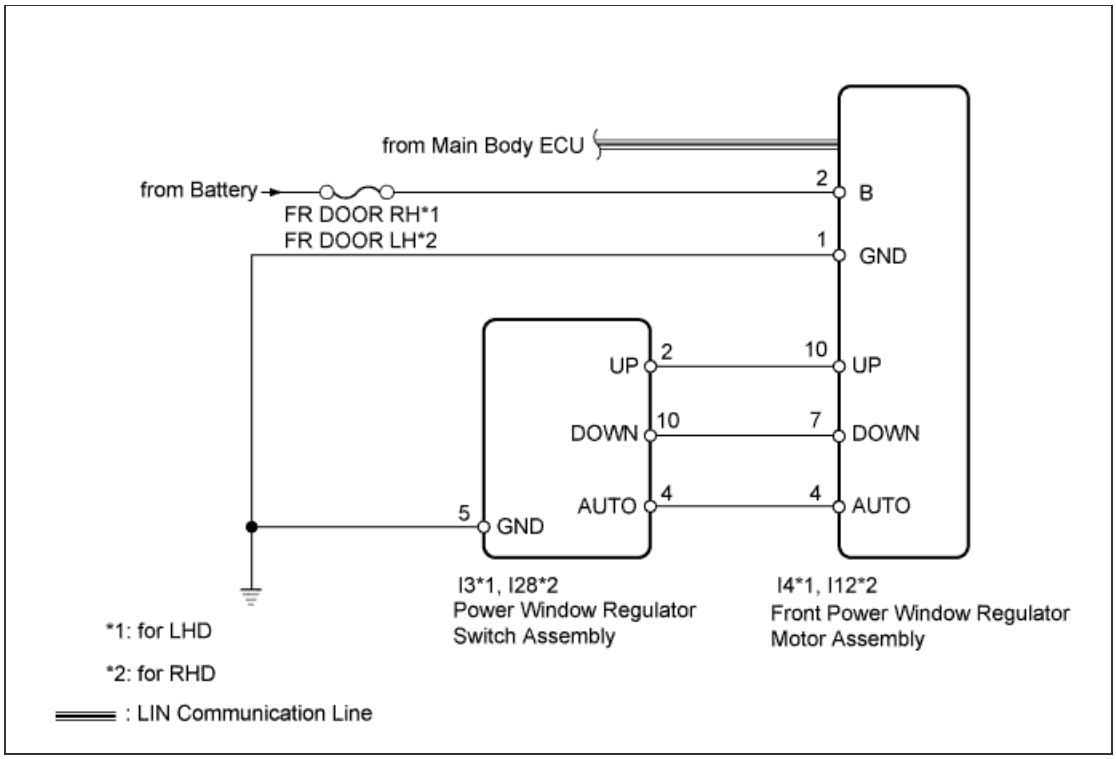
OK → REPLACE MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

If the manual up/down function does not operate, there may be a malfunction in the power window regulator switch, front power window regulator motor RH or harness or connector.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK LIN COMMUNICATION SYSTEM

a. Check for LIN communication system DTCs related to the power window control system (Click here).

OK:
LIN communication system DTCs are not output

NG → GO TO LIN COMMUNICATION SYSTEM (**Click here**)

OK

2.CHECK FOR DTC (B2312)

a. Check if DTC B2312 is output (Click here).

OK:
DTC B2312 is not output.

NG → GO TO DTC B2312 (**Click here**)

OK

3.READ VALUE USING INTELLIGENT TESTER (FRONT PASSENGER SIDE POWER WINDOW REGULATOR MOTOR)

a. Use the Data List to check if the power window regulator motor is functioning properly (Click here).

P-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
P Door P/W Up SW	Front passenger side power window manual up signal / ON or OFF	ON: Front passenger side power window manual up switch operated OFF: Front passenger side power window switch not operated	-
P Door P/W Down SW	Front passenger side power window manual down signal / ON or OFF	ON: Front passenger side power window manual down switch operated OFF: Front passenger side power window switch not operated	-

OK:

Display changes according to operation of power window regulator switch.

Result

Result	Proceed to
NG	A
OK (for LHD)	B
OK (for RHD)	C

B → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

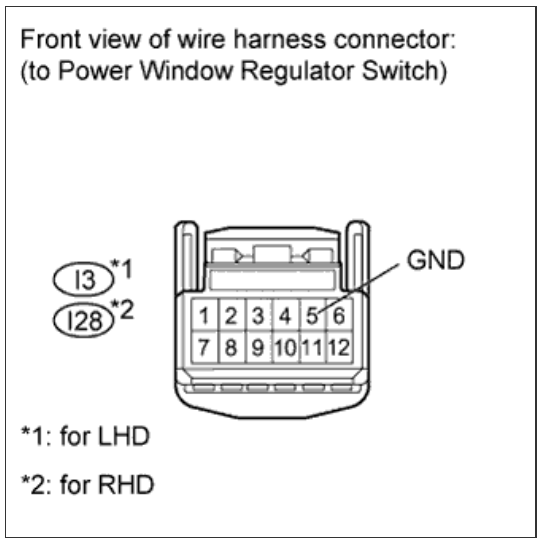
C → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

A

4.CHECK HARNESS AND CONNECTOR (POWER WINDOW REGULATOR SWITCH - BODY GROUND)

a. Disconnect the I3*1 or I28*2 switch connector.

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



Standard Resistance:

for LHD

Tester Connection	Condition	Specified Condition
I3-5 (GND) - Body ground	Always	Below 1 Ω

for RHD

Tester Connection	Condition	Specified Condition
I28-5 (GND) - Body ground	Always	Below 1 Ω

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

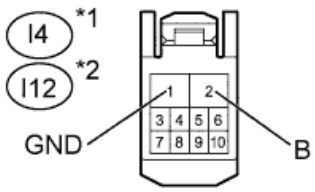
OK

5.CHECK HARNESS AND CONNECTOR (FRONT POWER WINDOW REGULATOR MOTOR - BATTERY AND BODY GROUND)

a. Disconnect the I4*1 or I12*2 motor connector.

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

Front view of wire harness connector:
(to Power Window Regulator Motor)



*1: for LHD

*2: for RHD

Standard Voltage:

for LHD

Tester Connection	Condition	Specified Condition
I4-2 (B) - Body ground	Always	11 to 14 V

for RHD

Tester Connection	Condition	Specified Condition
I12-2 (B) - Body ground	Always	11 to 14 V

Standard Resistance:

for LHD

Tester Connection	Condition	Specified Condition
I4-1 (GND) - Body ground	Always	Below 1 Ω

for RHD

Tester Connection	Condition	Specified Condition
I12-1 (GND) - Body ground	Always	Below 1 Ω

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

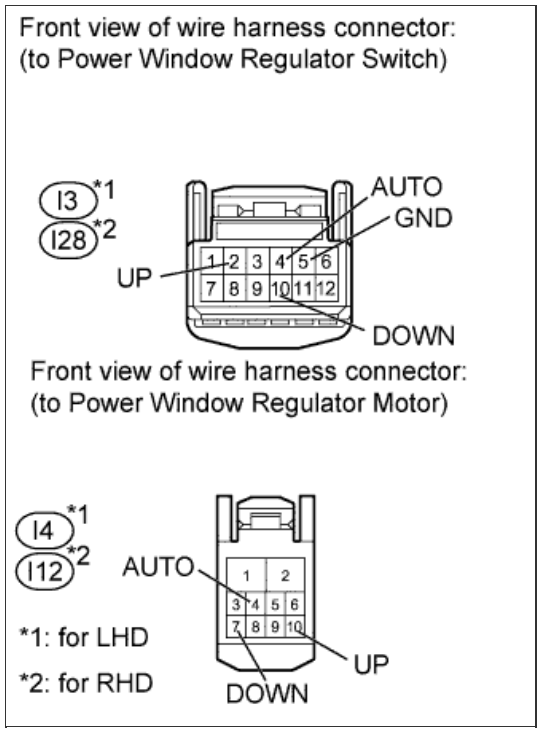
OK

6.CHECK HARNESS AND CONNECTOR (POWER WINDOW REGULATOR SWITCH - FRONT POWER WINDOW REGULATOR MOTOR)

a. Disconnect the I3*1 or I28*2 switch connector.

b. Disconnect the I4*1 or I12*2 motor connector.

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



Standard Resistance:

for LHD

Tester Connection	Condition	Specified Condition
I3-2 (UP) - I4-10 (UP)	Always	Below 1 Ω
I3-10 (DOWN) - I4-7 (DOWN)	Always	Below 1 Ω
I3-4 (AUTO) - I4-4 (AUTO)	Always	Below 1 Ω
I3-2 (UP) or I4-10 (UP) - Body ground	Always	10 kΩ or higher
I3-10 (DOWN) or I4-7 (DOWN) - Body ground	Always	10 kΩ or higher
I3-4 (AUTO) or I4-4 (AUTO) - Body ground	Always	10 kΩ or higher

for RHD

Tester Connection	Condition	Specified Condition
I28-2 (UP) - I12-10 (UP)	Always	Below 1 Ω
I28-10 (DOWN) - I12-7 (DOWN)	Always	Below 1 Ω
I28-4 (AUTO) - I12-4 (AUTO)	Always	Below 1 Ω
I28-2 (UP) or I12-10 (UP) - Body ground	Always	10 kΩ or higher
I28-10 (DOWN) or I12-7 (DOWN) - Body ground	Always	10 kΩ or higher
I28-4 (AUTO) or I12-4 (AUTO) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

7.INSPECT POWER WINDOW REGULATOR SWITCH ASSEMBLY

a. Remove the power window regulator switch (Click here).

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

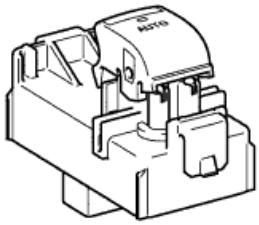
Standard Resistance:

Tester Connection	Switch Condition	Specified Condition

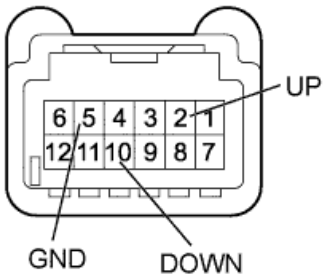
2 (UP) - 5 (GND)	Manual up operation	Below 1 Ω
10 (DOWN) - 5 (GND)	Manual down operation	Below 1 Ω

Result

Result	Proceed to
NG	A
OK (for LHD)	B
OK (for RHD)	C



Component without harness connected:
(Power Window Regulator Switch)



H

B → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

C → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

A

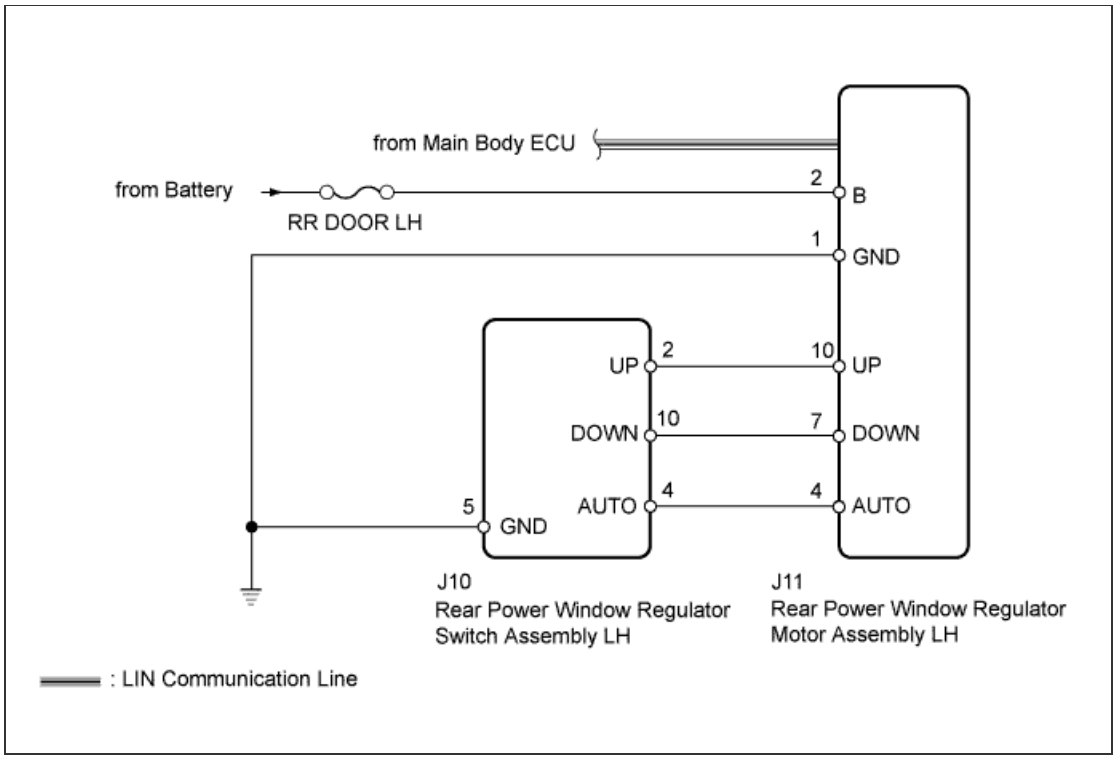
REPLACE POWER WINDOW REGULATOR SWITCH ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

If the manual up/down function does not operate, there may be a malfunction in the rear power window regulator switch, power window rear regulator motor LH, harness or connector.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK LIN COMMUNICATION SYSTEM

a. Check for LIN communication system DTCs related to the power window control system (Click here).

OK:
LIN communication system DTCs are not output.

NG → GO TO LIN COMMUNICATION SYSTEM (**Click here**)

OK

2.CHECK FOR DTC (B2312)

a. Check if DTC B2312 is output (Click here).

OK:
DTC B2312 is not output.

NG → GO TO DTC B2312 (**Click here**)

OK

3.READ VALUE USING INTELLIGENT TESTER (REAR POWER WINDOW REGULATOR MOTOR LH)

a. Use the Data List to check if the power window regulator motor is functioning properly (Click here).

RL-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
RL Door P/W Up SW	Rear power window LH manual up signal / ON or OFF	ON: Rear power window LH manual up switch operated OFF: Rear power window LH switch not operated	-
RL Door P/W Down SW	Rear power window LH manual down signal / ON or OFF	ON: Rear power window LH manual down switch operated OFF: Rear power window LH switch not operated	-

OK:
Display changes according to operation of rear power window switch LH.

NG → Go to step 4

OK →

REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

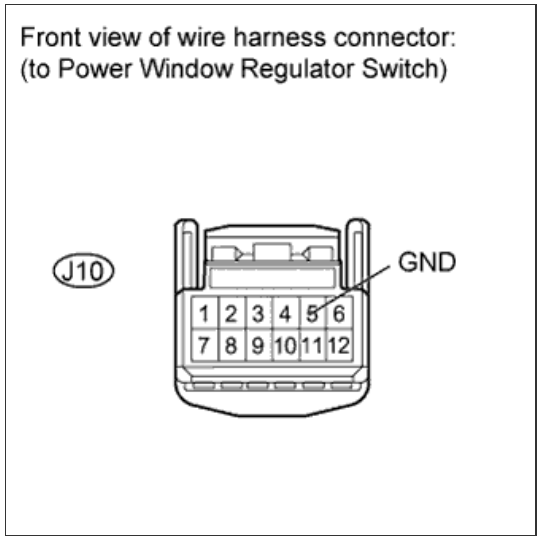
4.CHECK HARNESS AND CONNECTOR (REAR POWER WINDOW REGULATOR SWITCH LH - BODY GROUND)

a. Disconnect the J10 switch connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
J10-5 (GND) - Body ground	Always	Below 1 Ω



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

5.CHECK HARNESS AND CONNECTOR (REAR POWER WINDOW REGULATOR MOTOR LH - BATTERY AND BODY GROUND)

a. Disconnect the J11 motor connector.

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

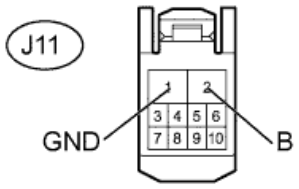
Standard Voltage:

Tester Connection	Condition	Specified Condition
J11-2 (B) - Body ground	Always	11 to 14 V

Standard Resistance:

Tester Connection	Condition	Specified Condition
J11-5 (GND) - Body ground	Always	Below 1 Ω

Front view of wire harness connector:
(to Power Window Regulator Motor)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

6.CHECK HARNESS AND CONNECTOR (REAR POWER WINDOW REGULATOR SWITCH LH - REAR POWER WINDOW REGULATOR MOTOR LH)

a. Disconnect the J10 switch connector.

b. Disconnect the J11 motor connector.

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

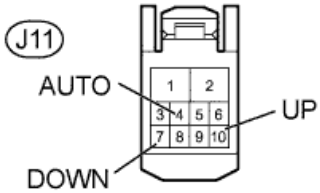
Standard Resistance:

Tester Connection	Condition	Specified Condition
J10-2 (UP) - J11-10 (UP)	Always	Below 1 Ω
J10-10 (DOWN) - J11-7 (DOWN)	Always	Below 1 Ω
J10-4 (AUTO) - J11-4 (AUTO)	Always	Below 1 Ω
J10-2 (UP) or J11-10 (UP) - Body ground	Always	10 kΩ or higher
J10-10 (DOWN) or J11-7 (DOWN) - Body ground	Always	10 kΩ or higher
J10-4 (AUTO) or J11-4 (AUTO) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Power Window Regulator Switch)



Front view of wire harness connector:
(to Power Window Regulator Motor)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

7.INSPECT REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY LH

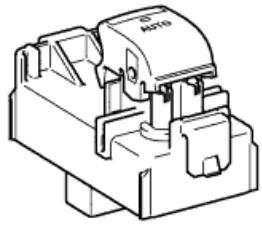
a. Remove the rear power window regulator switch LH (Click here).

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

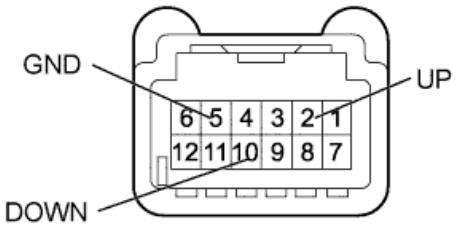
Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
	Manual up	

2 (UP) - 5 (GND)	operation	Below 1 Ω
10 (DOWN) - 5 (GND)	Manual down operation	Below 1 Ω



Component without harness connected:
(Rear Power Window Regulator Switch)



H

NG

REPLACE REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY LH (Click here)

OK

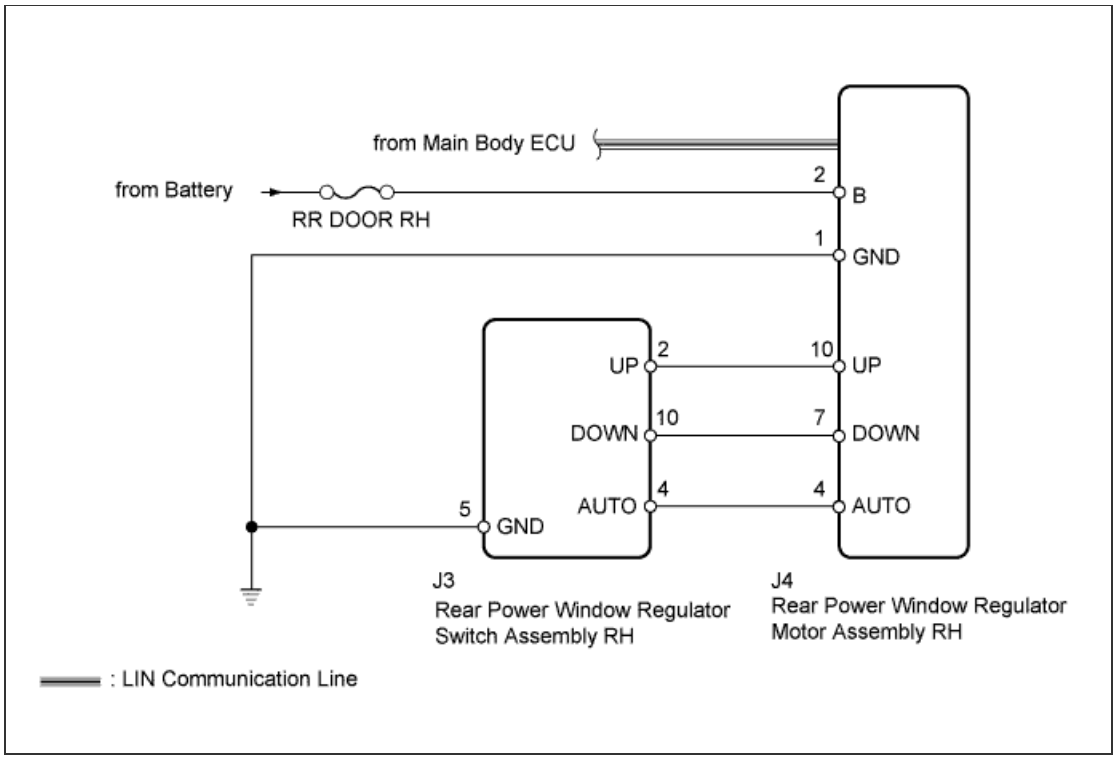
REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

for Preparation Click here

DESCRIPTION

If the manual up/down function does not operate, there may be a malfunction in the rear power window regulator switch, rear power window regulator motor RH, harness or connector.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK LIN COMMUNICATION SYSTEM

a. Check for LIN communication system DTCs related to the power window control system (Click here).

OK:
LIN communication system DTCs are not output.

NG → GO TO LIN COMMUNICATION SYSTEM (**Click here**)

OK

2.CHECK FOR DTC (B2312)

a. Check if DTC B2312 is output (Click here).

OK:
DTC B2312 is not output.

NG → GO TO DTC B2312 (**Click here**)

OK

3.READ VALUE USING INTELLIGENT TESTER (REAR POWER WINDOW REGULATOR MOTOR RH)

a. Use the Data List to check if the power window regulator motor is functioning properly (Click here).

RR-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
RR Door P/W Up SW	Rear power window RH manual up signal / ON or OFF	ON: Rear power window RH manual up switch operated OFF: Rear power window RH switch not operated	-
RR Door P/W Down SW	Rear power window RH manual down signal / ON or OFF	ON: Rear power window RH manual down switch operated OFF: Rear power window RH switch not operated	-

OK:

Display changes according to operation of rear power window switch RH.

NG → Go to step 4

OK →

REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

4.CHECK HARNESS AND CONNECTOR (REAR POWER WINDOW REGULATOR SWITCH RH - BODY GROUND)

a. Disconnect the J3 switch connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
J3-5 (GND) - Body ground	Always	Below 1 Ω

Front view of wire harness connector:
(to Power Window Regulator Switch)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

5.CHECK HARNESS AND CONNECTOR (REAR POWER WINDOW REGULATOR MOTOR RH - BATTERY AND BODY GROUND)

a. Disconnect the J4 motor connector.

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

Standard Voltage:

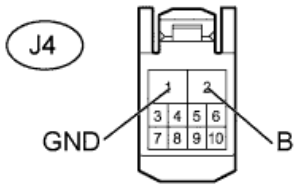
Tester Connection	Condition	Specified Condition
J4-2 (B) - Body ground	Always	11 to 14 V

Standard Resistance:

Tester Connection	Condition	Specified Condition

J4-1 (GND) - Body ground	Always	Below 1 Ω

Front view of wire harness connector:
(to Power Window Regulator Motor)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

6.CHECK HARNESS AND CONNECTOR (REAR POWER WINDOW REGULATOR SWITCH RH - REAR POWER WINDOW REGULATOR MOTOR RH)

a. Disconnect the J3 switch connector.

b. Disconnect the J4 motor connector.

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

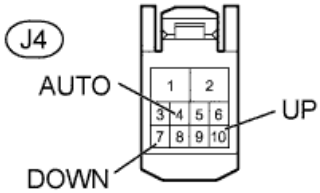
Standard Resistance:

Tester Connection	Condition	Specified Condition
J3-2 (UP) - J4-10 (UP)	Always	Below 1 Ω
J3-10 (DOWN) - J4-7 (DOWN)	Always	Below 1 Ω
J3-4 (AUTO) - J4-4 (AUTO)	Always	Below 1 Ω
J3-2 (UP) or J4-10 (UP) - Body ground	Always	10 kΩ or higher
J3-10 (DOWN) or J4-7 (DOWN) - Body ground	Always	10 kΩ or higher
J3-4 (AUTO) or J4-4 (AUTO) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Power Window Regulator Switch)



Front view of wire harness connector:
(to Power Window Regulator Motor)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

7.INSPECT REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY RH

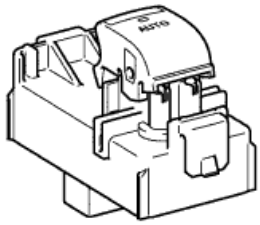
a. Remove the rear power window regulator switch RH (Click here).

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

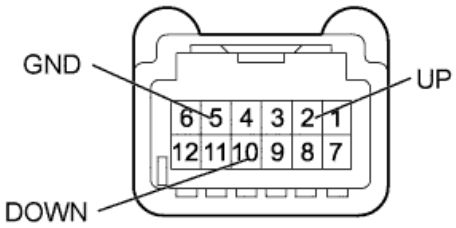
Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
	Manual up	

2 (UP) - 5 (GND)	operation	Below 1 Ω
10 (DOWN) - 5 (GND)	Manual down operation	Below 1 Ω



Component without harness connected:
(Rear Power Window Regulator Switch)



H

NG

REPLACE REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY RH (Click here)

OK

REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

for Preparation Click here

DESCRIPTION

If the auto up/down function does not operate, the cause may be one or more of the following:

- The ECU in the power window regulator motor determines that the power window regulator motor has not been initialized.
- The master switch has a malfunction.
- The Hall-IC in the driver side power window regulator motor has a malfunction.
- There is an open or short in the wiring between the master switch and the driver side power window regulator motor.

INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Check for DTCs (Click here).

Result

Result	Proceed to
DTC is not output	A
B2311 is output	B
B2312 is output	C
B2313 is output	D
LIN communication system DTCs are output	E

B → GO TO DTC B2311 (Click here)

C → GO TO DTC B2312 (Click here)

D → GO TO DTC B2313 (Click here)

E → GO TO LIN COMMUNICATION SYSTEM (Click here)

A

2.CHECK MANUAL UP/DOWN FUNCTION

a. Check that the driver side door power window moves when the manual up/down function of the multiplex network master switch is operated (Click here).

OK:

Driver side door power window moves.

NG → OTHER PROBLEM (GO TO PROBLEM SYMPTOMS TABLE) (Click here)

OK

3.READ VALUE USING INTELLIGENT TESTER (MULTIPLEX NETWORK MASTER SWITCH)

a. Use the Data List to check if the master switch is functioning properly (Click here).

Master Switch

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
D Door P/W Auto SW	Driver side power window auto up/down signal / ON or OFF	ON: Driver side power window auto up/down switch operated OFF: Driver side power window switch not operated	-

OK:

Display changes according to operation of multiplex network master switch.

Result

Result	Proceed to
NG	A
OK (for LHD)	B
OK (for RHD)	C

B → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

C → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

A → REPLACE MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY (Click here)

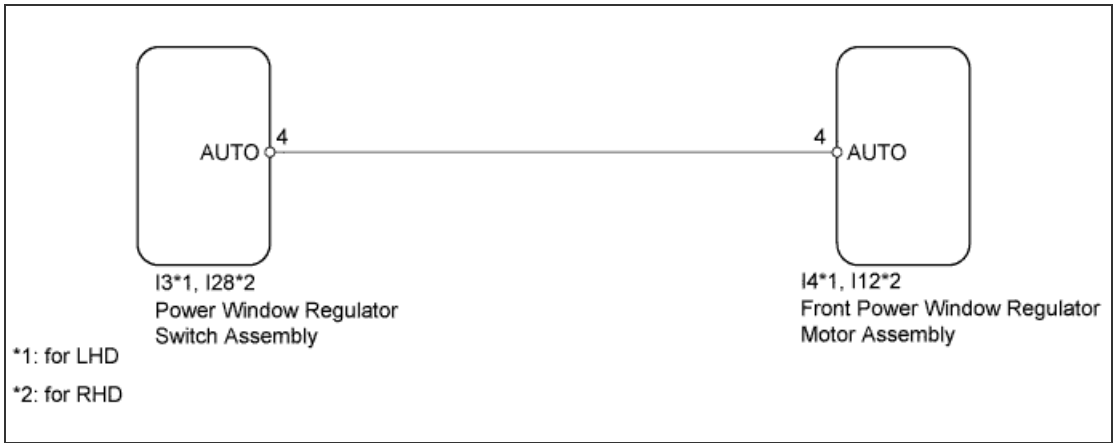
for Preparation Click here

DESCRIPTION

If the auto up/down function does not operate, the cause may be one or more of the following:

- The ECU in the power window regulator motor determines that the power window regulator motor has not been initialized.
- The power window regulator switch has a malfunction.
- The Hall-IC in the power window regulator motor has a malfunction.
- There is an open or short in the wiring between the power window regulator switch and the passenger side power window regulator motor.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Check for DTCs (Click here).

Result

Result	Proceed to
DTC is not output	A
B2311 is output	B
B2312 is output	C
B2313 is output	D
LIN communication system DTCs are output	E

B → GO TO DTC B2311 (Click here)

C → GO TO DTC B2312 (Click here)

D → GO TO DTC B2313 (Click here)

E → GO TO LIN COMMUNICATION SYSTEM (Click here)

A

2.CHECK MANUAL UP/DOWN FUNCTION (POWER WINDOW REGULATOR SWITCH)

a. Check that the front passenger side door power window moves when the manual up/down function of the power window regulator switch is operated (Click here).

OK:

front passenger side door power window moves.

NG → OTHER PROBLEM (GO TO PROBLEM SYMPTOMS TABLE) (Click here)

OK

3.READ VALUE USING INTELLIGENT TESTER (FRONT POWER WINDOW REGULATOR MOTOR RH)

a. Use the Data List to check if the power window regulator motor is functioning properly (Click here).

P-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
P Door P/W Auto SW	Front passenger side power window auto up/down signal / ON or OFF	ON: Front passenger side power window auto up/down switch operated OFF: Front passenger side power window switch not operated	-

OK:

Display changes according to operation of power window regulator switch.

Result	Proceed to
NG	A
OK (for LHD)	B
OK (for RHD)	C

B → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

C → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

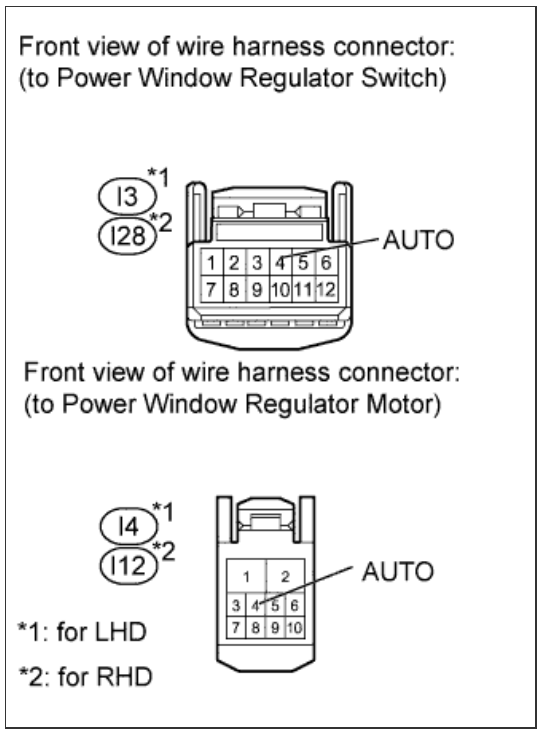
A

4.CHECK HARNESS AND CONNECTOR (POWER WINDOW REGULATOR SWITCH - FRONT POWER WINDOW REGULATOR MOTOR)

a. Disconnect the I3*1 or I28*2 switch connector.

b. Disconnect the I4*1 or I12*2 motor connector.

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



Standard Resistance:

for LHD

		Specified

Tester Connection	Condition	Condition
I3-4 (AUTO) - I4-4 (AUTO)	Always	Below 1 Ω
I3-4 (AUTO) or I4-4 (AUTO) - Body ground	Always	10 kΩ or higher

for RHD

Tester Connection	Condition	Specified Condition
I28-4 (AUTO) - I12-4 (AUTO)	Always	Below 1 Ω
I28-4 (AUTO) or I12-4 (AUTO) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5.INSPECT POWER WINDOW REGULATOR SWITCH ASSEMBLY

a. Remove the power window regulator switch (Click here).

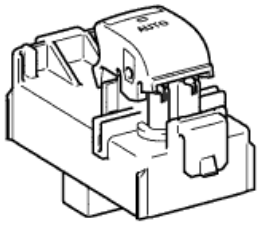
b. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

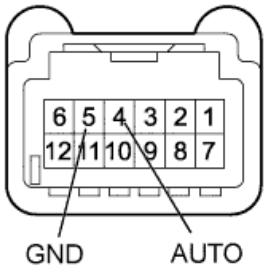
Tester Connection	Switch Condition	Specified Condition
4 (AUTO) - 5 (GND)	Auto up/down operation	Below 1 Ω

Result

Result	Proceed to
NG	A
OK (for LHD)	B
OK (for RHD)	C



Component without harness connected:
(Power Window Regulator Switch)



H

B → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

C → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

A

REPLACE POWER WINDOW REGULATOR SWITCH ASSEMBLY (Click here)

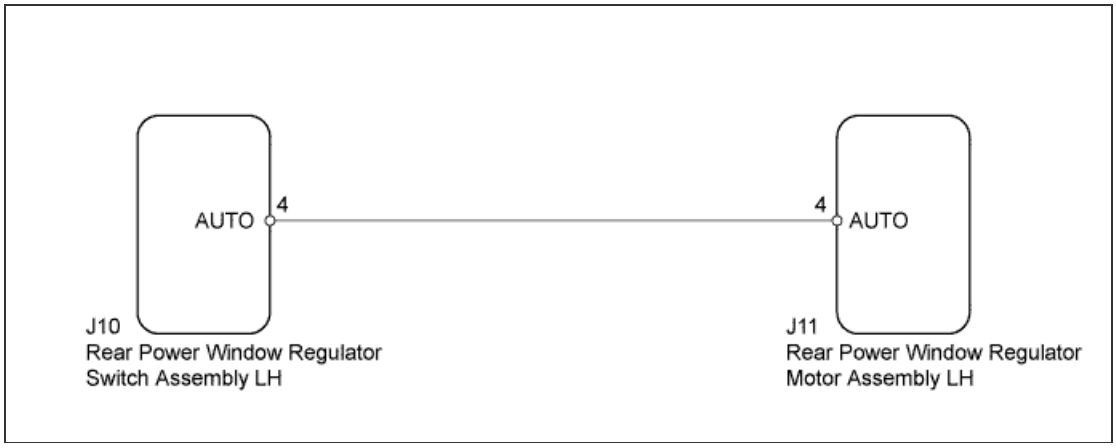
for Preparation Click here

DESCRIPTION

If the auto up/down function does not operate, the cause may be one or more of the following:

- The ECU in the power window regulator motor determines that the power window regulator motor has not been initialized.
- The power window regulator switch has a malfunction.
- The Hall-IC in the power window regulator motor has a malfunction.
- There is an open or short in the wiring between the rear power window regulator switch and the power window regulator motor.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Check for DTCs (Click here).

Result

Result	Proceed to
DTC is not output	A
B2311 is output	B
B2312 is output	C
B2313 is output	D
LIN communication system DTCs are output	E

B → GO TO DTC B2311 (Click here)

C → GO TO DTC B2312 (Click here)

D → GO TO DTC B2313 (Click here)

E → GO TO LIN COMMUNICATION SYSTEM (Click here)

A

2.CHECK MANUAL UP/DOWN FUNCTION (REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY LH)

a. Check that the manual up/down function using the rear power window regulator switch can operate the rear door power window LH (Click here).

OK:

Manual up/down function operates.

NG → OTHER PROBLEM (Click here)

OK

3.READ VALUE USING INTELLIGENT TESTER (REAR POWER WINDOW REGULATOR MOTOR LH)

a. Use the Data List to check if the power window regulator motor is functioning properly (Click here).

RL-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
RL Door P/W Auto SW	Rear power window LH auto up/down signal / ON or OFF	ON: Rear power window LH auto up/down switch operated OFF: Rear power window LH switch not operated	-

OK:
Display changes according to operation of rear power window switch LH.

NG → Go to step 4

OK

REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

4.CHECK HARNESS AND CONNECTOR (REAR POWER WINDOW REGULATOR SWITCH LH - REAR POWER WINDOW REGULATOR MOTOR LH)

a. Disconnect the J10 switch connector.

b. Disconnect the J11 motor connector.

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

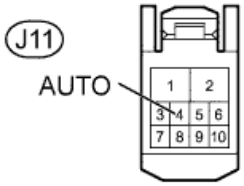
Standard Resistance:

Tester Connection	Condition	Specified Condition
J10-4 (AUTO) - J11-4 (AUTO)	Always	Below 1 Ω
J10-4 (AUTO) or J11-4 (AUTO) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Power Window Regulator Switch)



Front view of wire harness connector:
(to Power Window Regulator Motor)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

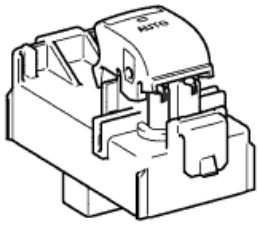
5.INSPECT REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY LH

a. Remove the rear power window regulator switch LH (Click here).

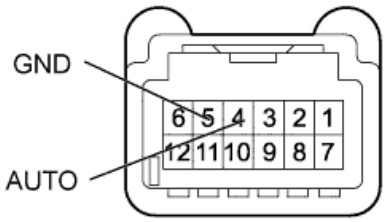
b. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
4 (AUTO) - 5 (GND)	Auto up/down operation	Below 1 Ω



Component without harness connected:
(Rear Power Window Regulator Switch)



H

NG

REPLACE REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY LH (Click here)

OK

REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

for Preparation Click here

DESCRIPTION

If the auto up/down function does not operate, the cause may be one or more of the following:

- The ECU in the power window regulator motor determines that the power window regulator motor has not been initialized.
- The power window regulator switch has a malfunction.
- The Hall-IC in the power window regulator motor has a malfunction.
- There is an open or short in the wiring between the rear power window regulator switch RH and the power window regulator motor.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Check for DTCs (Click here).

Result:

Result	Proceed to
DTC is not output	A
B2311 is output	B
B2312 is output	C
B2313 is output	D
LIN communication system DTCs are output	E

B → GO TO DTC B2311 (Click here)

C → GO TO DTC B2312 (Click here)

D → GO TO DTC B2313 (Click here)

E → GO TO LIN COMMUNICATION SYSTEM (Click here)

A

2.CHECK MANUAL UP/DOWN FUNCTION (REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH)

a. Check that the manual up/down function using the rear power window regulator switch RH can operate the rear door power window RH (Click here).

OK:

Manual up/down function operates.

NG → OTHER PROBLEM (GO TO PROBLEM SYMPTOMS TABLE) (Click here)

OK

3.READ VALUE USING INTELLIGENT TESTER (REAR POWER WINDOW REGULATOR MOTOR RH)

a. Use the Data List to check if the power window regulator motor is functioning properly (Click here).

RR-Door Motor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
RR Door P/W Auto SW	Rear power window RH auto up/down signal / ON or OFF	ON: Rear power window RH auto up/down switch operated OFF: Rear power window RH switch not operated	-

OK:
Display changes according to operation of rear power window switch RH.

NG → Go to step 4

OK

REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

4.CHECK HARNESS AND CONNECTOR (REAR POWER WINDOW REGULATOR SWITCH RH - REAR POWER WINDOW REGULATOR MOTOR RH)

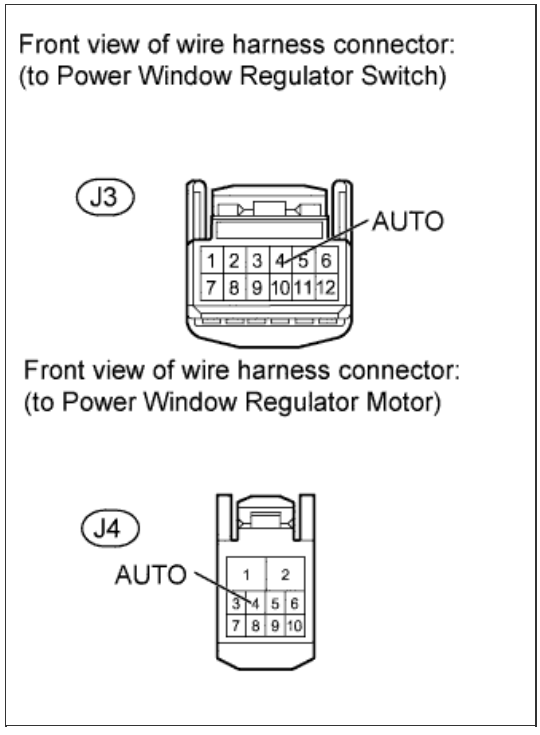
a. Disconnect the J3 switch connector.

b. Disconnect the J4 motor connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
J3-4 (AUTO) - J4-4 (AUTO)	Always	Below 1 Ω
J3-4 (AUTO) or J4-4 (AUTO) - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

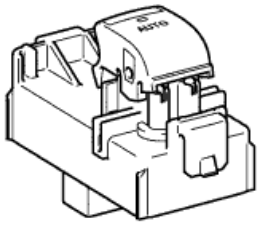
5.INSPECT REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY RH

a. Remove the rear power window regulator switch (Click here).

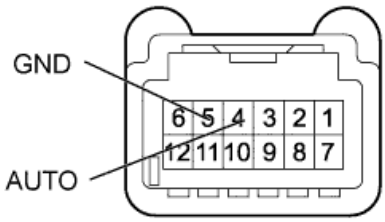
b. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
4 (AUTO) - 5 (GND)	Auto up/down operation	Below 1 Ω



Component without harness connected:
(Rear Power Window Regulator Switch)



H

NG → REPLACE REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY RH (Click here)

OK → REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

for Preparation Click here

DESCRIPTION

- When a transmitter switch is pushed, the following occurs: 1) the door control receiver receives the transmitter signal; 2) the door control receiver sends a signal to the main body ECU; 3) the main body ECU sends the operation permission signal to the power window regulator motors; and 4) the power window motors are activated.
- When the driver door key cylinder (key linked switch) is turned, the following occurs: 1) the door lock motor receives the signal; 2) the door lock motor sends the signal to the main body ECU; 3) the main body ECU sends the signal to the power window regulator motors; and 4) the power window motors are activated.

INSPECTION PROCEDURE

1.CHECK BASIC FUNCTION (WIRELESS DOOR LOCK CONTROL SYSTEM AND POWER DOOR LOCK CONTROL SYSTEM)

a. Check that all the doors can be locked and unlocked with the wireless transmitter and the driver side door key cylinder (key linked switch).

Result

Result	Proceed to
All doors can be locked and unlocked with transmitter and driver side door key cylinder	A
All doors cannot be locked and unlocked with transmitter	B
All doors cannot be locked and unlocked with driver side door key cylinder	C

B → GO TO WIRELESS DOOR LOCK CONTROL SYSTEM (Click here)

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

A

2.CHECK MANUAL UP/DOWN FUNCTION

a. Check that all the power windows move when the manual up/down function of the master switch and regulator switch is operated (Click here).

OK:
All power windows move.

NG → OTHER PROBLEM (GO TO PROBLEM SYMPTOMS TABLE) (Click here)

OK

3.CHECK REMOTE UP/DOWN FUNCTION

a. Check that all the power windows move when the remote up/down function of the master switch is operated (Click here).

OK:
All power windows move.

NG → OTHER PROBLEM (GO TO PROBLEM SYMPTOMS TABLE) (Click here)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

for Preparation Click here

DESCRIPTION

- When the front doors are closed, each power window regulator motor can control its power window operation for approximately 45 seconds after the engine switch is turned from on (IG) to off by receiving operation permission signals from the main body ECU.
- However, when approximately 45 seconds have elapsed, or the driver side door is opened and closed within approximately 45 seconds of the engine switch being turned off, the power window regulator motor disables manual operation.
- During the auto function operation, when 45 seconds have passed and key-off operation is prohibited, the window operation will not stop until the auto operation is completed.
- The front passenger side power window and the rear power windows cannot be operated when the window lock switch is on.

INSPECTION PROCEDURE

1.CHECK LIN COMMUNICATION SYSTEM

a. Check for LIN communication system DTCs related to the power window control system (Click here).

OK:
LIN communication system DTCs are not output.

NG → GO TO LIN COMMUNICATION SYSTEM (Click here)

OK ↓

2.CHECK POWER WINDOW OPERATION FUNCTION AFTER ENGINE SWITCH OFF

a. Check the power window operation function after the engine switch is turned off (Click here).

Result

Result	Proceed to
Driver side door or front passenger side door is opened within 45 sec. but power windows can still operate	A
45 sec. pass and power windows can still operate	B

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

A ↓

3.READ VALUE USING INTELLIGENT TESTER (DOOR COURTESY SWITCH)

a. Use the Data List to check if the main body ECU is functioning properly (Click here).

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 door open OFF: Driver door closed	-

OK:
Display changes according to above chart.

NG → Go to step 4

OK ↓

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

4.CHECK FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY

a. Open the driver side door and check that the map light illuminates (Click here).

OK:
Map light illuminates.

NG → **REPLACE FRONT DOOR COURTESY LIGHT SWITCH ASSEMBLY (Click here)**

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

for Preparation Click here

DESCRIPTION

This symptom may occur to all door windows.
If the door glass or the power window regulator motor does not operate smoothly, the jam protection function may be triggered automatically, resulting in the auto up function being unable to fully close the window.

INSPECTION PROCEDURE

1.PERFORM INITIALIZATION

a. Initialize the power window regulator motor (Click here).

b. Check if the power window auto up/down function operates (Click here).

OK:
Auto up/down function operates.

NG → Go to step 2

OK →

END (PROBLEM DUE TO INITIALIZATION FAILURE)

2.CHECK MOVEMENT OF DOOR GLASS (LOCATION WHERE JAM PROTECTION FUNCTION OPERATES)

a. Remove the installation bolt of the door glass and hold the glass by hand. When raising the glass by hand, check that the glass moves smoothly.

NOTICE:

- **Make sure that the glass run is not deformed, and that there is no foreign matter on the glass run.**
- **Make sure that the glass run is not deformed, and does not have foreign matter.**

OK:
Door glass moves smoothly.

NG → INSTALL DOOR GLASS AND/OR GLASS RUN PROPERLY (APPLICABLE LOCATION)

OK →

REPLACE POWER WINDOW REGULATOR MOTOR ASSEMBLY (APPLICABLE LOCATION)

for Preparation Click here

DESCRIPTION

This symptom may occur to all door windows.
The jam protection function operates within a specified range during the manual up or auto up operation.

INSPECTION PROCEDURE

1.PERFORM INITIALIZATION

a. Initialize the power window regulator motor (Click here).

b. Check if the power window auto up/down function operates (Click here).

OK:
Auto up/down function operates.

NG → END (PROBLEM DUE TO INITIALIZATION FAILURE)

OK

2.CHECK JAM PROTECTION FUNCTION OPERATING RANGE

a. Check if the jam protection function operates for applicable power window.

HINT:

The jam protection function does not operate from the fully closed position of the door glass to 4 mm (0.157 in.) below that.

OK:
Jam protection function operates.

Result

Result	Proceed to
OK	A
NG (Front LH side power window)	B
NG (Front RH side power window)	C
NG (Rear power window LH)	D
NG (Rear power window RH)	E

B → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

C → REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

D → REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH (Click here)

E → REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH (Click here)

A

END

for Preparation Click here

DESCRIPTION

When an entry lock switch is pressed and held for approximately 3 seconds: 1) the main body ECU receives a signal via the driver side door ECU, 2) the main body ECU transmits a signal to all the power window regulator motor, and 3) all the power window motors are activated to close the windows.

INSPECTION PROCEDURE

1.CHECK BASIC FUNCTION (ENTRY AND START SYSTEM (for Entry Function))

a. Check that the entry lock switch operates (Click here).

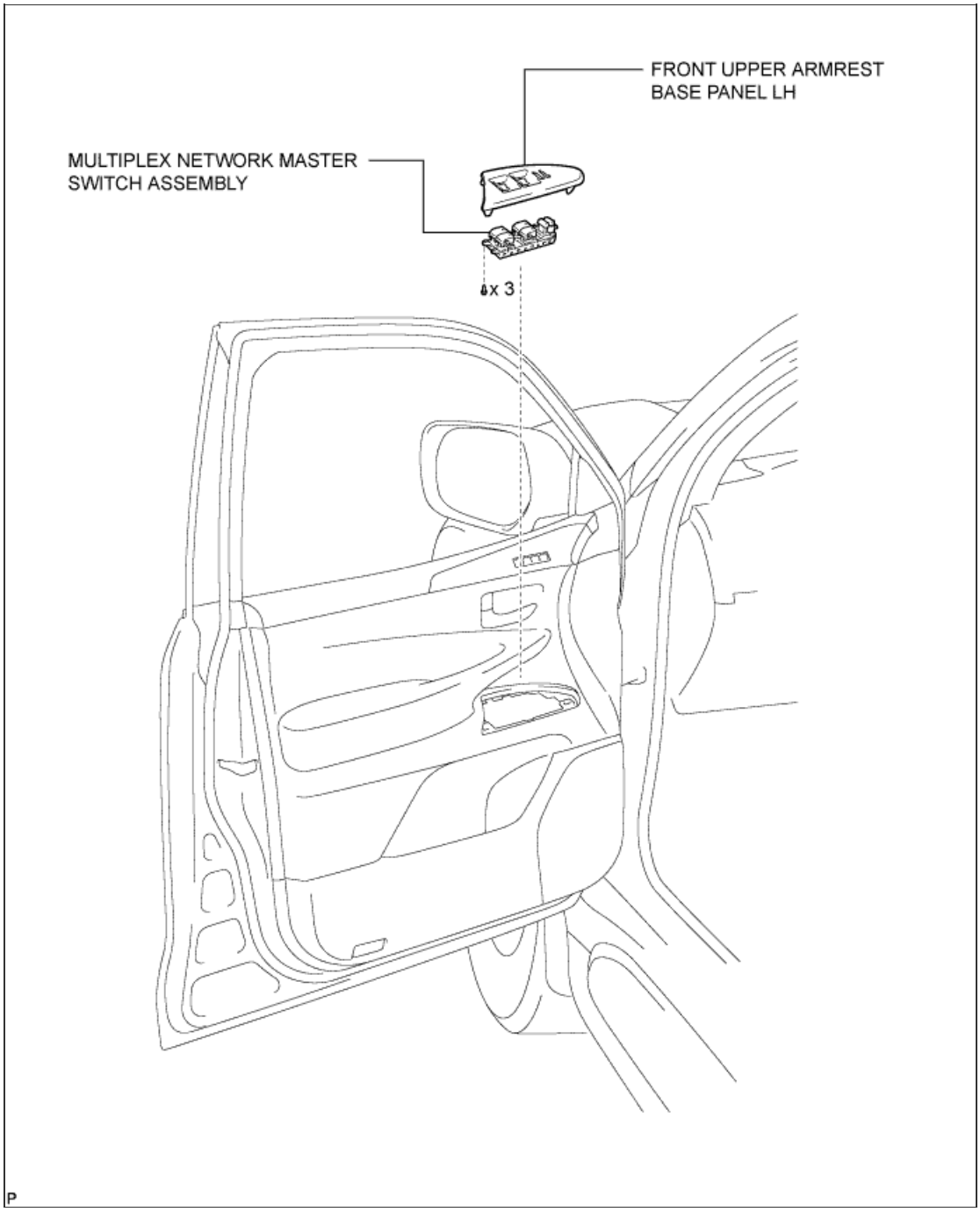
OK:
Entry lock switch can lock all doors.

NG → **GO TO ENTRY AND START SYSTEM (for Entry Function) (Click here)**

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

for Preparation Click here



for Preparation Click here

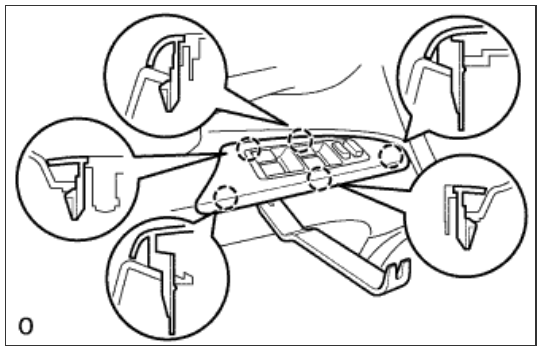
HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. REMOVE FRONT UPPER ARMREST BASE PANEL LH

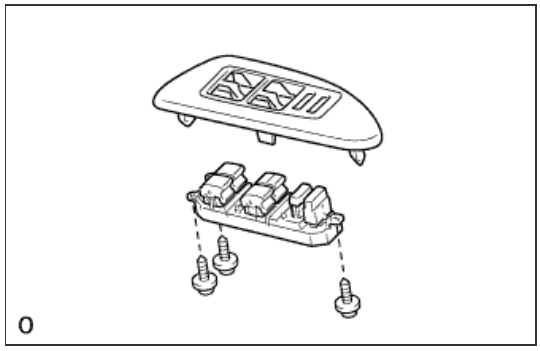
a. Using a moulding remover, detach the 5 claws.

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



2. REMOVE MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY

a. Remove the 3 screws and master switch.



for Preparation Click here

1. INSPECT MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY

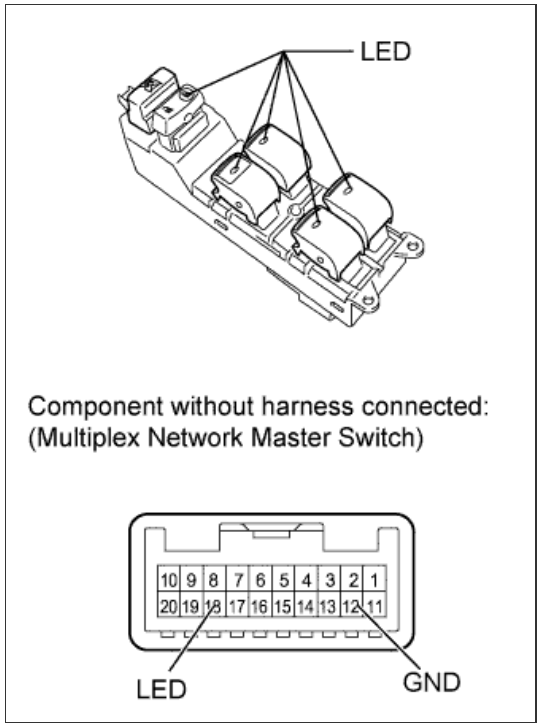
a. Check that the LED illuminates.

i. Apply battery voltage to the master switch and check that the LED illuminates.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → 18 (LED) Battery negative (-) → 12 (GND)	LED illuminates

If the result is not as specified, replace the multiplex network master switch assembly.



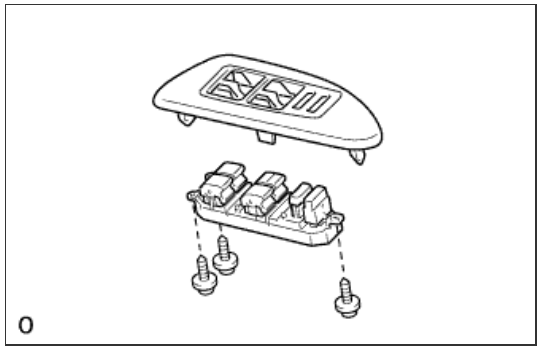
for Preparation Click here

HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. INSTALL MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY

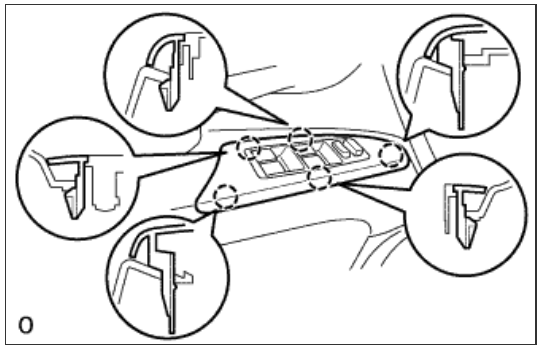
a. Install the master switch with the 3 screws.



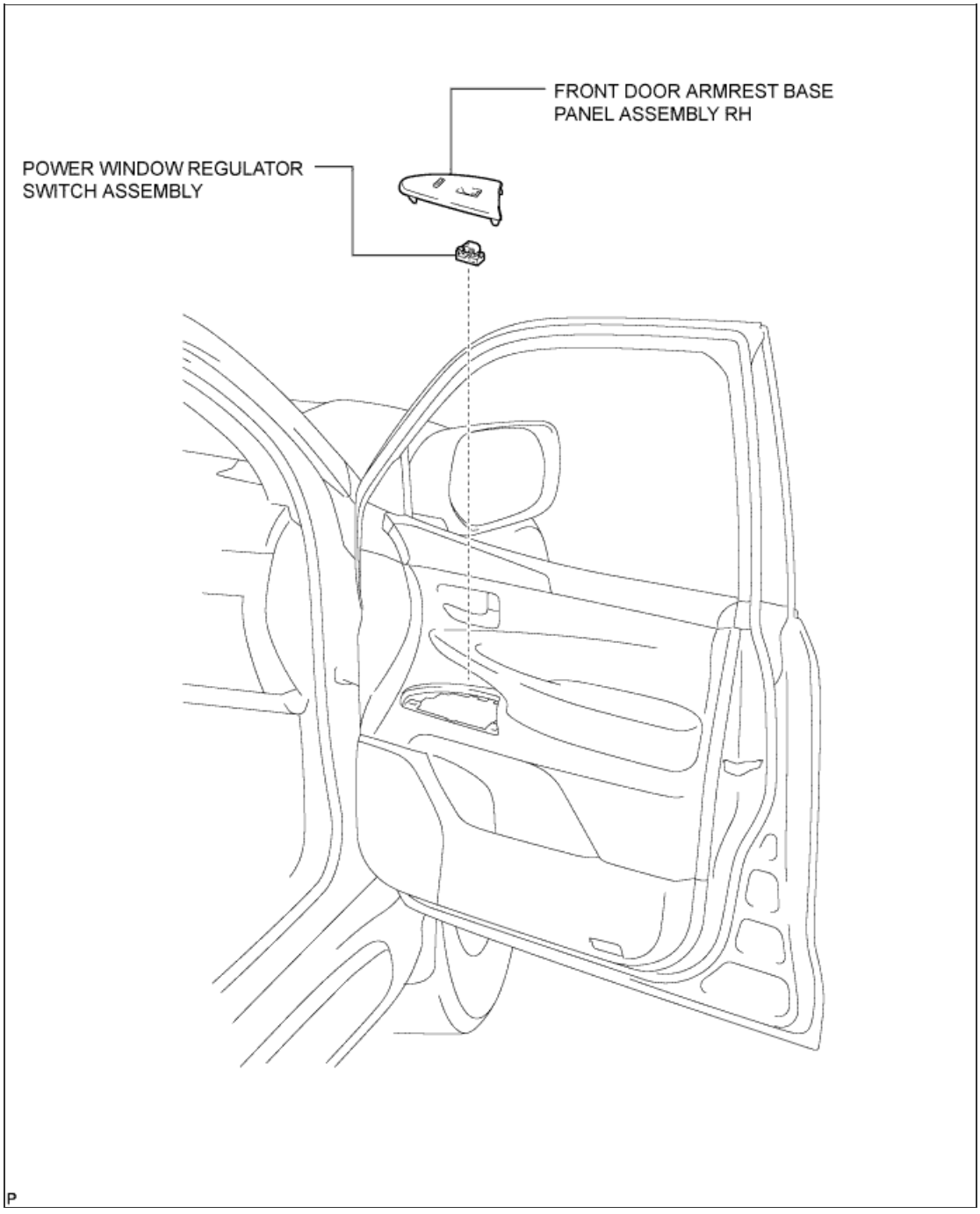
2. INSTALL FRONT UPPER ARMREST BASE PANEL LH

a. Connect the connector.

b. Attach the 5 claws to install the armrest base panel.



for Preparation Click here



FRONT PASSENGER SIDE POWER WINDOW SWITCH > REMOVAL

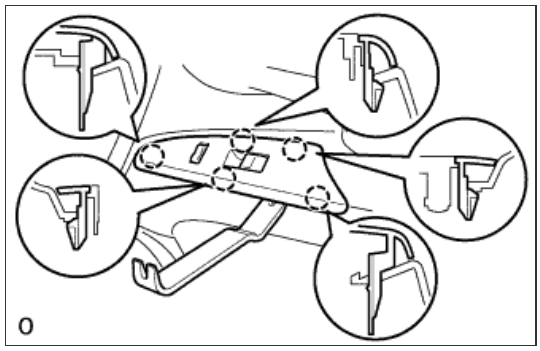
for Preparation Click here

HINT:

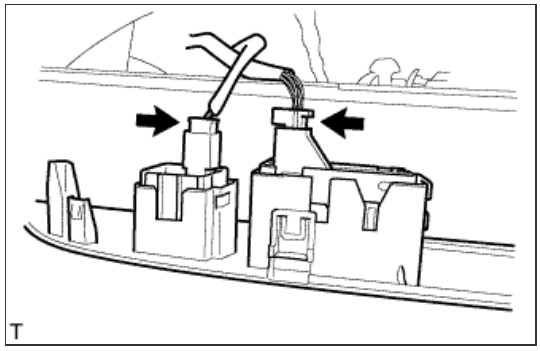
- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. REMOVE FRONT DOOR ARMREST BASE PANEL ASSEMBLY RH

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

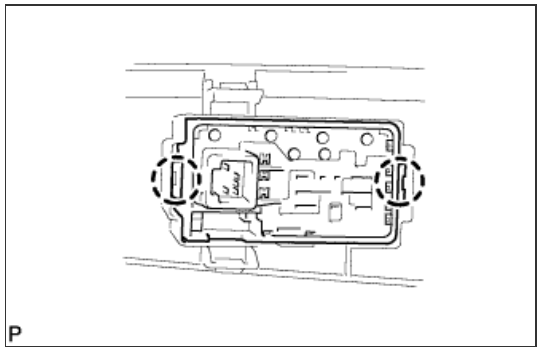


b. Disconnect the 2 connectors and remove the armrest base panel.



2. REMOVE POWER WINDOW REGULATOR SWITCH ASSEMBLY

a. Detach the 2 claws and remove the regulator switch.



for Preparation Click here

1. INSPECT POWER WINDOW REGULATOR SWITCH ASSEMBLY

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
2 (UP) - 5 (GND)	Manual up operation	Below 1 Ω
10 (DOWN) - 5 (GND)	Manual down operation	Below 1 Ω
4 (AUTO) - 5 (GND)	Auto up/down operation	Below 1 Ω

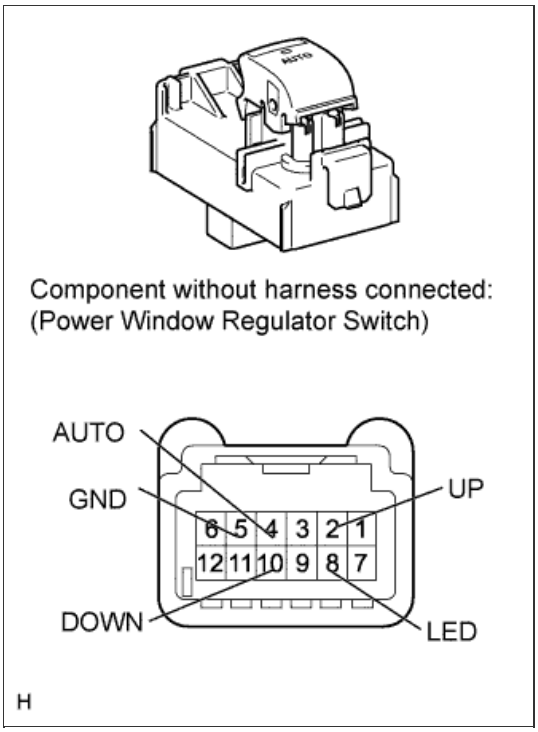
If the result is not as specified, replace the power window regulator switch assembly.

b. Check that the LED illuminates.

i. Apply battery voltage to the power window regulator switch and check that the LED illuminates.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → 8 (LED) Battery negative (-) → 5 (GND)	LED illuminates



If the result is not as specified, replace the power window regulator switch assembly.

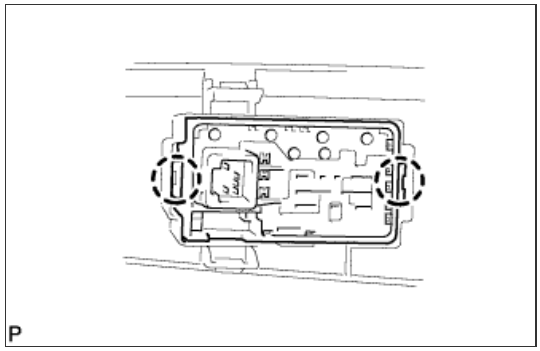
for Preparation Click here

HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

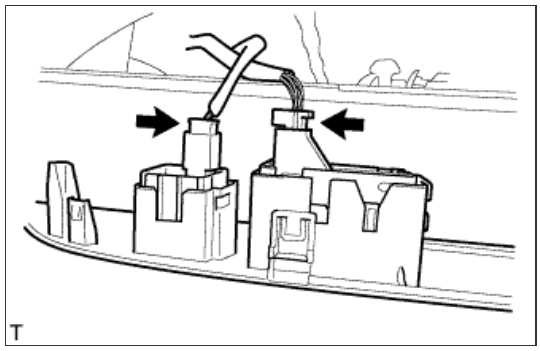
1. INSTALL POWER WINDOW REGULATOR SWITCH ASSEMBLY

a. Attach the 2 claws to install the regulator switch.

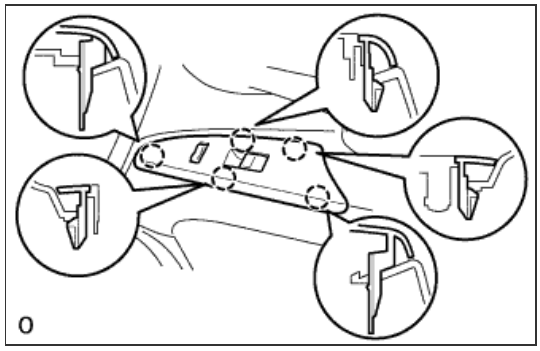


2. INSTALL FRONT DOOR ARMREST BASE PANEL ASSEMBLY RH

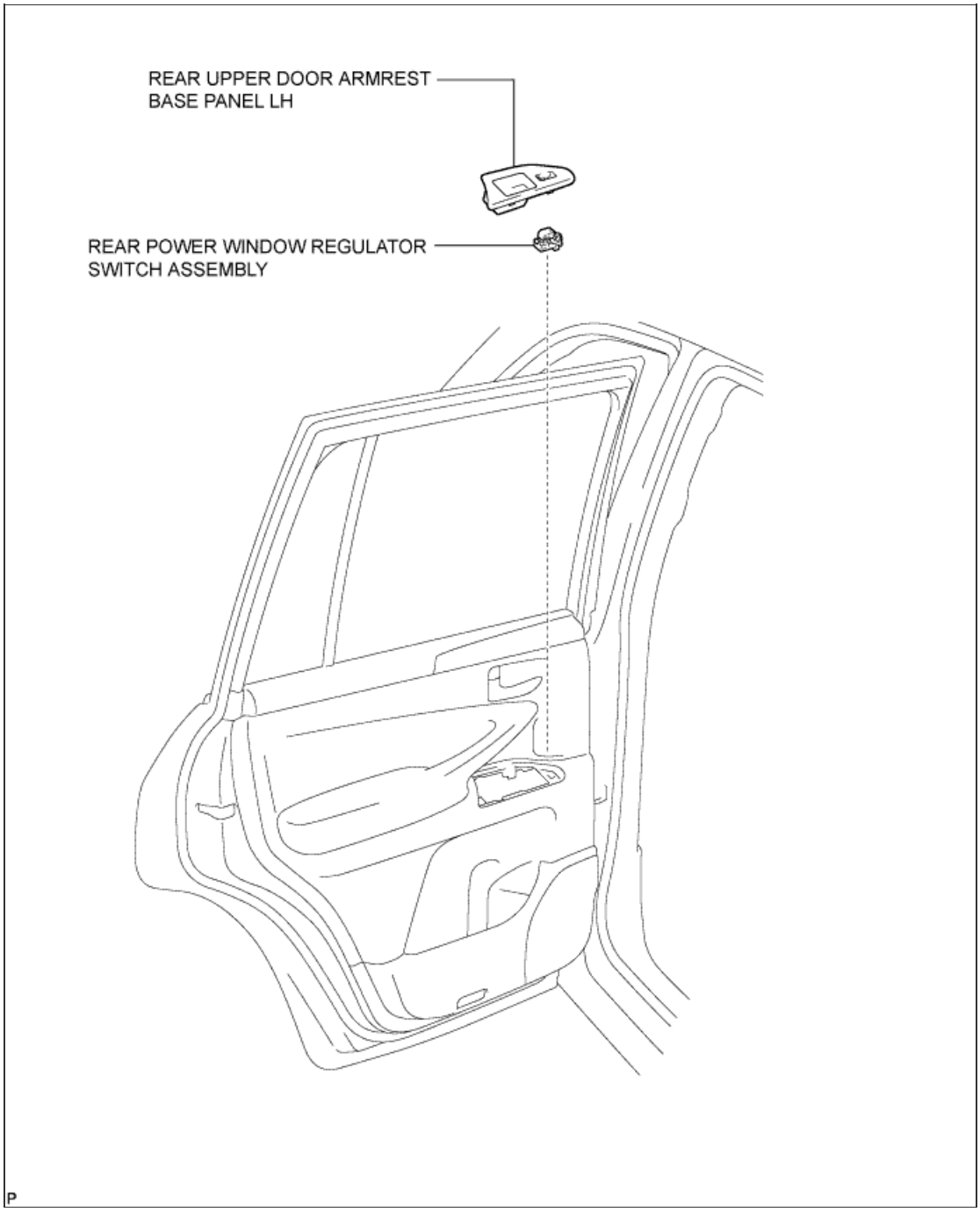
a. Connect the 2 connectors.



b. Attach the 5 claws to install the armrest base panel.



for Preparation Click here



for Preparation Click here

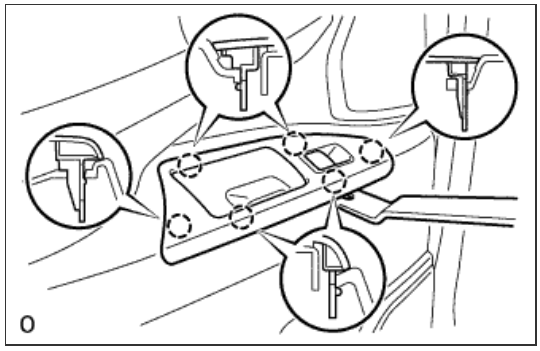
HINT:

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

1. REMOVE REAR UPPER DOOR ARMREST BASE PANEL LH

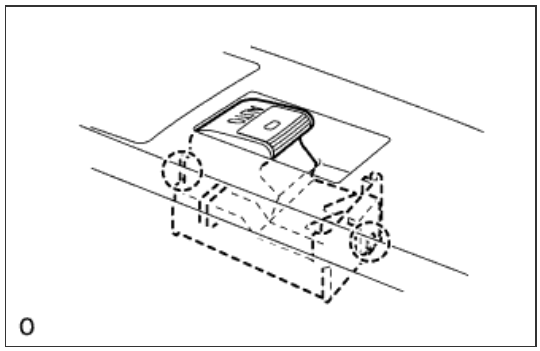
a. Using a moulding remover, detach the 6 claws.

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



2. REMOVE REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY

a. Detach the 2 claws and remove the regulator switch.



for Preparation Click here

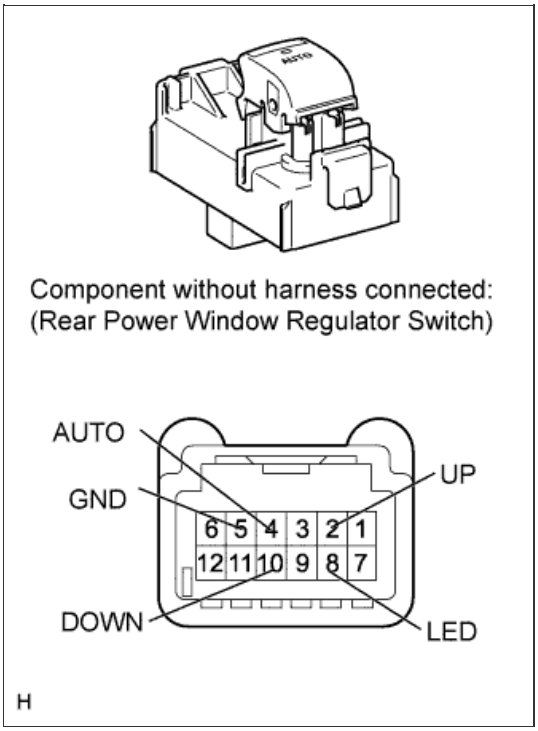
1. INSPECT REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
2 (UP) - 5 (GND)	Manual up operation	Below 1 Ω
10 (DOWN) - 5 (GND)	Manual down operation	Below 1 Ω
4 (AUTO) - 5 (GND)	Auto up/down operation	Below 1 Ω

If the result is not as specified, replace the rear power window regulator switch assembly.



b. Check that the LED illuminates.

i. Apply battery voltage to the regulator switch and check that the LED illuminates.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → 8 (LED) Battery negative (-) → 5 (GND)	LED illuminates

If the result is not as specified, replace the rear power window regulator switch assembly.

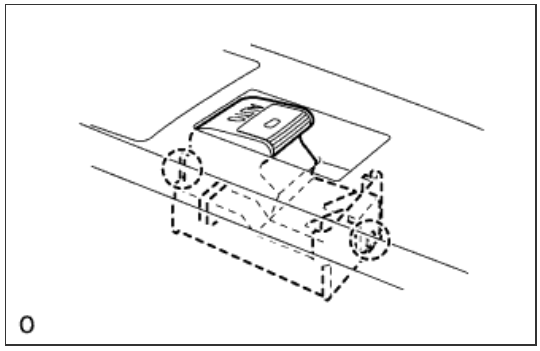
for Preparation Click here

HINT:

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

1. INSTALL REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY

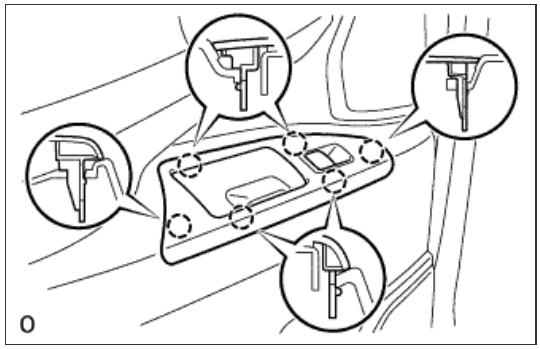
a. Attach the 2 claws to install the regulator switch.



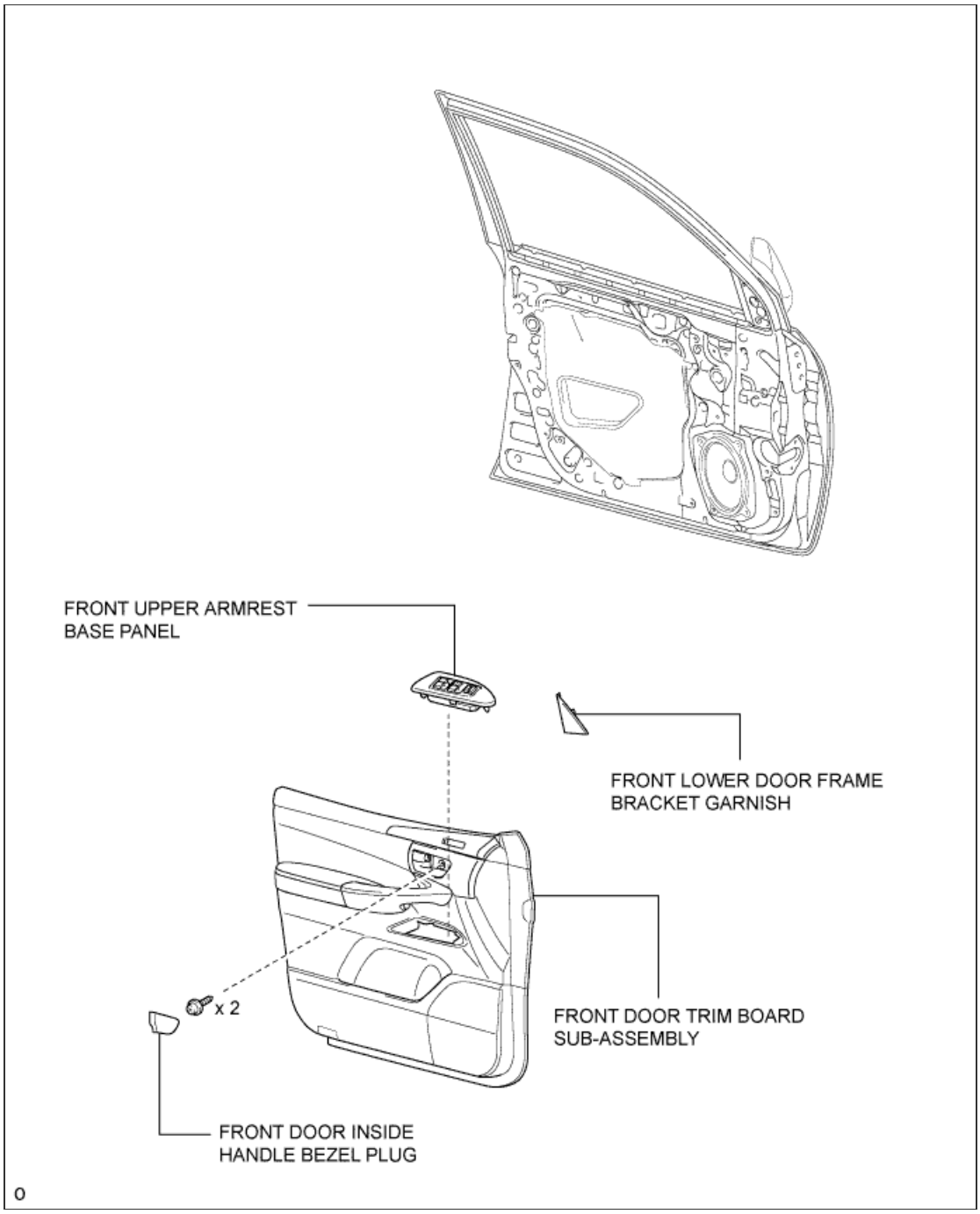
2. INSTALL REAR UPPER DOOR ARMREST BASE PANEL LH

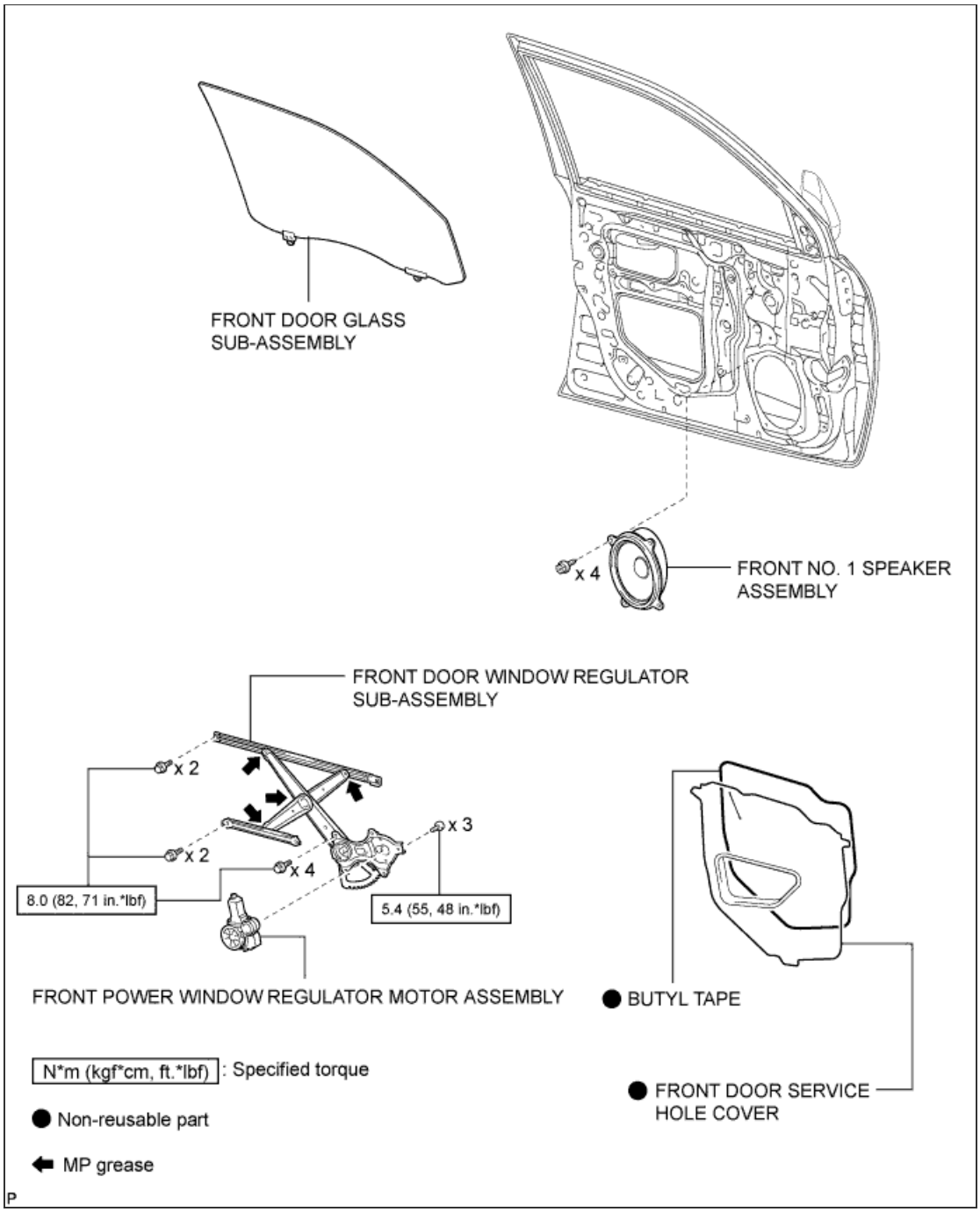
a. Connect the connector.

b. Attach the 6 claws to install the armrest base panel.



for Preparation Click here




FRONT DOOR GLASS SUB-ASSEMBLY
x 4
FRONT NO. 1 SPEAKER ASSEMBLY
FRONT DOOR WINDOW REGULATOR SUB-ASSEMBLY
x 2
x 2
x 4
x 3
8.0 (82, 71 in.*lbf)
5.4 (55, 48 in.*lbf)
FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY
BUTYL TAPE
FRONT DOOR SERVICE HOLE COVER
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
MP grease
P

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:

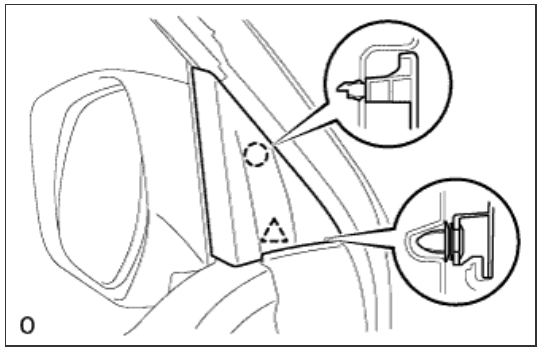
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

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

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

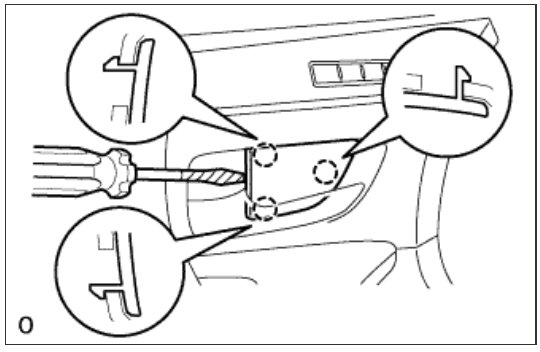


3. REMOVE FRONT DOOR INSIDE HANDLE BEZEL PLUG

a. Using a screwdriver, detach the 3 claws and remove the inside handle bezel plug.

HINT:

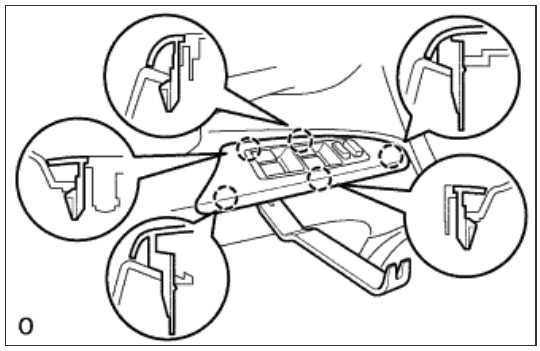
Tape the screwdriver tip before use.



4. REMOVE FRONT UPPER ARMREST BASE PANEL

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

b. Disconnect the connector and remove the front upper armrest base panel and multiplex network master switch.

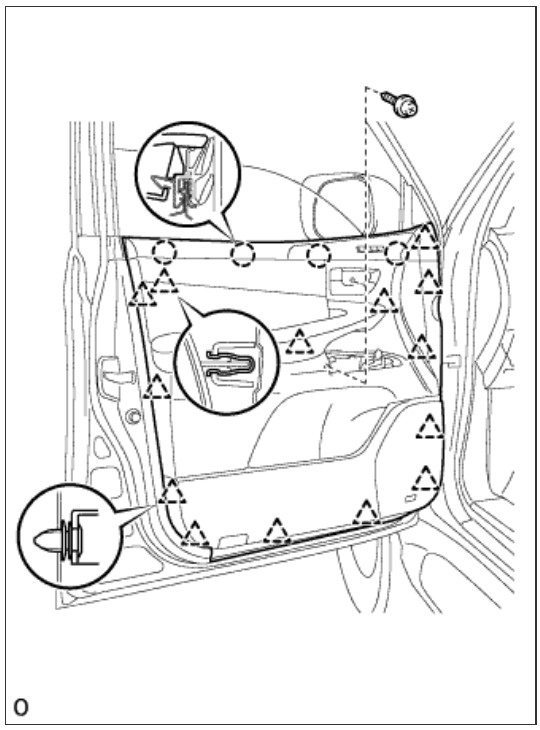


5. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY

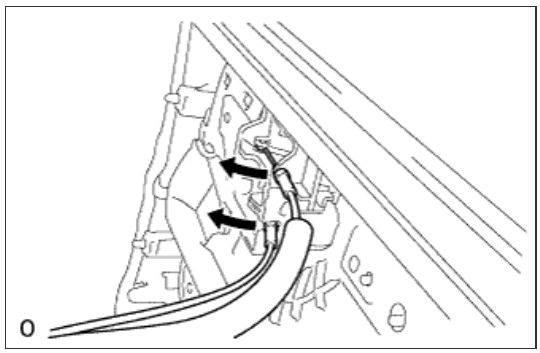
a. Remove the 2 screws.

b. Detach the 14 clips and 4 claws.

c. Disconnect the connector and remove the trim board.



d. Disconnect the 2 cables from the inside handle.



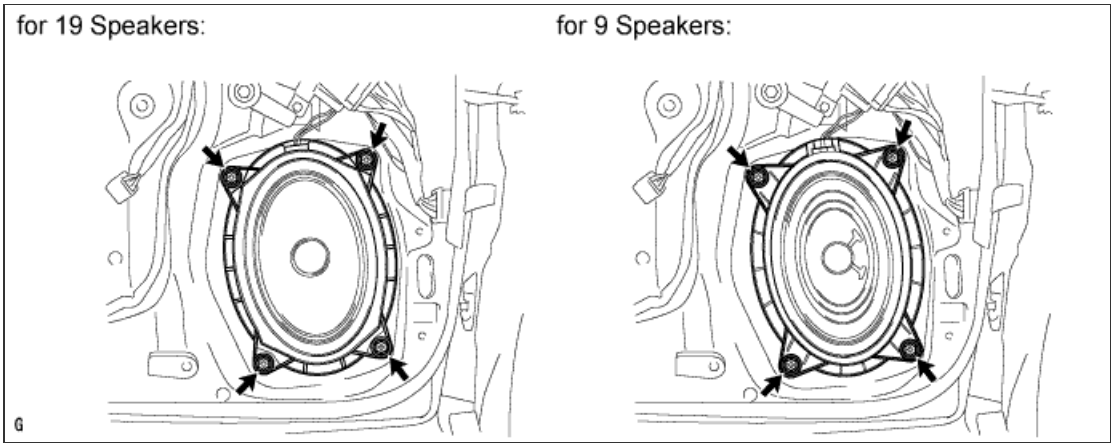
6. REMOVE FRONT NO. 1 SPEAKER ASSEMBLY

a. Disconnect the speaker connector.

b. Remove the 4 screws and speaker.

NOTICE:

Do not touch the cone part of the speaker.



7. REMOVE FRONT DOOR SERVICE HOLE COVER

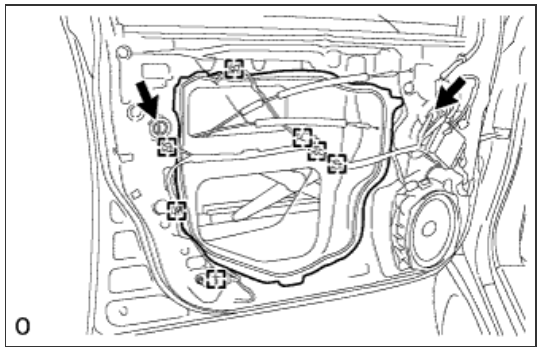
a. Using a clip remover, detach the 7 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the service hole cover.

HINT:

Remove the remaining tape on the door.



8. REMOVE FRONT DOOR GLASS SUB-ASSEMBLY

a. for Driver Side:
Temporarily install the multiplex network master switch.

b. for Passenger Side:
Temporarily install the power window regulator switch assembly.

c. Connect the cable to the negative (-) battery terminal.

d. Move the door glass until the bolts appear in the service holes.

e. Disconnect the cable from the negative (-) battery terminal.

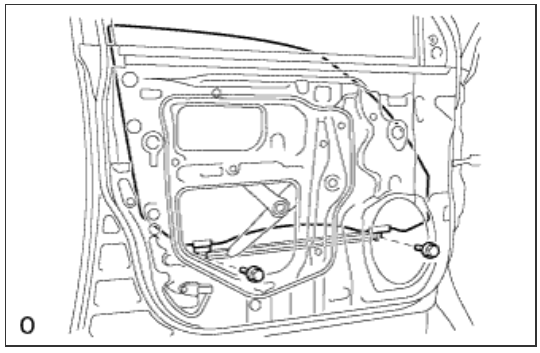
NOTICE:

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

f. Remove the 2 bolts.

NOTICE:

Be careful when removing the bolts as the glass may fall and become damaged.



g. Remove the door glass in the direction indicated by the arrows in the illustration.

HINT:

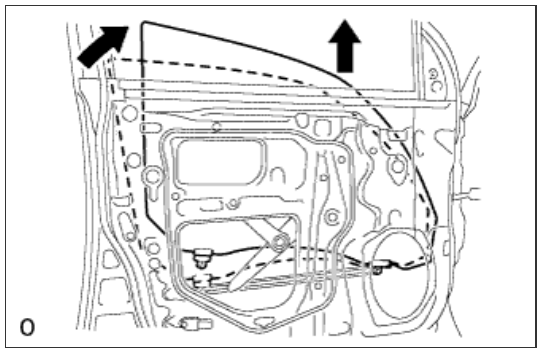
Remove the glass upward.

NOTICE:

Be careful not to damage the glass.

h. for Driver Side:
Remove the multiplex network master switch.

i. for Passenger Side:
Remove the power window regulator switch assembly.



9. REMOVE FRONT DOOR WINDOW REGULATOR SUB-ASSEMBLY

a. Loosen the temporary bolt.

b. Remove the 5 bolts.

NOTICE:

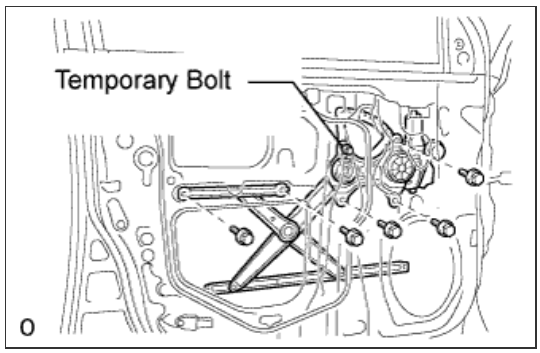
Be careful when removing the bolts as the window regulator may fall and become damaged.

c. Remove the front door window regulator sub-assembly and the front power window regulator motor assembly as a unit.

HINT:

Remove the window regulator through the service hole.

d. Remove the temporary bolt from the front door window regulator sub-assembly.

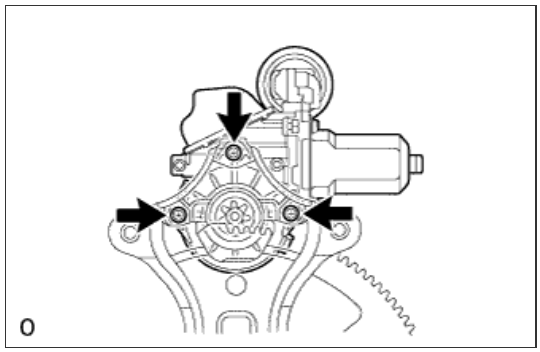


10. REMOVE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY

a. Using a T25 "TORX" driver, remove the 3 screws and motor.

NOTICE:

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



for Preparation Click here

1. INSPECT FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH

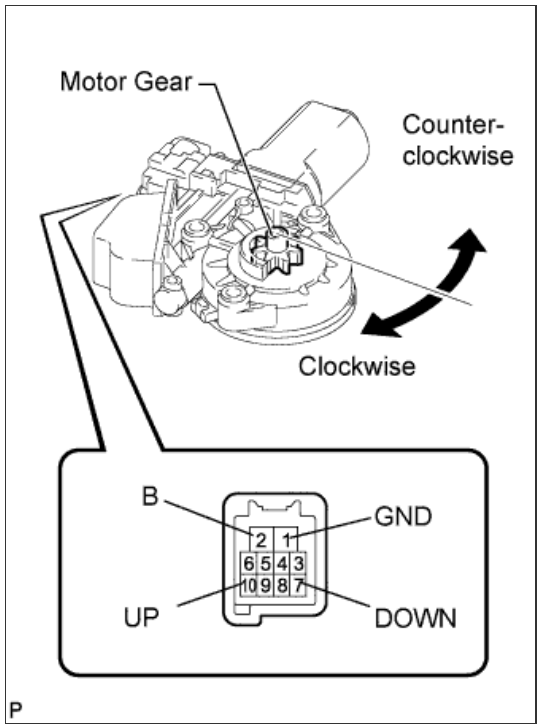
a. Apply positive (+) battery voltage to the connector terminal 2 (B).

NOTICE:

Do not apply positive (+) battery voltage to any terminals except terminal 2 (B) to avoid damaging the pulse sensor inside the motor.

b. Apply negative (-) battery voltage to the connector terminals 1 (GND) and 7 (DOWN) or 10 (UP).

c. Check that the motor gear rotates smoothly as follows.



OK:

Measurement Condition	Specified Condition
1. Connect the positive (+) battery cable to terminal 2 (B), and connect the negative (-) battery cable to terminal 1 (GND), and keep them connected for 3 seconds or more. 2. With terminals 2 (B) and 1 (GND) connected, connect the negative (-) battery cable to terminal 10 (UP). 3. Disconnect and reconnect the negative (-) battery cable to terminal 10 (UP) within 1 second.	Motor gear rotates clockwise (Up)
1. Connect the positive (+) battery cable to terminal 2 (B), and connect the negative (-) battery cable to terminal 1 (GND), and keep them connected for 3 seconds or more. 2. With terminals 2 (B) and 1 (GND) connected, connect the negative (-) battery cable to terminal 7 (DOWN). 3. Disconnect and reconnect the negative (-) battery cable to terminal 7 (DOWN) within 1 second.	Motor gear rotates counterclockwise (Down)

If the result is not as specified, replace the regulator motor assembly.

CAUTION:

Reset the power window regulator motor (initialize the pulse sensor) after installing the power window regulator motor and regulator assembly onto the door.

2. INSPECT FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH

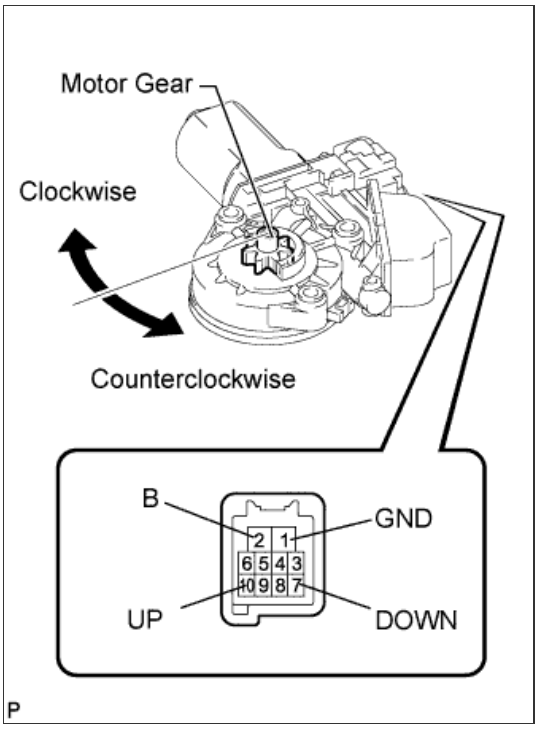
a. Apply positive (+) battery voltage to the connector terminal 2 (B).

NOTICE:

Do not apply positive (+) battery voltage to any terminals except terminal 2 (B) to avoid damaging the pulse sensor inside the motor.

b. Apply negative (-) battery voltage to the connector terminals 1 (GND) and 7 (DOWN) or 10 (UP).

c. Check that the motor gear rotates smoothly as follows.



OK:

Measurement Condition	Specified Condition
1. Connect the positive (+) battery cable to terminal 2 (B), and connect the negative (-) battery cable to terminal 1 (GND), and keep them connected for 3 seconds or more. 2. With terminals 2 (B) and 1 (GND) connected, connect the negative (-) battery cable to terminal 10 (UP). 3. Disconnect and reconnect the negative (-) battery cable to terminal 10 (UP) within 1 second.	Motor gear rotates counterclockwise (Up)
1. Connect the positive (+) battery cable to terminal 2 (B), and connect the negative (-) battery cable to terminal 1 (GND), and keep them connected for 3 seconds or more. 2. With terminals 2 (B) and 1 (GND) connected, connect the negative (-) battery cable to terminal 7 (DOWN). 3. Disconnect and reconnect the negative (-) battery cable to terminal 7 (DOWN) within 1 second.	Motor gear rotates clockwise (Down)

If the result is not as specified, replace the regulator motor assembly.

CAUTION:

Reset the power window regulator motor (initialize the pulse sensor) after installing the power window regulator motor and regulator assembly onto the door.

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.**
- **A bolt without a torque specification is shown in the standard bolt chart (Click here).**

1. INSTALL FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH

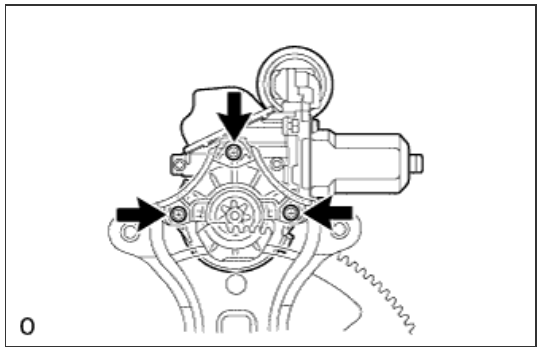
a. Apply MP grease to the sliding and rotating areas of the regulator motor.

b. Using a T25 "TORX" driver, install the motor with the 3 screws.

Torque:
5.4 N*m{ 55 kgf*cm , 48 in.*lbf }

HINT:

A new front window regulator uses self-tapping screws to thread new installation holes when the self-tapping screws are inserted.



2. INSTALL FRONT DOOR WINDOW REGULATOR SUB-ASSEMBLY

a. Apply MP grease to the sliding and rotating areas of the window regulator.

NOTICE:

Do not apply grease to the spring of the window regulator.

b. temporarily install the temporary bolt onto the window regulator.

c. Insert the window regulator into the door panel. Use the temporary bolt to hang the window regulator on the door panel.

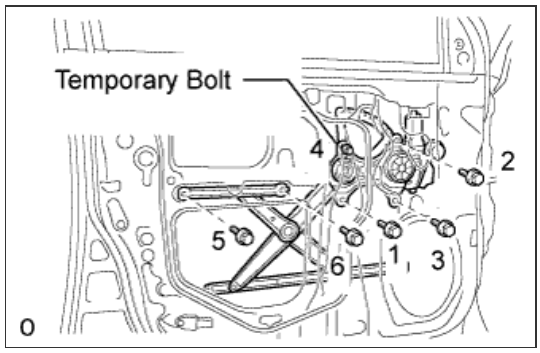
NOTICE:

Be careful not to drop the window regulator as it may become damaged.

d. Temporarily install the window regulator with the 5 bolts.

e. Tighten the 6 bolts in the order shown in the illustration.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }

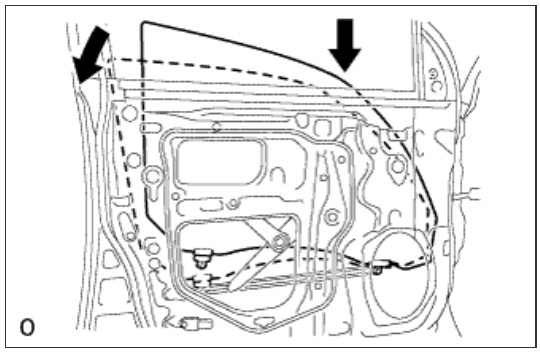


3. INSTALL FRONT DOOR GLASS SUB-ASSEMBLY

a. Insert the door glass into the door panel along the glass run as indicated by the arrows in the illustration.

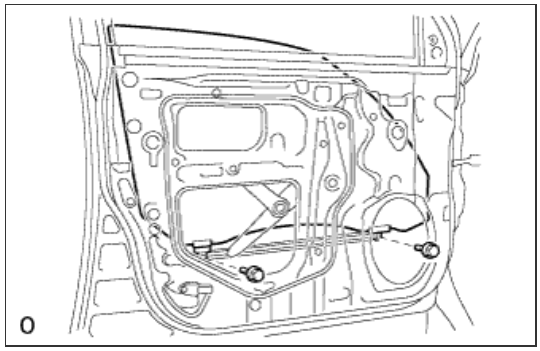
NOTICE:

Be careful not to damage the glass.



b. Install the door glass to the window regulator with the 2 bolts.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }



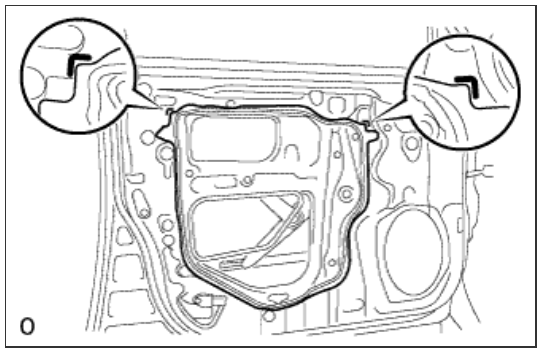
4. INSTALL FRONT DOOR SERVICE HOLE COVER

a. Apply butyl tape to the door.

b. Pass the front door lock remote control cable and front door inside locking cable through a new front door service hole cover.

NOTICE:

- **When installing the service hole cover, pull the links and connectors through the service hole cover.**
- **There should be no wrinkles or folds after installing the service hole cover.**
- **After installing the service hole cover, check the sealing quality.**

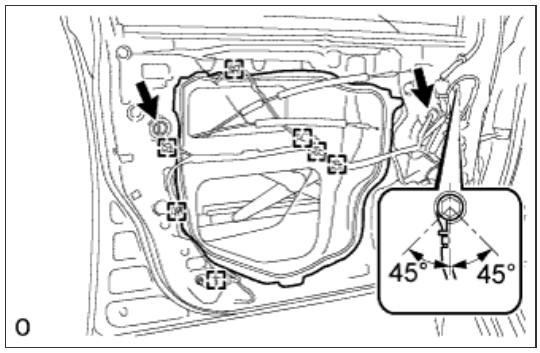


c. Connect the 2 connectors.

d. Attach the 7 clamps.

e. Install the bolt as shown in the illustration.

Torque:
8.4 N*m{ 86 kgf*cm , 74 in.*lbf }



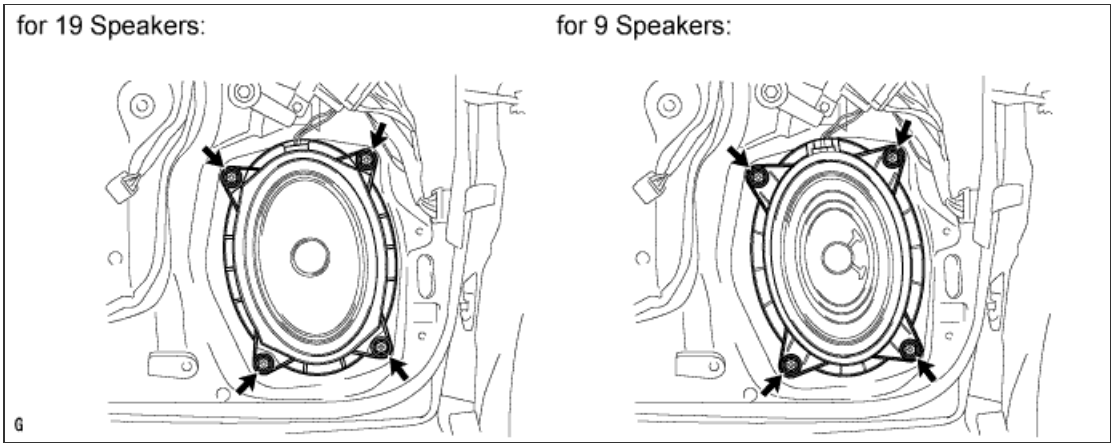
5. INSTALL FRONT NO. 1 SPEAKER ASSEMBLY

a. Connect the speaker connector.

b. Install the speaker with the 4 screws.

NOTICE:

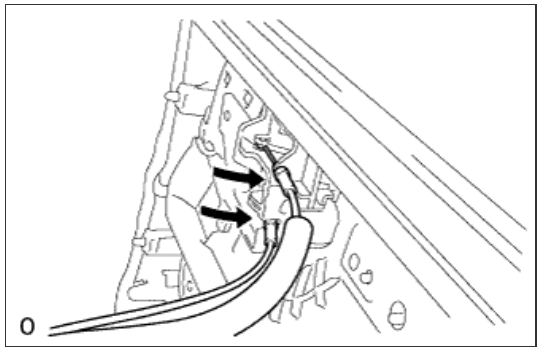
Do not touch the cone part of the speaker.



6. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY

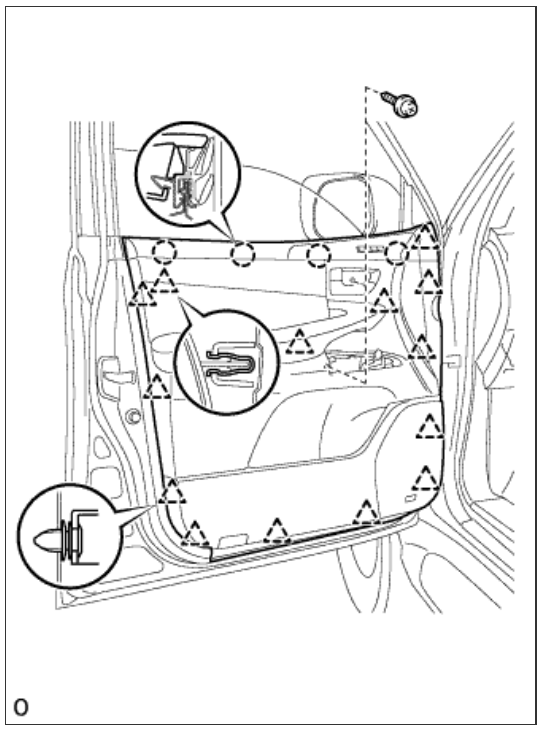
a. Connect the connector.

b. Connect the front door lock remote control cable and front door inside locking cable to the front door inside handle sub-assembly.



c. Attach the 4 claws and 14 clips to install the trim board.

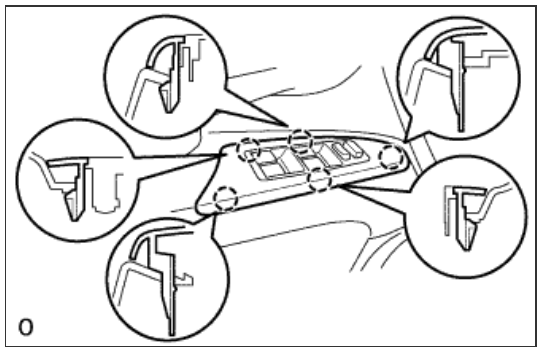
d. Install the 2 screws.



7. INSTALL FRONT UPPER ARMREST BASE PANEL

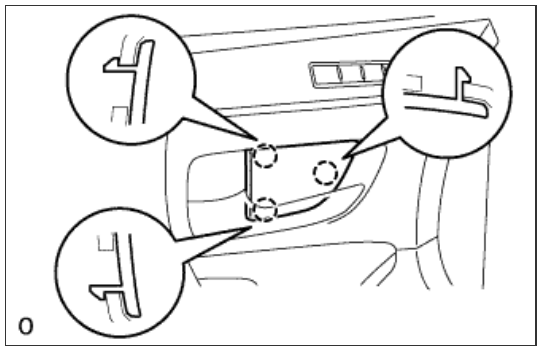
a. Connect the connector.

b. Attach the 5 claws to install the front upper armrest base panel.



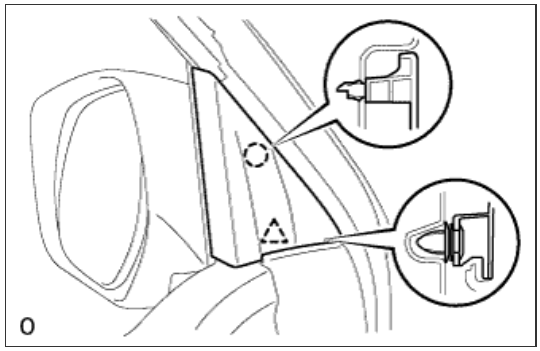
8. INSTALL FRONT DOOR INSIDE HANDLE BEZEL PLUG

a. Attach the 3 claws to install the inside handle bezel plug.



9. INSTALL FRONT LOWER DOOR FRAME BRACKET GARNISH

a. Attach the clip and claw to install the front door lower frame bracket garnish.

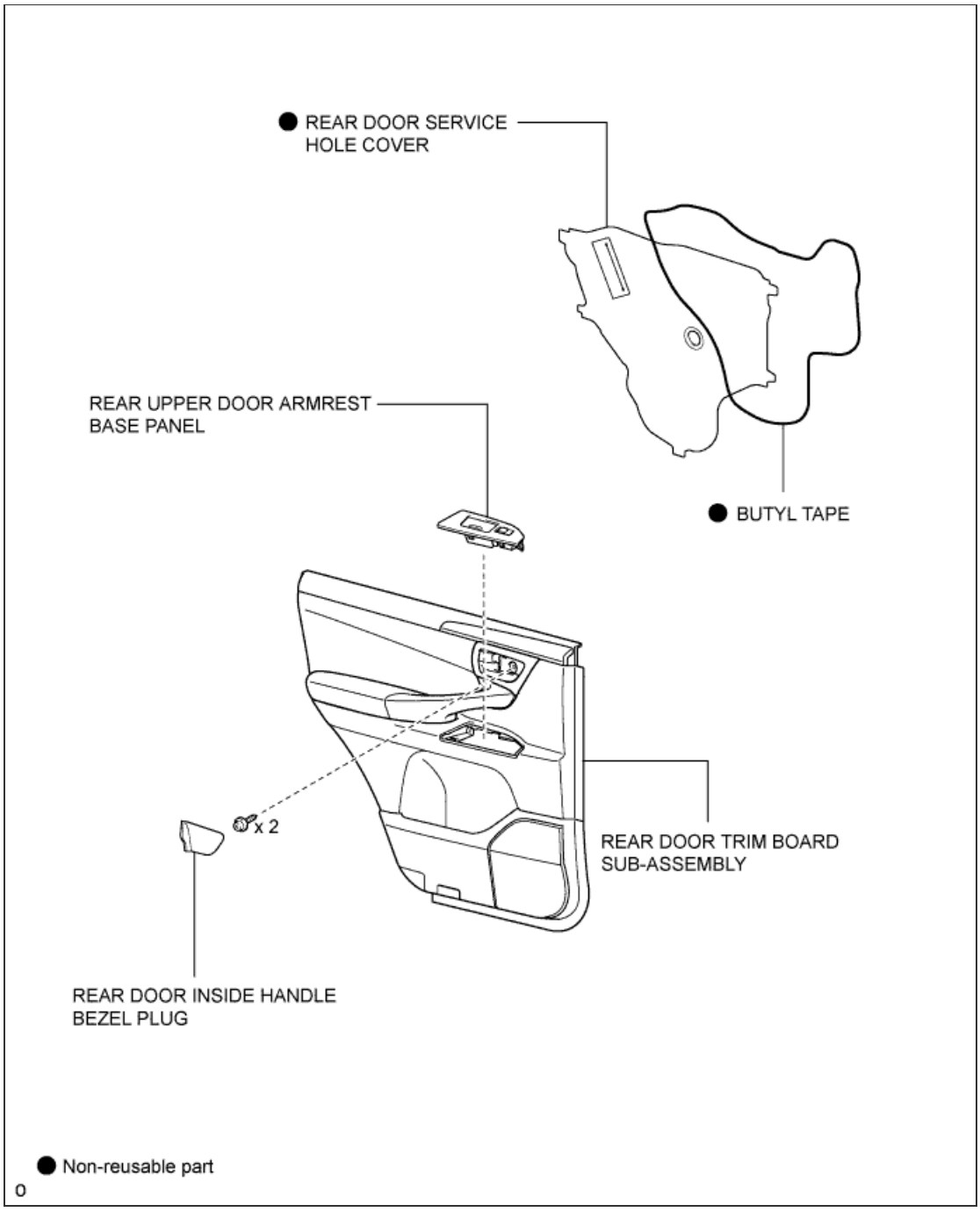


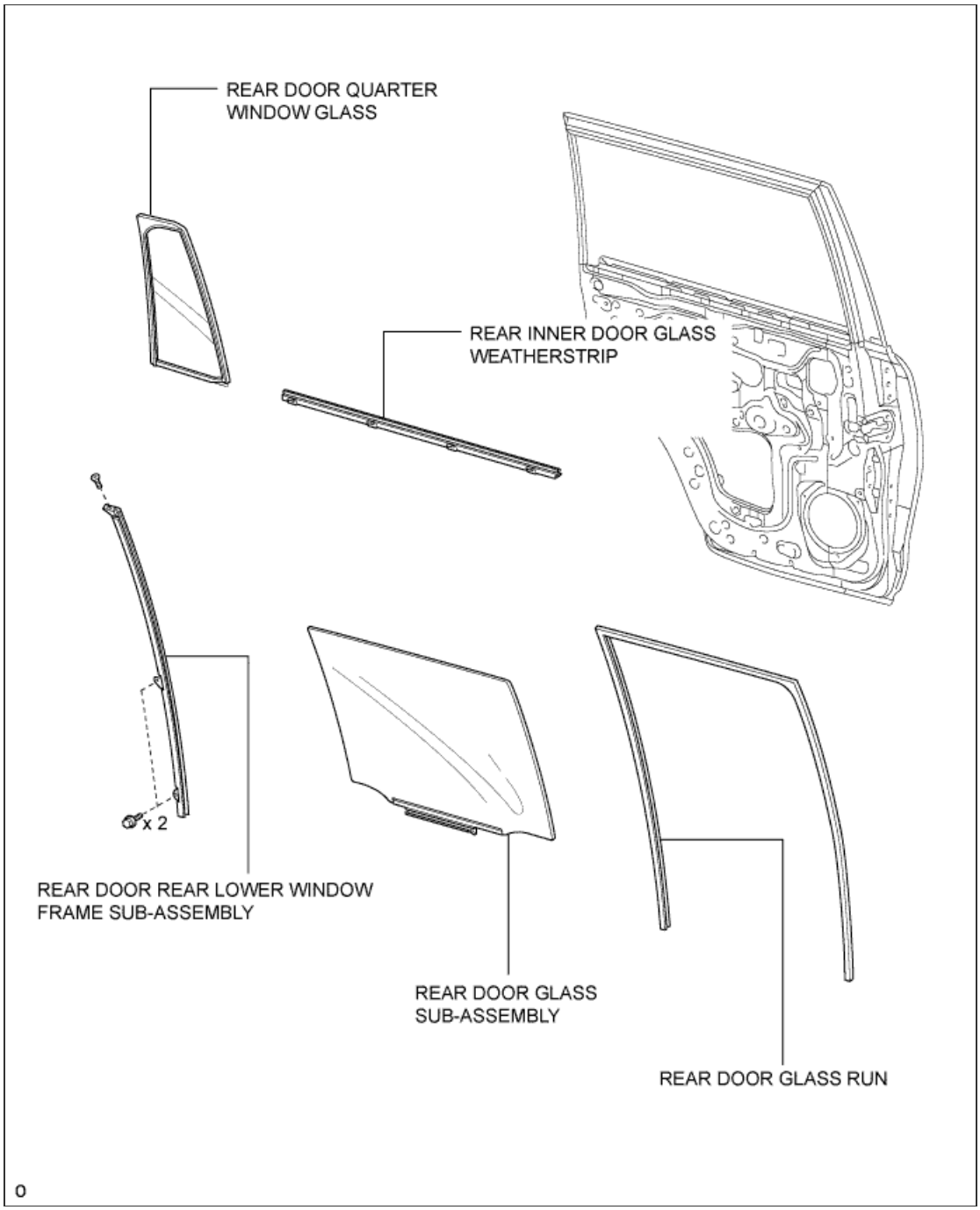
10. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

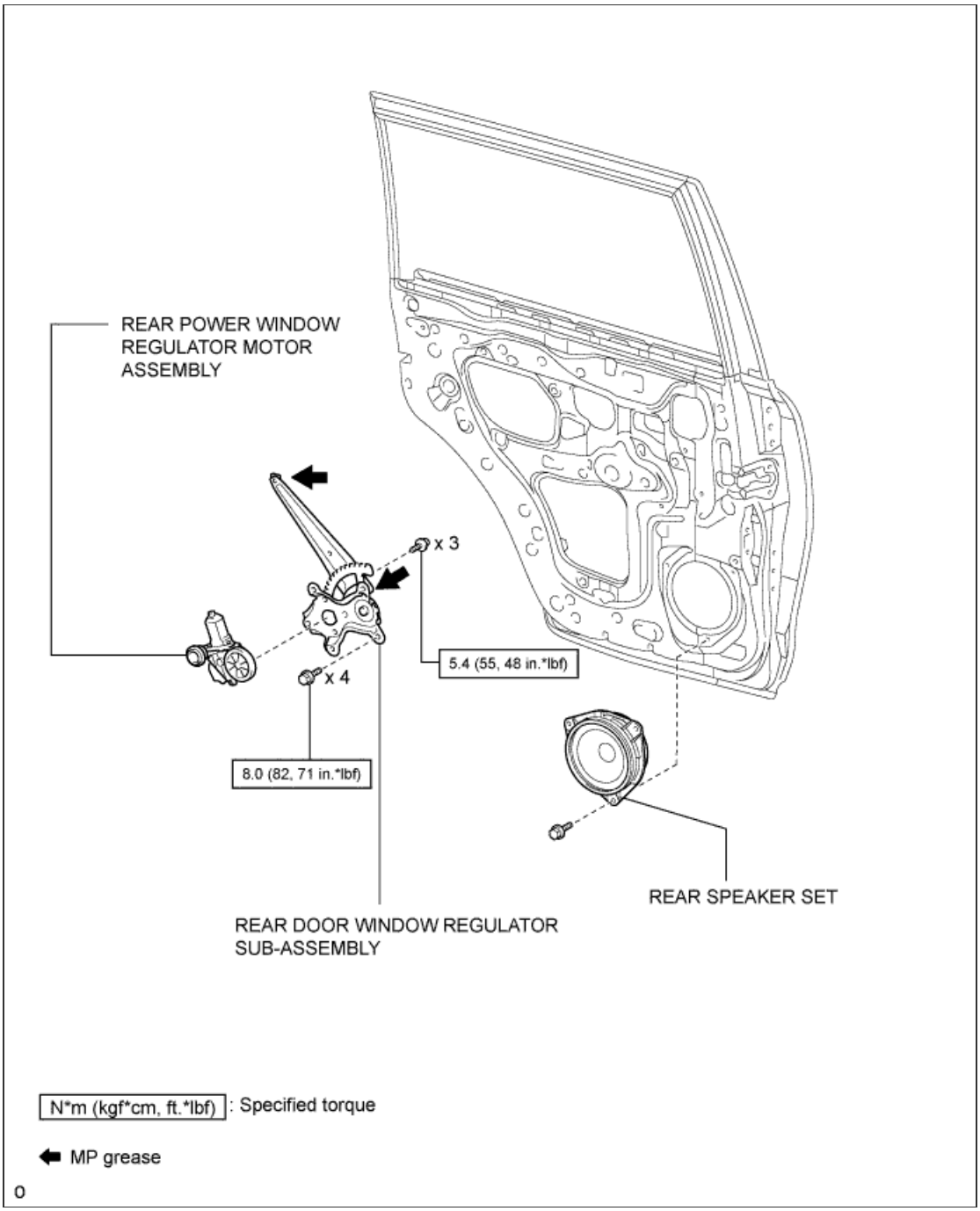
NOTICE:

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

for Preparation Click here




REAR DOOR QUARTER WINDOW GLASS
REAR INNER DOOR GLASS WEATHERSTRIP
x 2
REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY
REAR DOOR GLASS SUB-ASSEMBLY
REAR DOOR GLASS RUN
o


REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY
x 3
5.4 (55, 48 in.*lbf)
x 4
8.0 (82, 71 in.*lbf)
REAR SPEAKER SET
REAR DOOR WINDOW REGULATOR SUB-ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
MP grease

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:

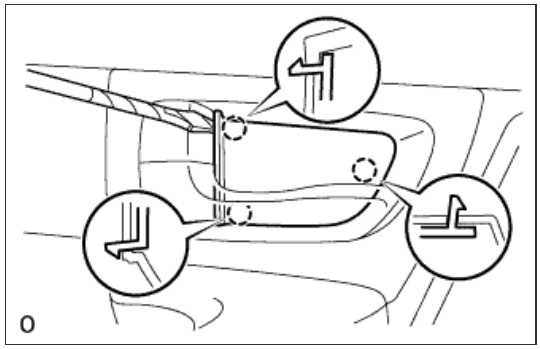
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

2. REMOVE REAR DOOR INSIDE HANDLE BEZEL PLUG

a. Using a screwdriver, detach the 3 claws and remove the inside handle bezel plug.

HINT:

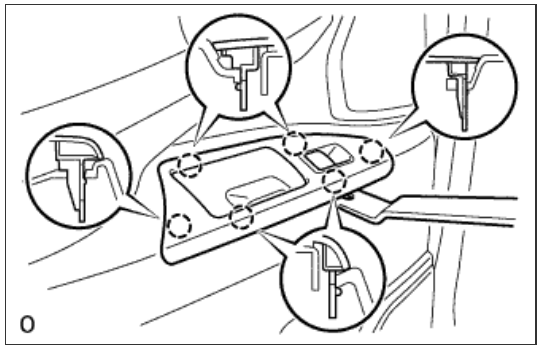
Tape the screwdriver tip before use.



3. REMOVE REAR UPPER DOOR ARMREST BASE PANEL

a. Using a moulding remover, detach the 6 claws.

b. Disconnect the connector and remove the rear upper door armrest base panel and rear power window regulator switch assembly.

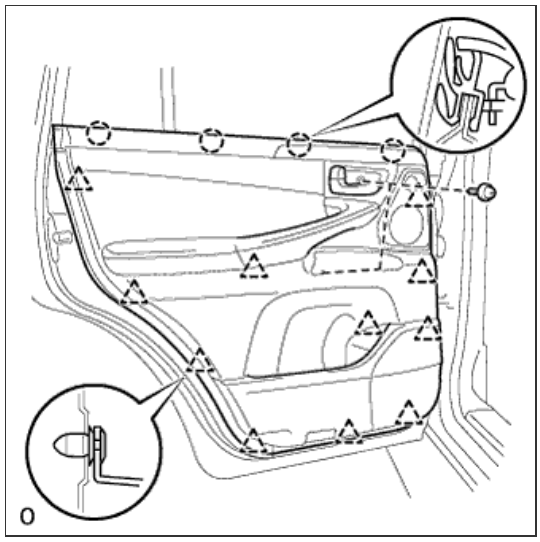


4. REMOVE REAR DOOR TRIM BOARD SUB-ASSEMBLY

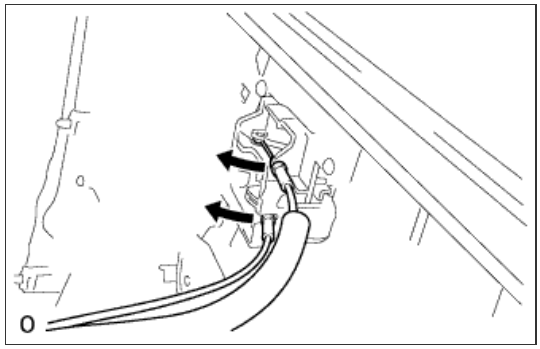
a. Remove the 2 screws.

b. Detach the 11 clips and 4 claws.

c. Disconnect the connector and remove the trim board.

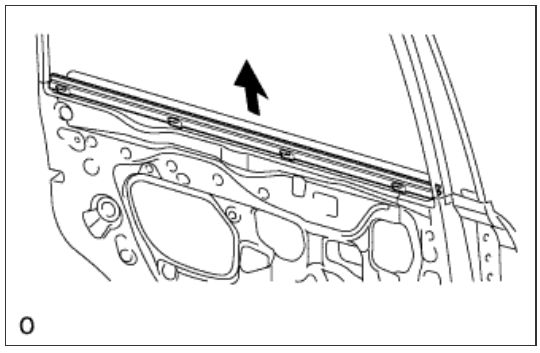


d. Disconnect the 2 cables from the inside handle.



5. REMOVE REAR INNER DOOR GLASS WEATHERSTRIP

a. Remove the weatherstrip by pulling it upward in the direction indicated by the arrow in the illustration.



6. REMOVE REAR SPEAKER SET

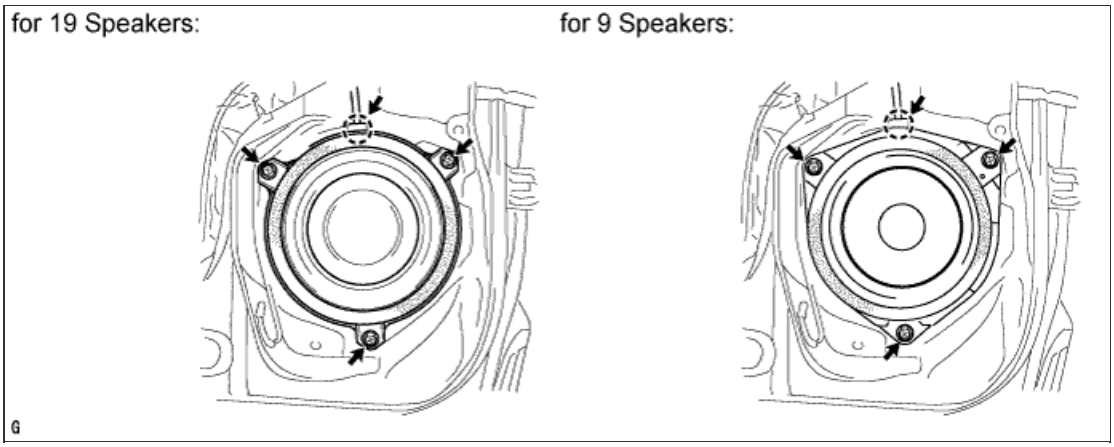
a. Disconnect the speaker connector.

b. Remove the 3 screws.

c. Detach the claw and remove the speaker.

NOTICE:

Do not touch the cone part of the speaker.



7. REMOVE REAR DOOR SERVICE HOLE COVER

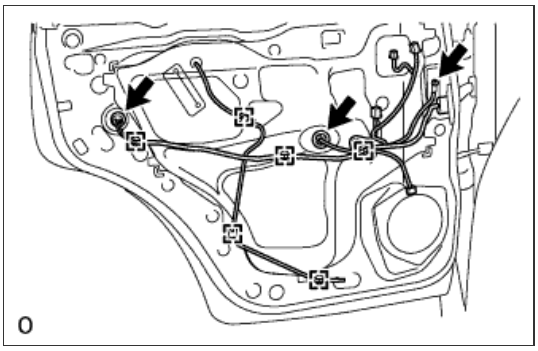
a. Using a clip remover, detach the 6 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the service hole cover.

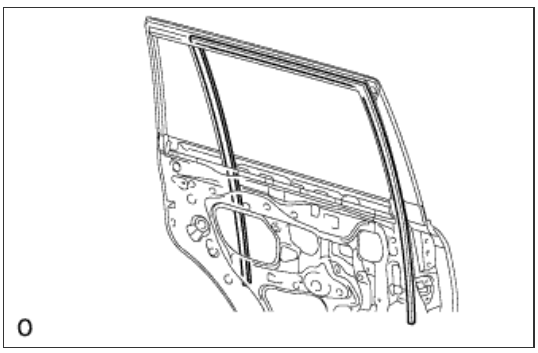
HINT:

Remove the remaining tape on the door.



8. REMOVE REAR DOOR GLASS RUN

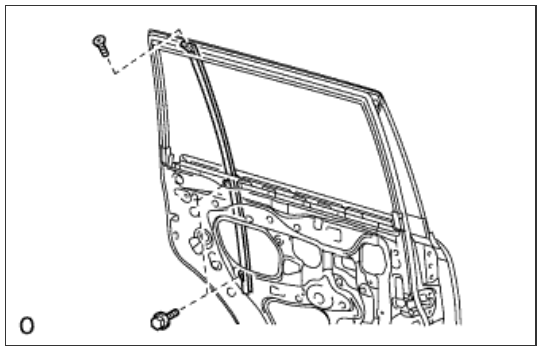
a. Remove the rear door glass run from the window frame.



9. REMOVE REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY

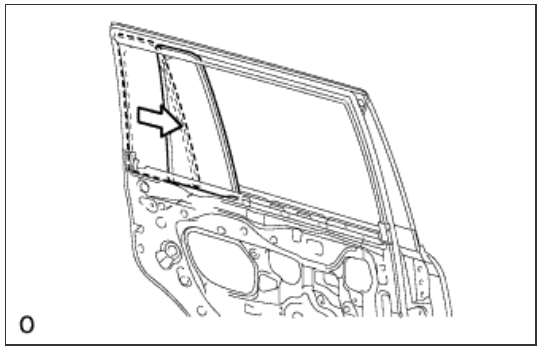
a. Remove the 2 bolts.

b. Remove the screw and window frame.



10. TEST REAR DOOR QUARTER WINDOW GLASS

a. Remove the rear door quarter window glass and rear door quarter window weatherstrip as a unit as shown in the illustration.

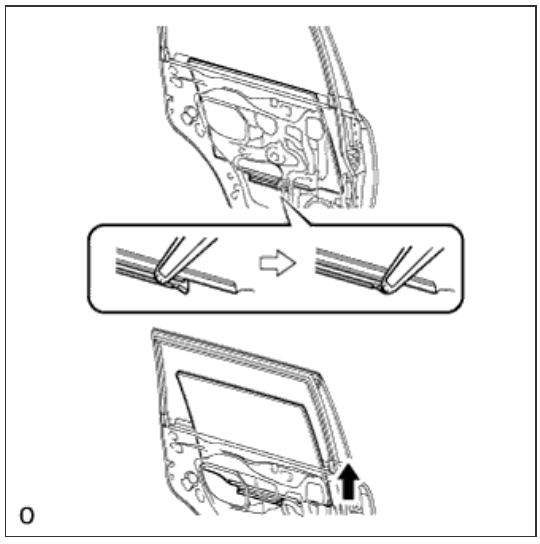


11. REMOVE REAR DOOR GLASS SUB-ASSEMBLY

a. Remove the rear door glass sub-assembly from the rear door window regulator sub-assembly as shown in the illustration.

NOTICE:

Do not damage the door glass.



12. REMOVE REAR DOOR WINDOW REGULATOR SUB-ASSEMBLY

a. Loosen the temporary bolt.

NOTICE:

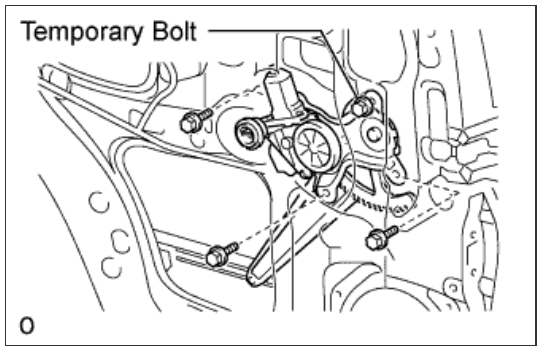
Do not remove the temporary bolt. If the temporary bolt is removed, the rear door window regulator may fall and become damaged.

b. Remove the 3 bolts and regulator.

NOTICE:

Be careful when removing the bolts as the regulator may fall and become damaged.

c. Remove the temporary bolt from the rear door window regulator sub-assembly.

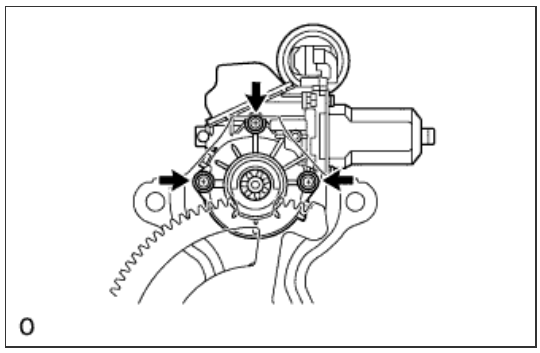


13. REMOVE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY

a. Using a T25 "TORX" driver, remove the 3 screws and motor.

NOTICE:

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



for Preparation Click here

1. INSPECT REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH

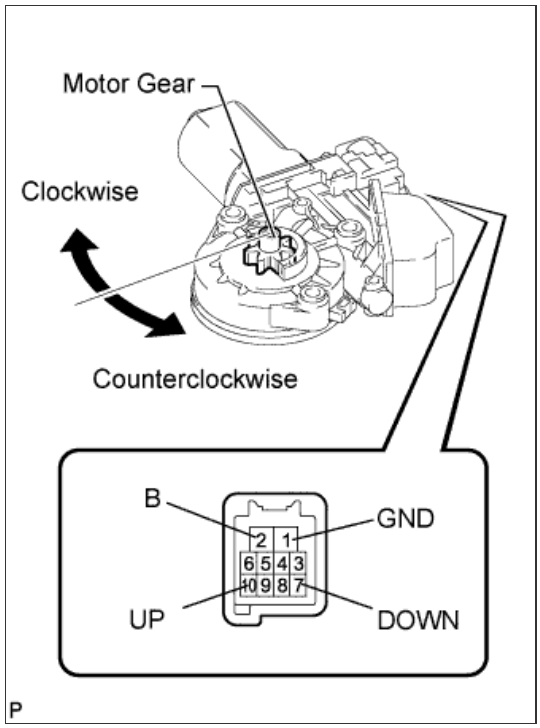
a. Apply positive (+) battery voltage to the connector terminal 2 (B).

NOTICE:

Do not apply positive (+) battery voltage to any terminals except terminal 2 (B) to avoid damaging the pulse sensor inside the motor.

b. Apply negative (-) battery voltage to the connector terminals 1 (GND) and 7 (DOWN) or 10 (UP).

c. Check that the motor gear rotates smoothly as follows.



OK:

Measurement Condition	Specified Condition
1. Connect the positive (+) battery cable to terminal 2 (B), and connect the negative (-) battery cable to terminal 1 (GND), and keep them connected for 3 seconds or more. 2. With terminals 2 (B) and 1 (GND) connected, connect the negative (-) battery cable to terminal 10 (UP). 3. Disconnect and reconnect the negative (-) battery cable to terminal 10 (UP) within 1 second.	Motor gear rotates clockwise (Up)
1. Connect the positive (+) battery cable to terminal 2 (B), and connect the negative (-) battery cable to terminal 1 (GND), and keep them connected for 3 seconds or more. 2. With terminals 2 (B) and 1 (GND) connected, connect the negative (-) battery cable to terminal 7 (DOWN). 3. Disconnect and reconnect the negative (-) battery cable to terminal 7 (DOWN) within 1 second.	Motor gear rotates counterclockwise (Down)

If the result is not as specified, replace the power window regulator motor assembly.

CAUTION:

Reset the power window regulator motor (initialize the pulse sensor) after installing the power window regulator motor and regulator assembly onto the door.

2. INSPECT REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH

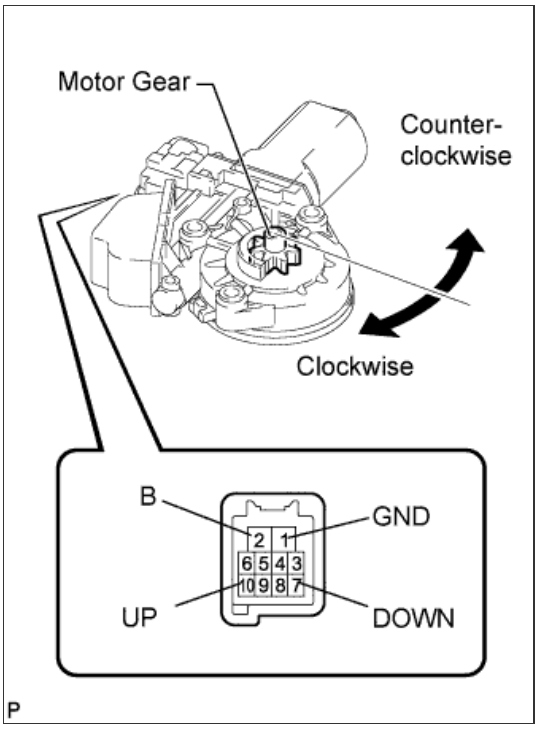
a. Apply positive (+) battery voltage to the connector terminal 2 (B).

NOTICE:

Do not apply positive (+) battery voltage to any terminals except terminal 2 (B) to avoid damaging the pulse sensor inside the motor.

b. Apply negative (-) battery voltage to the connector terminals 1 (GND) and 7 (DOWN) or 10 (UP).

c. Check that the motor gear rotates smoothly as follows.



OK:

Measurement Condition	Specified Condition
1. Connect the positive (+) battery cable to terminal 2 (B), and connect the negative (-) battery cable to terminal 1 (GND), and keep them connected for 3 seconds or more. 2. With terminals 2 (B) and 1 (GND) connected, connect the negative (-) battery cable to terminal 10 (UP). 3. Disconnect and reconnect the negative (-) battery cable to terminal 10 (UP) within 1 second.	Motor gear rotates counterclockwise (Up)
1. Connect the positive (+) battery cable to terminal 2 (B), and connect the negative (-) battery cable to terminal 1 (GND), and keep them connected for 3 seconds or more. 2. With terminals 2 (B) and 1 (GND) connected, connect the negative (-) battery cable to terminal 7 (DOWN). 3. Disconnect and reconnect the negative (-) battery cable to terminal 7 (DOWN) within 1 second.	Motor gear rotates clockwise (Down)

If the result is not as specified, replace the regulator motor assembly.

CAUTION:

Reset the power window regulator motor (initialize the pulse sensor) after installing the power window regulator motor and regulator assembly onto the door.

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.**
- **A bolt without a torque specification is shown in the standard bolt chart (Click here).**

1. INSTALL REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY

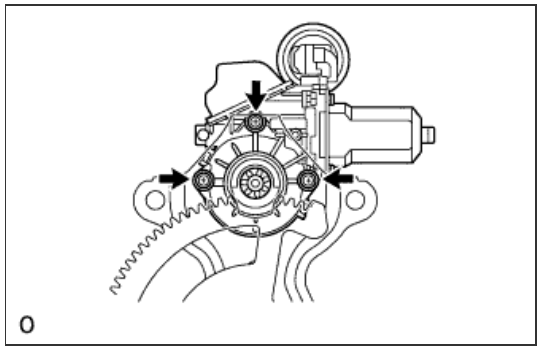
a. Apply MP grease to the sliding and rotating areas of the regulator motor.

b. Using a T25 "TORX" driver, install the motor with the 3 screws.

Torque:
5.4 N*m{ 55 kgf*cm , 48 in.*lbf }

HINT:

A new rear window regulator uses self-tapping screws to thread new installation holes when the self-tapping screws are inserted.



2. INSTALL REAR DOOR WINDOW REGULATOR SUB-ASSEMBLY

a. Apply MP grease to the sliding parts of the rear door window regulator sub-assembly.

b. Temporarily install the temporary bolt onto the window regulator.

c. Insert the window regulator into the door panel. Use the temporary bolt to hang the window regulator on the door panel.

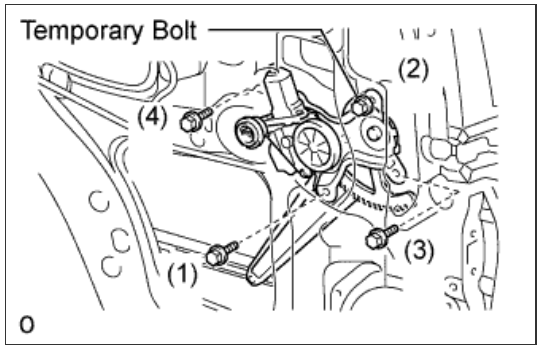
NOTICE:

Be careful not to drop the window regulator as it may become damaged.

d. Temporarily install the window regulator with the 3 bolts.

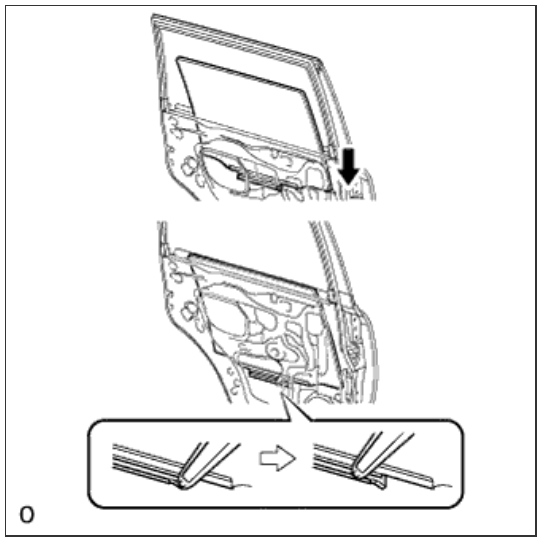
e. Tighten the 4 bolts in the order shown in the illustration.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }



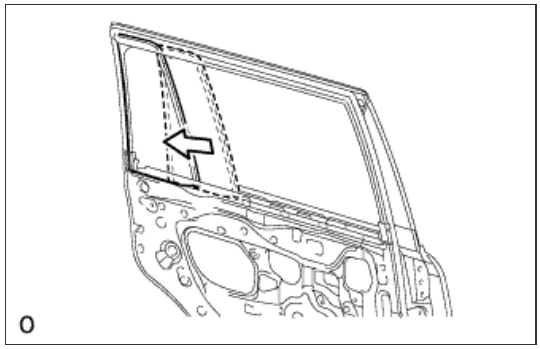
3. INSTALL REAR DOOR GLASS SUB-ASSEMBLY

a. Slide the rear door glass sub-assembly as shown in the illustration to install it.



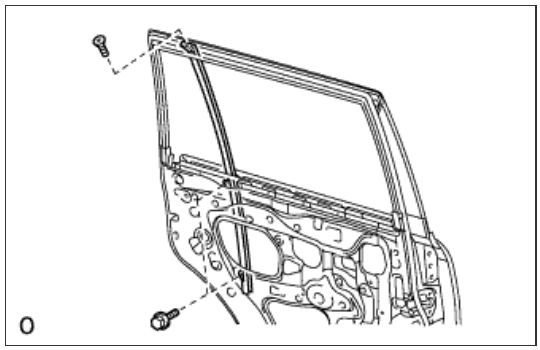
4. INSTALL REAR DOOR QUARTER WINDOW GLASS

a. Install the quarter glass together with the rear door quarter window weatherstrip in the direction indicated by the arrow in the illustration.



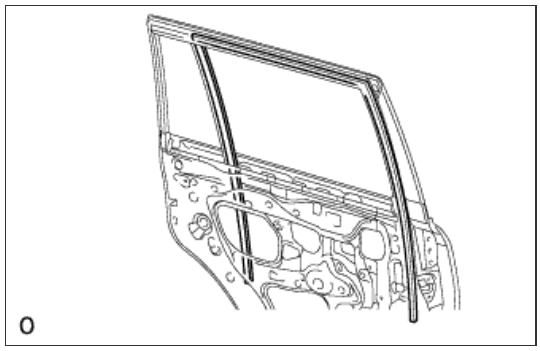
5. INSTALL REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY

a. Install the rear door rear lower window frame with the 2 bolts and screw.



6. INSTALL REAR DOOR GLASS RUN

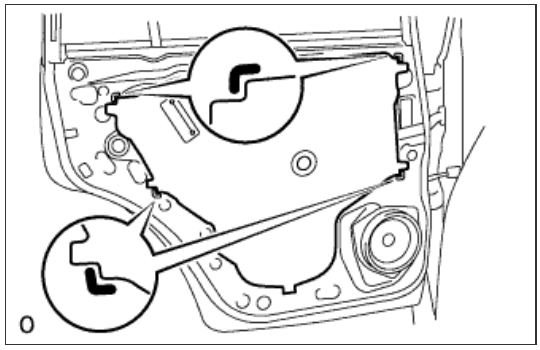
a. Install the rear door glass run.



7. INSTALL REAR DOOR SERVICE HOLE COVER

a. Apply butyl tape to the door.

b. Pass the rear door lock remote control cable and rear door inside locking cable through a new rear door service hole cover.

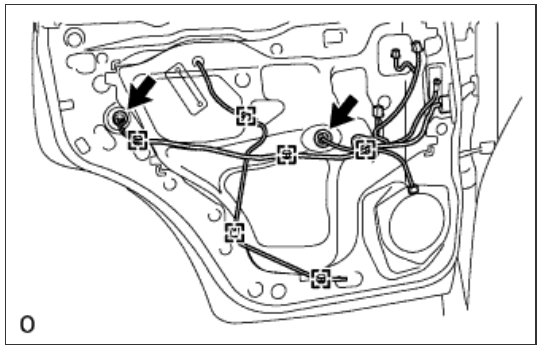


NOTICE:

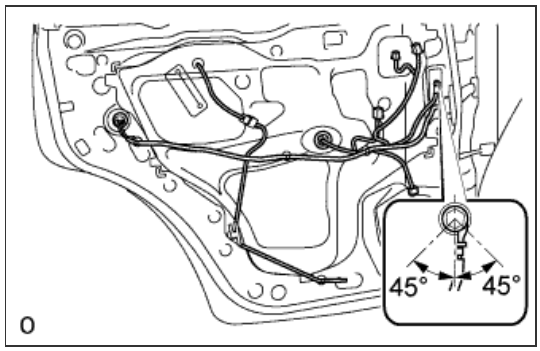
- **When installing the service hole cover, pull the links and connectors through the service hole cover.**
- **There should be no wrinkles or folds after installing the service hole cover.**
- **After installing the service hole cover, check the sealing quality.**

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 }

8. INSTALL REAR SPEAKER SET

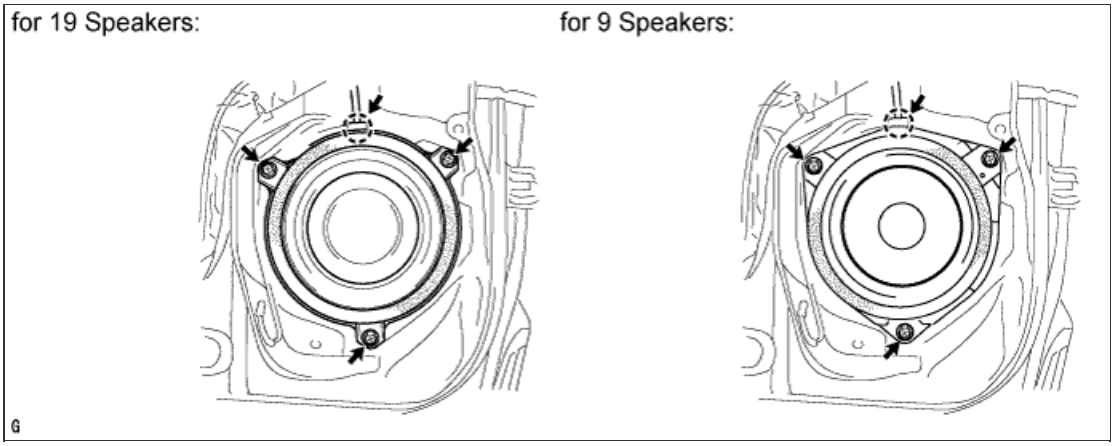
a. Temporarily install the speaker by attaching the claw of the speaker to the door panel.

b. Install the speaker with the 3 screws.

NOTICE:

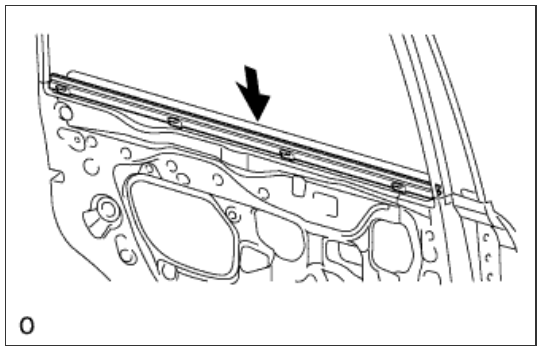
Do not touch the cone part of the speaker.

c. Connect the connector.



9. INSTALL REAR INNER DOOR GLASS WEATHERSTRIP

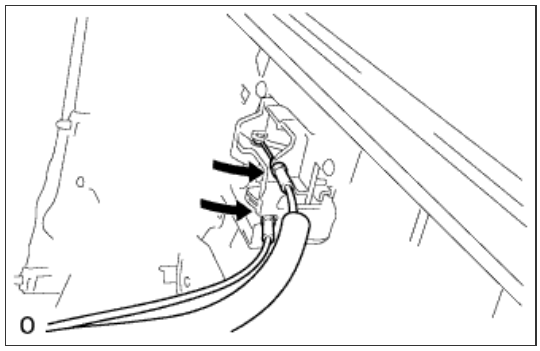
a. Install the rear inner door glass weatherstrip to the door panel.



10. INSTALL REAR DOOR TRIM BOARD SUB-ASSEMBLY

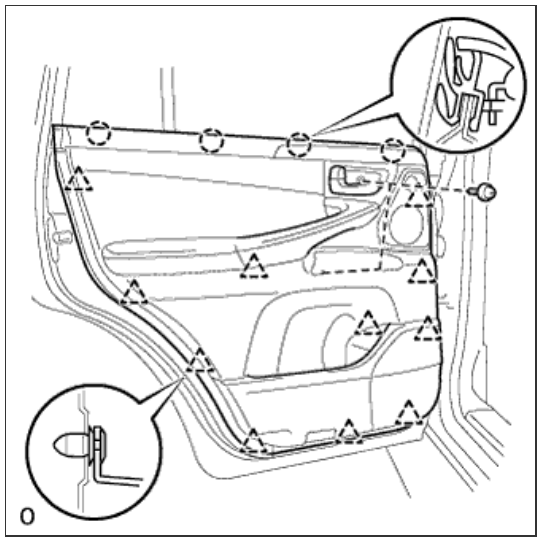
a. Connect the connector.

b. Connect the rear door lock remote control cable and rear door inside locking cable to the rear door inside handle sub-assembly.



c. Attach the 4 claws and 11 clips to install the rear door trim board sub-assembly.

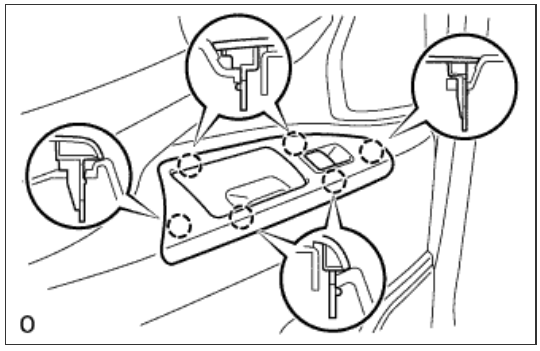
d. Install the 2 screws.



11. INSTALL REAR UPPER DOOR ARMREST BASE PANEL

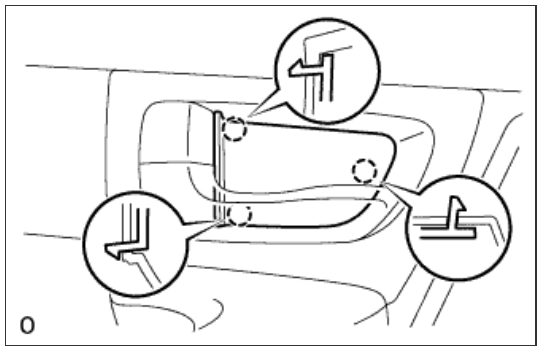
a. Connect the connector.

b. Attach the 6 claws to install the rear upper door armrest base panel.



12. INSTALL REAR DOOR INSIDE HANDLE BEZEL PLUG

a. Attach the 3 claws to install the bezel plug.

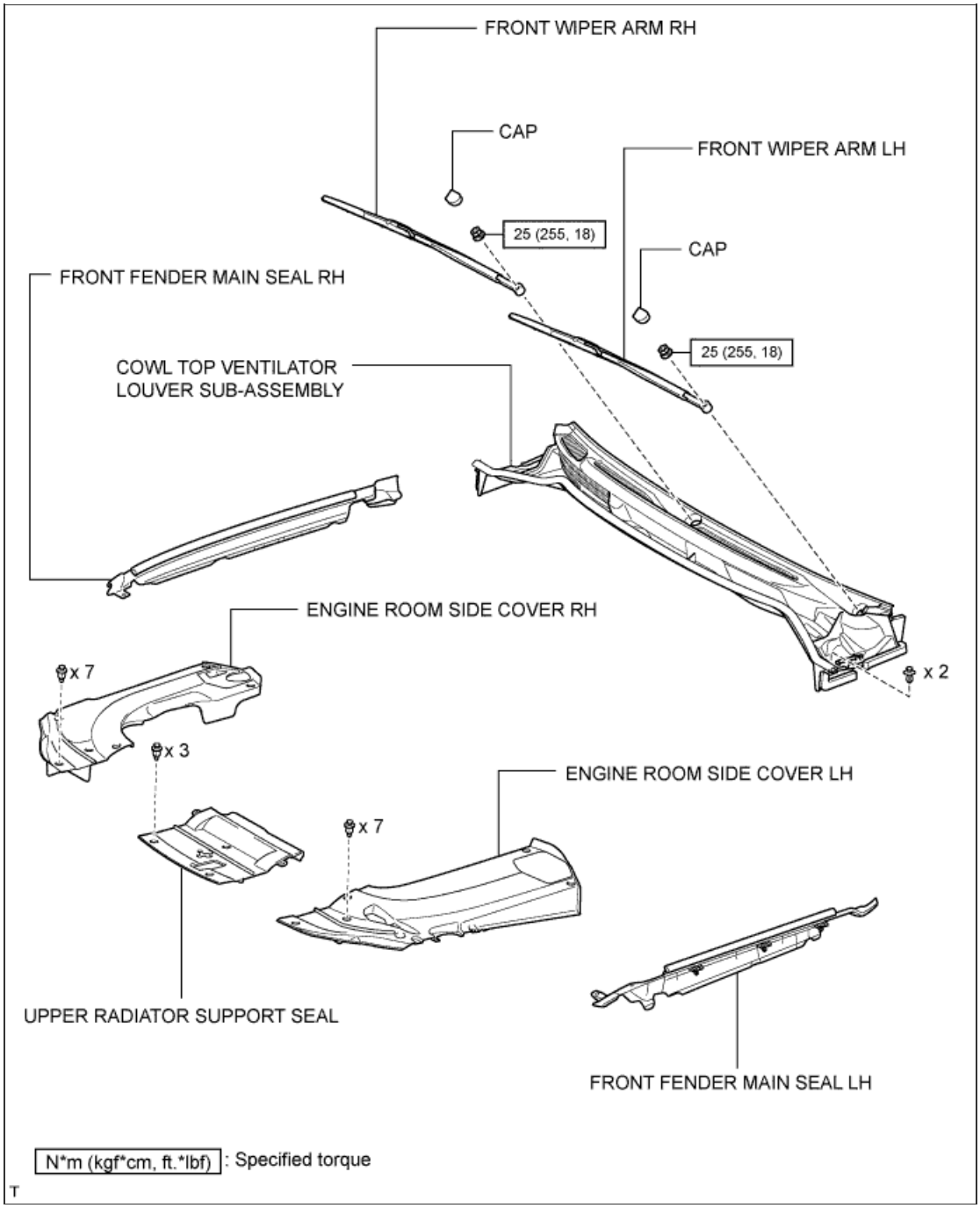


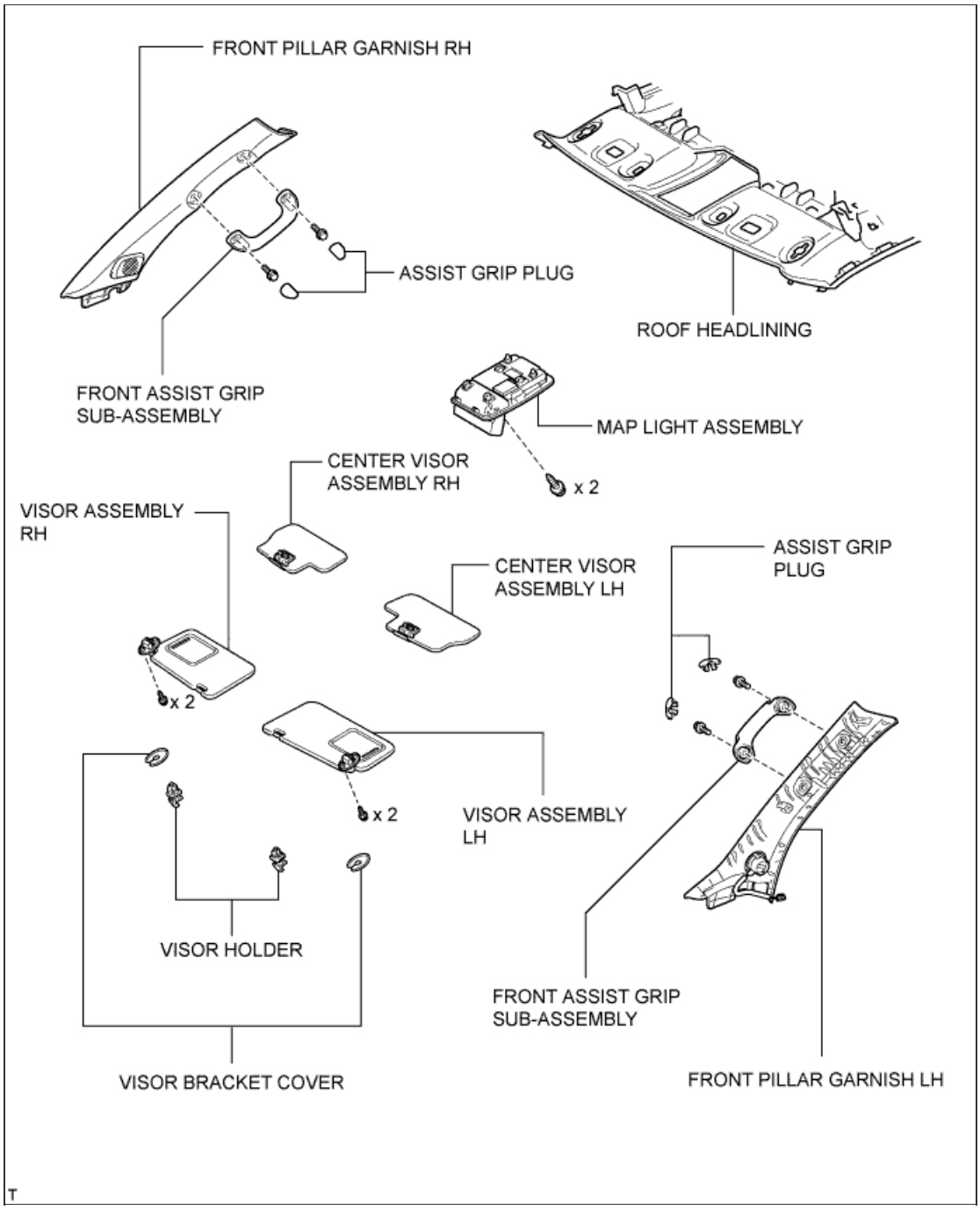
13. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

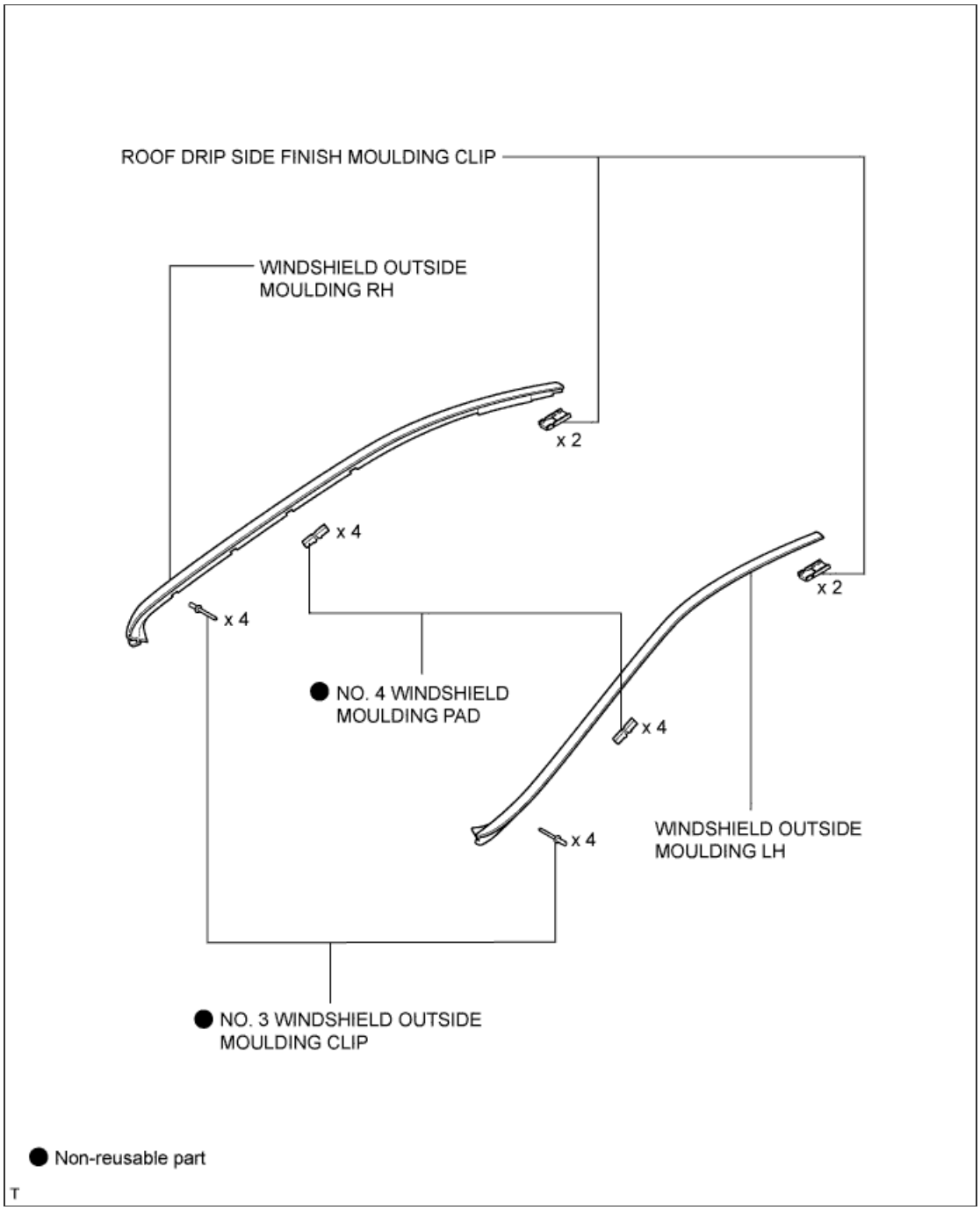
NOTICE:

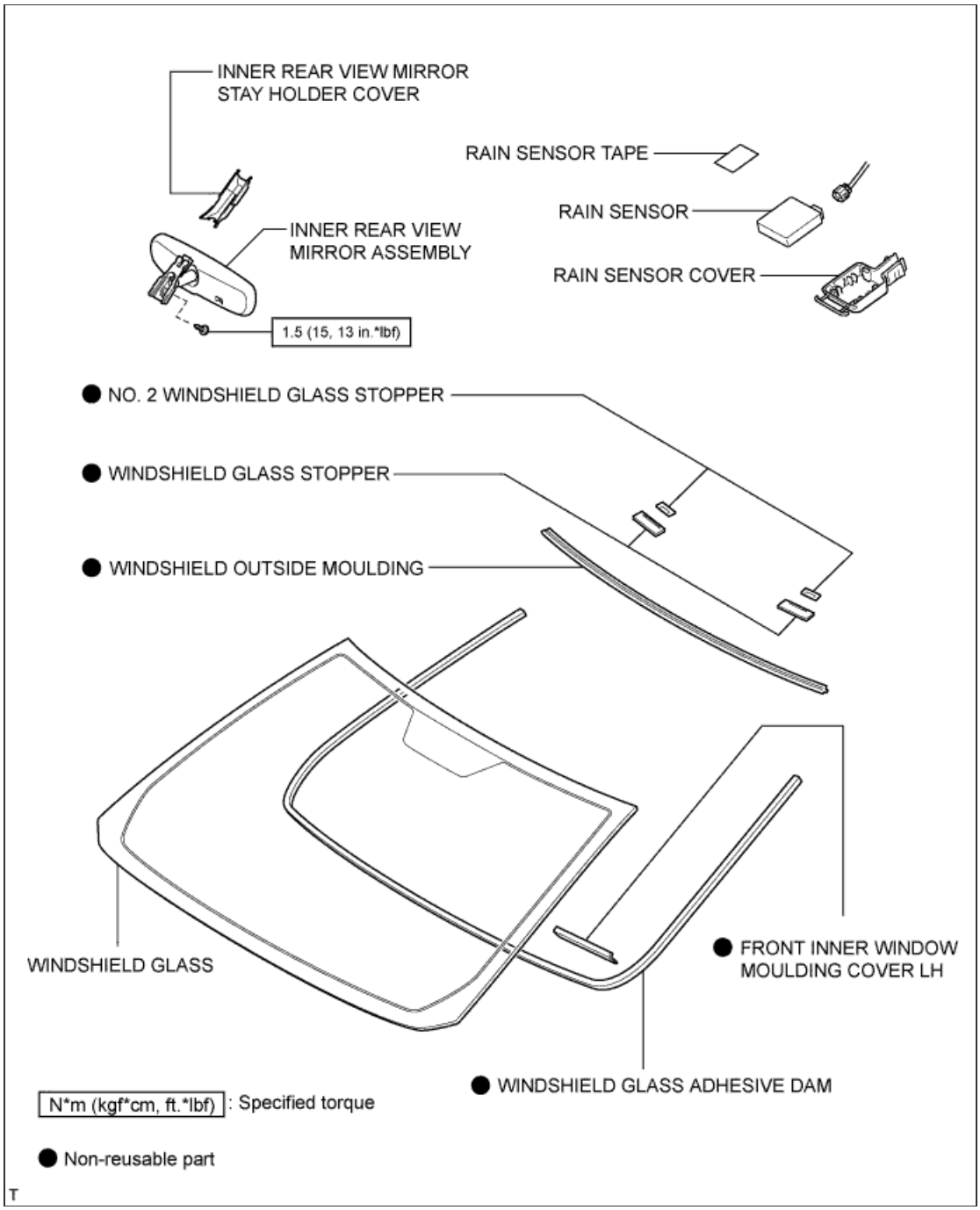
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

for Preparation [Click here]




FRONT PILLAR GARNISH RH
ASSIST GRIP PLUG
ROOF HEADLINING
FRONT ASSIST GRIP SUB-ASSEMBLY
MAP LIGHT ASSEMBLY
x 2
CENTER VISOR ASSEMBLY RH
VISOR ASSEMBLY RH
CENTER VISOR ASSEMBLY LH
ASSIST GRIP PLUG
x 2
x 2
VISOR ASSEMBLY LH
VISOR HOLDER
FRONT ASSIST GRIP SUB-ASSEMBLY
VISOR BRACKET COVER
FRONT PILLAR GARNISH LH
T


ROOF DRIP SIDE FINISH MOULDING CLIP
WINDSHIELD OUTSIDE MOULDING RH
x 2
x 4
x 4
NO. 4 WINDSHIELD MOULDING PAD
x 2
x 4
x 4
WINDSHIELD OUTSIDE MOULDING LH
NO. 3 WINDSHIELD OUTSIDE MOULDING CLIP
Non-reusable part
T


INNER REAR VIEW MIRROR
STAY HOLDER COVER
RAIN SENSOR TAPE
RAIN SENSOR
RAIN SENSOR COVER
INNER REAR VIEW
MIRROR ASSEMBLY
1.5 (15, 13 in.*lbf)
● NO. 2 WINDSHIELD GLASS STOPPER
● WINDSHIELD GLASS STOPPER
● WINDSHIELD OUTSIDE MOULDING
WINDSHIELD GLASS
● FRONT INNER WINDOW
MOULDING COVER LH
● WINDSHIELD GLASS ADHESIVE DAM
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
T

for Preparation Click here

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

CAUTION:

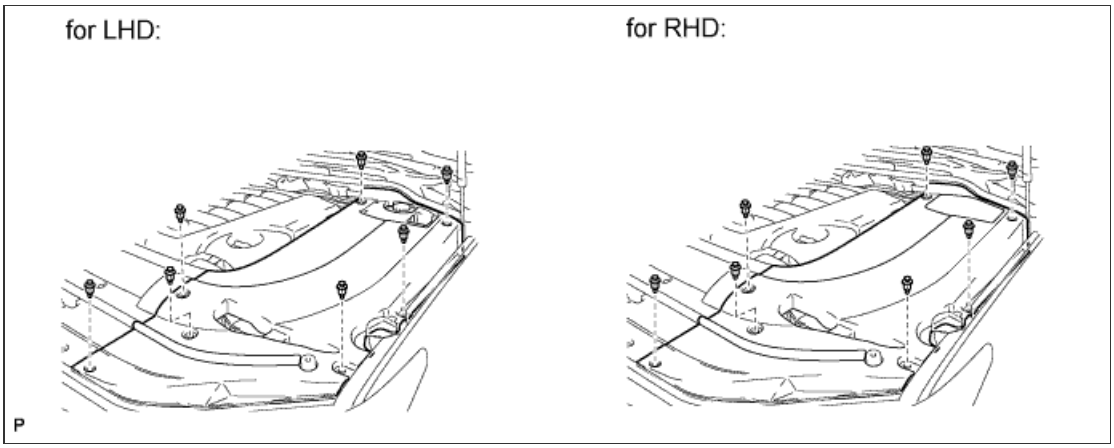
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

NOTICE:

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

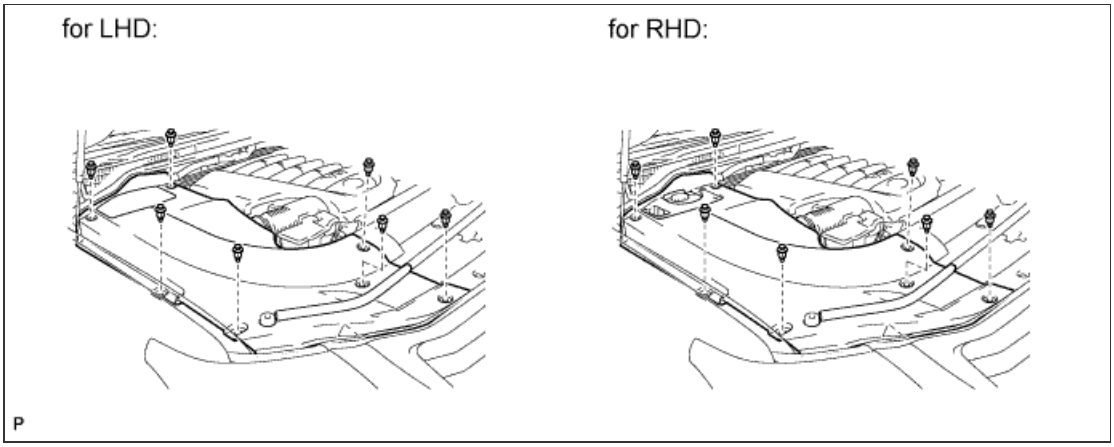
2. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



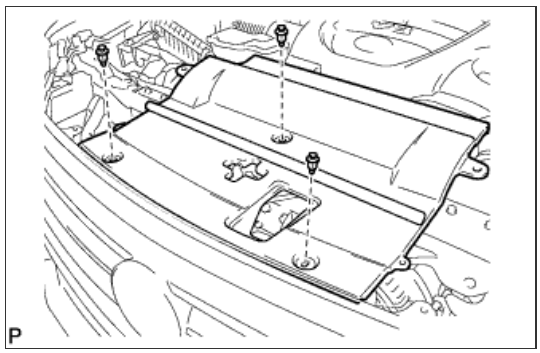
3. REMOVE ENGINE ROOM SIDE COVER RH

a. Remove the 7 clips and engine room side cover.



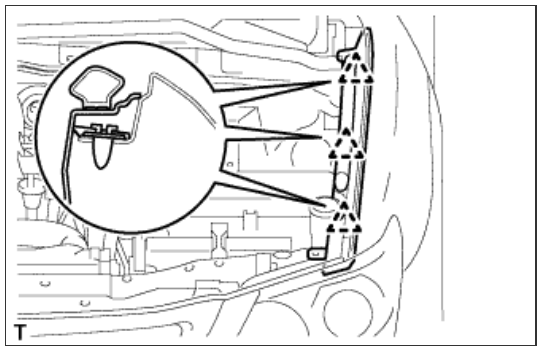
4. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 3 clips and upper radiator support seal.



5. REMOVE FRONT FENDER MAIN SEAL LH

a. Using a clip remover, detach the 3 clips and remove the fender main seal.



6. REMOVE FRONT FENDER MAIN SEAL RH

HINT:

Use the same procedures described for the LH side.

7. REMOVE FRONT WIPER ARM LH

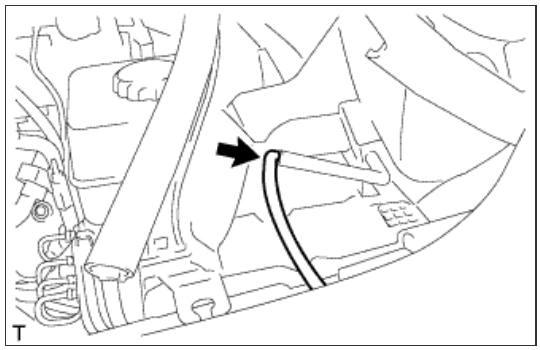
a. Remove the nut, wiper arm and blade.

8. REMOVE FRONT WIPER ARM RH

a. Remove the nut, wiper arm and blade.

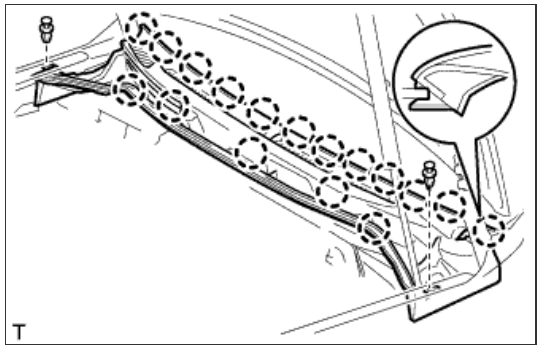
9. REMOVE COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY

a. Disconnect the washer hose.



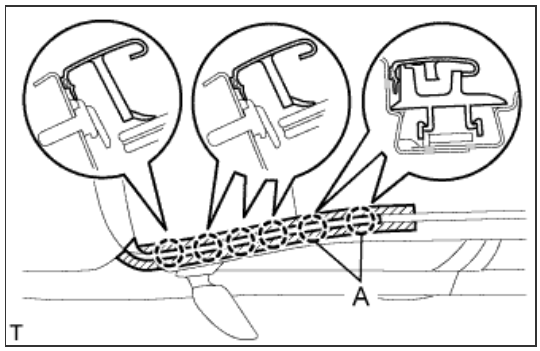
b. Remove the 2 clips.

c. Detach the 17 claws and remove the cowl top ventilator louver sub-assembly.



10. REMOVE WINDSHIELD OUTSIDE MOULDING LH

a. Remove the windshield outside moulding.



i. Put protective tape around the moulding.

ii. Using a moulding remover, detach the 6 clips and remove the moulding.

NOTICE:

- **When removing the windshield outside moulding, be careful not to damage the roof drip side finish moulding clip labeled A in the illustration.**
- **If a roof drip side finish moulding clip is damaged or becomes detached from the vehicle, replace it with a new one.**

11. REMOVE WINDSHIELD OUTSIDE MOULDING RH

HINT:

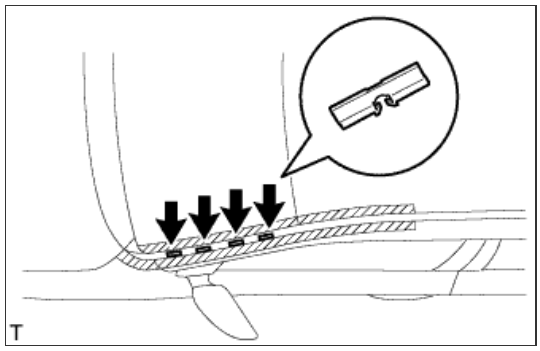
Use the same procedures described for the LH side.

12. REMOVE NO. 4 WINDSHIELD MOULDING PAD

a. Remove the 4 No. 4 windshield moulding pads.

HINT:

Use the same procedure to remove the 4 pads on the other side.



13. REMOVE NO. 3 WINDSHIELD OUTSIDE MOULDING CLIP

HINT:

Perform the following procedures if replacing any No. 3 windshield outside moulding clip(s).

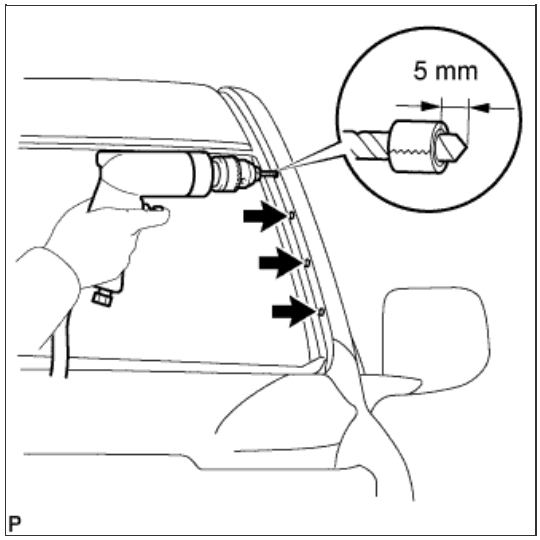
a. Put a 4 mm (0.157 in.) drill bit into a drill.

b. Wind tape around the drill bit approximately 5 mm (0.197 in.) from the tip of the drill.

HINT:

Tape the 4 mm (0.157 in.) drill bit to prevent the drill bit from going too deep.

c. Lightly press the drill against the No. 3 windshield outside moulding clip(s), drill off the flanges of the No. 3 windshield outside moulding clip(s), and remove the No. 3 windshield outside moulding clip(s).



CAUTION:

Be careful of the drilled No. 3 windshield outside moulding clips as they may become hot.

NOTICE:

- **Pressing the drill too firmly will cause the No. 3 windshield outside moulding clip to turn and result in the No. 3 windshield outside moulding clip not being drilled through.**
- **Do not pry the No. 3 windshield outside moulding clips with the drill, because this may cause damage to the installation holes of the No. 3 windshield outside moulding clips or the drill bit.**

d. Using a vacuum cleaner, remove the No. 3 windshield outside moulding clip fragments and shavings from the drilled areas.

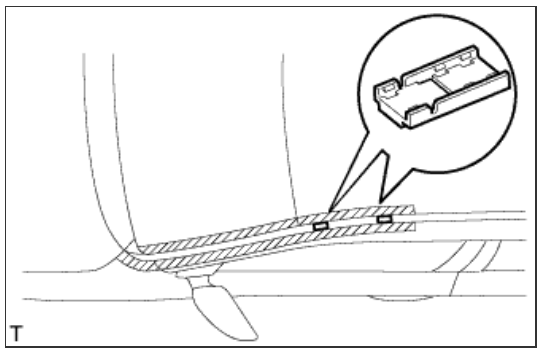
HINT:

Use the same procedure to remove the clip(s) on the other side.

14. REMOVE ROOF DRIP SIDE FINISH MOULDING CLIP

HINT:

Perform the following procedures if replacing any roof drip side finish moulding clips.



a. Remove the roof drip side finish moulding clips.

HINT:

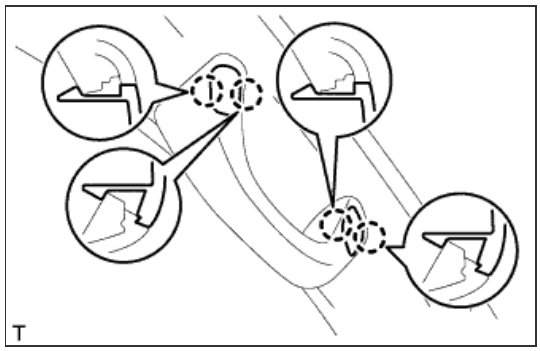
Use the same procedure to remove the clip on the other side.

15. REMOVE FRONT ASSIST GRIP SUB-ASSEMBLY

HINT:

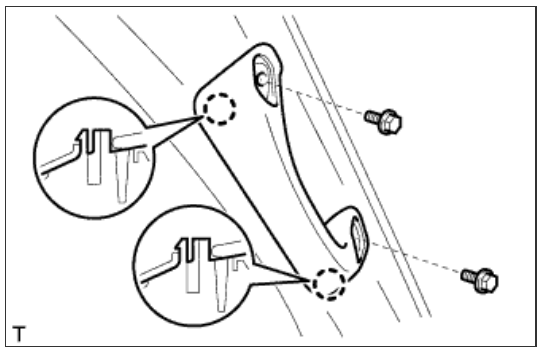
Use the same procedure to remove the front assist grip on the other side.

a. Detach the 4 claws and remove the 2 assist grip plugs.



b. Remove the 2 bolts.

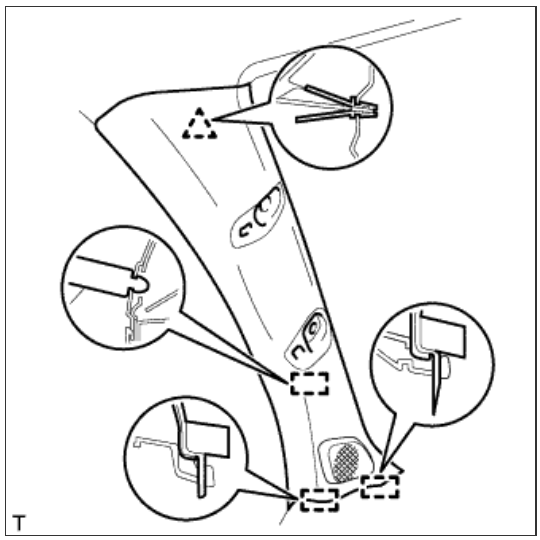
c. Detach the 2 claws and remove the front assist grip.



16. REMOVE FRONT PILLAR GARNISH LH

a. Detach the clip and 3 guides.

b. Disconnect the speaker connector and then remove the front pillar garnish.

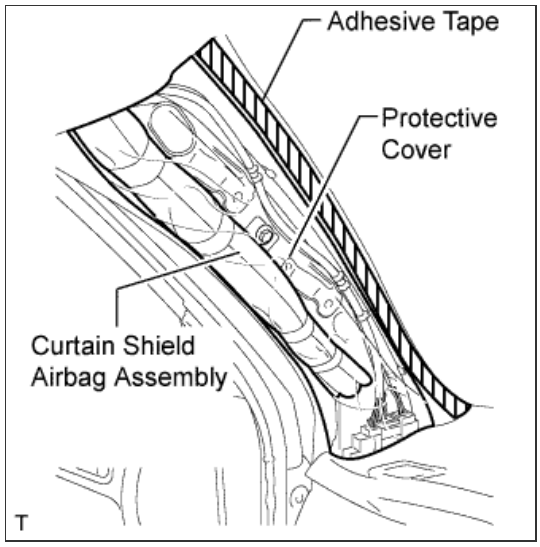


c. Protect the curtain shield airbag.

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.



17. REMOVE FRONT PILLAR GARNISH RH

HINT:

Use the same procedures described for the LH side.

18. REMOVE MAP LIGHT ASSEMBLY

a. Using a screwdriver, detach the 2 claws and open the 2 covers.

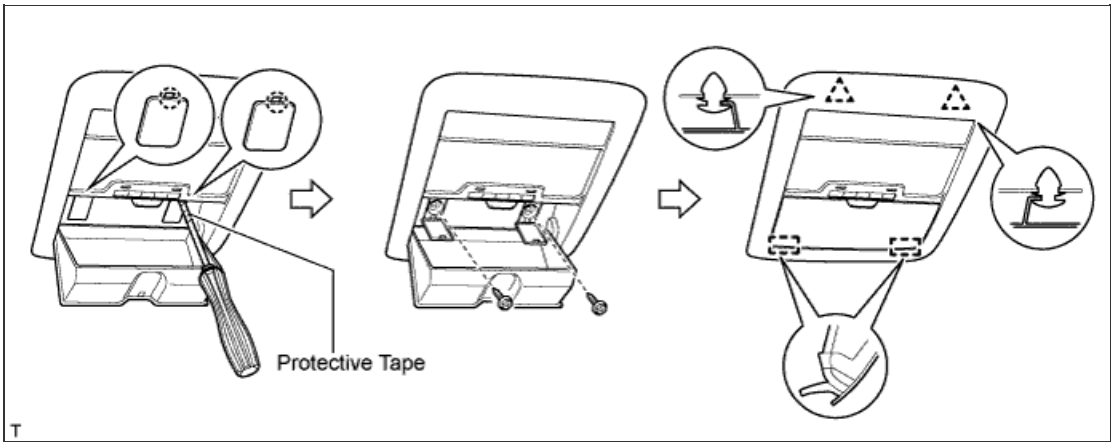
HINT:

Tape the screwdriver tip before use.

b. Remove the 2 screws.

c. Detach the 2 clips and 2 guides.

d. Disconnect the 2 connectors and then remove the map light.

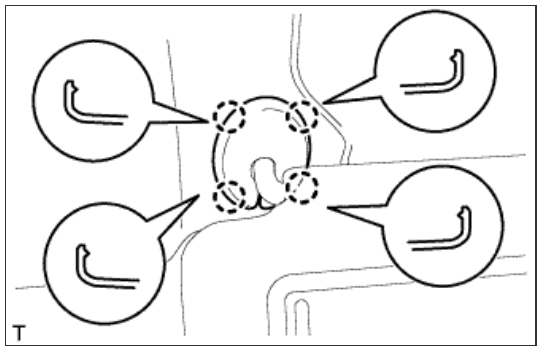


19. REMOVE VISOR BRACKET COVER

HINT:

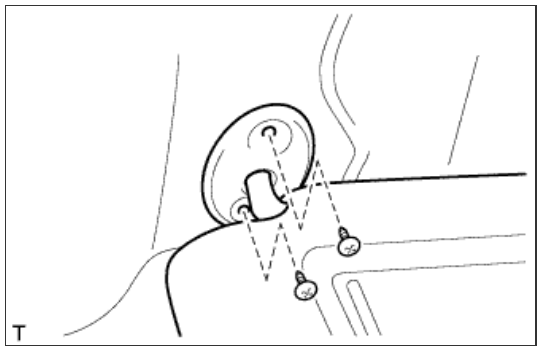
Use the same procedure to remove the visor bracket cover on the other side.

a. Detach the 4 claws and remove the visor bracket cover.



20. REMOVE VISOR ASSEMBLY LH

a. Remove the 2 screws and visor.



21. REMOVE VISOR ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

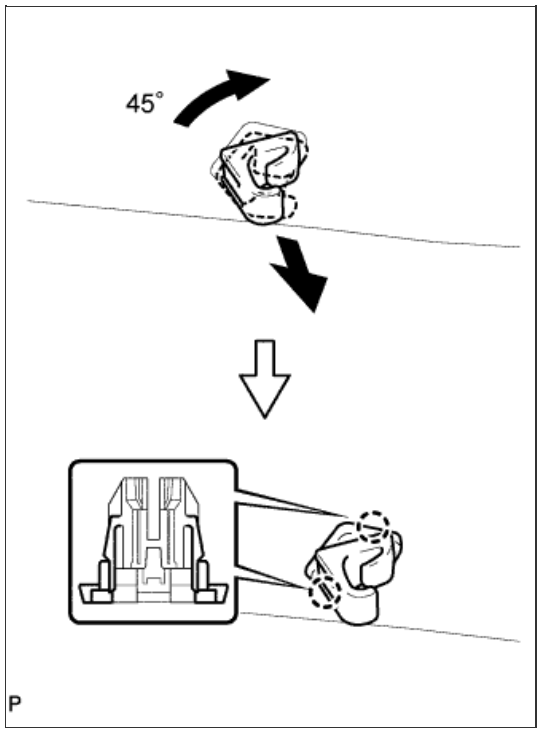
22. REMOVE VISOR HOLDER

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.

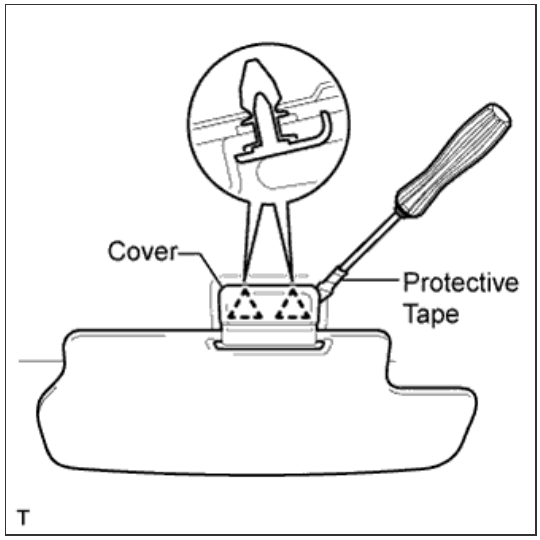


23. REMOVE CENTER VISOR ASSEMBLY LH

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.



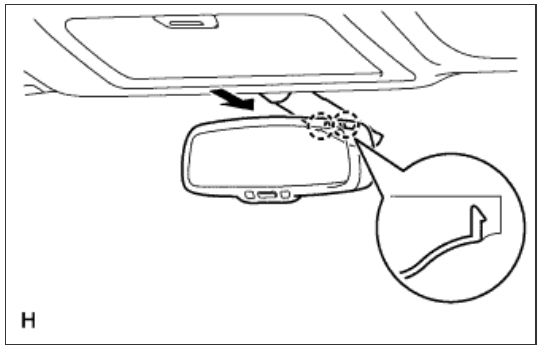
24. REMOVE CENTER VISOR ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

25. REMOVE INNER REAR VIEW MIRROR STAY HOLDER COVER

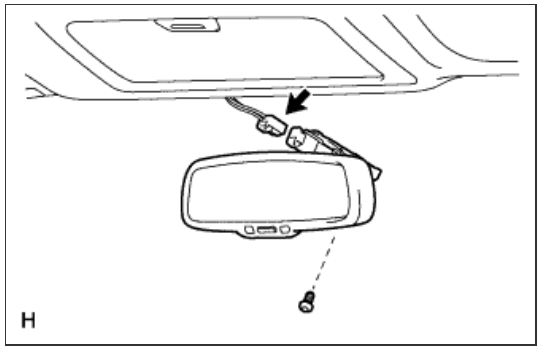
a. Detach the 2 claws and remove the cover as shown in the illustration.



26. REMOVE INNER REAR VIEW MIRROR ASSEMBLY

a. Disconnect the connector.

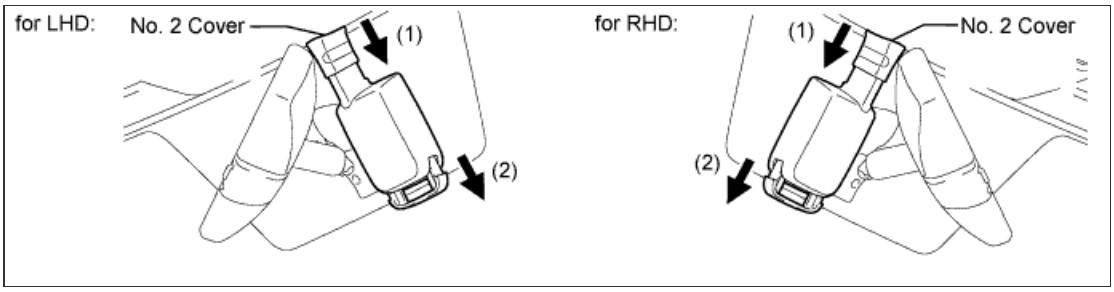
b. Using a T20 "TORX" socket wrenches, remove the screw and inner rear view mirror.



27. REMOVE RAIN SENSOR COVER

a. Slide the No. 2 cover in the direction of the arrow labeled (1).

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 rain sensor cover.

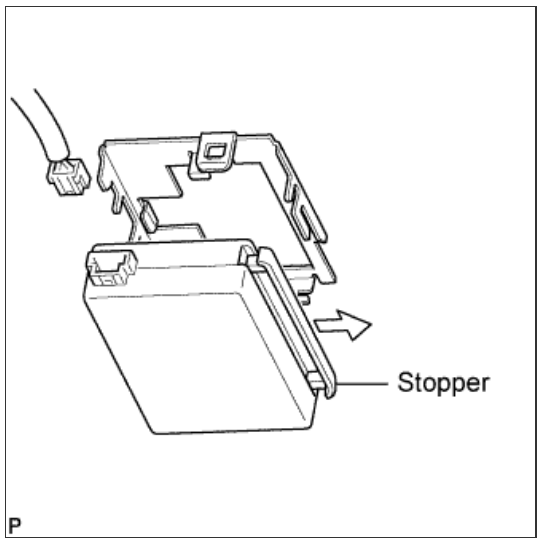
28. REMOVE RAIN SENSOR

a. Release the stopper by pulling it in the direction of the arrow, and separate the rain sensor.

b. Disconnect the connector and remove the rain sensor.

c. When replacing the rain sensor tape:

i. Remove the rain sensor tape.



29. REMOVE ROOF HEADLINING

a. Partially remove the roof headlining.

HINT:

It is not necessary to completely remove the roof headlining. Slightly lower the front section of the roof headlining so that the windshield glass can be removed in a later step.

Refer to the following procedures (Click here).

30. REMOVE WINDSHIELD OUTSIDE MOULDING

a. Using a knife, cut off the moulding as shown in the illustration.

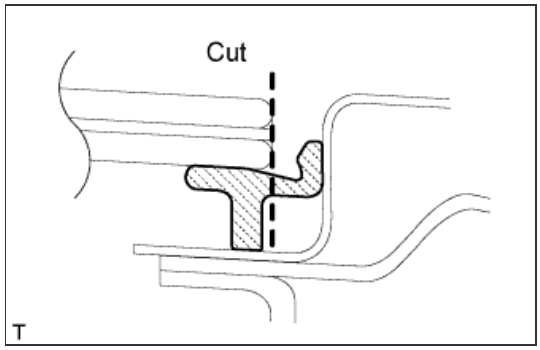
NOTICE:

Be careful not to damage the vehicle body.

b. Pull the shaded area shown in the illustration by hand to remove the windshield outside moulding.

HINT:

Make a partial cut in the moulding. Then pull and remove it by hand.



31. REMOVE WINDSHIELD GLASS

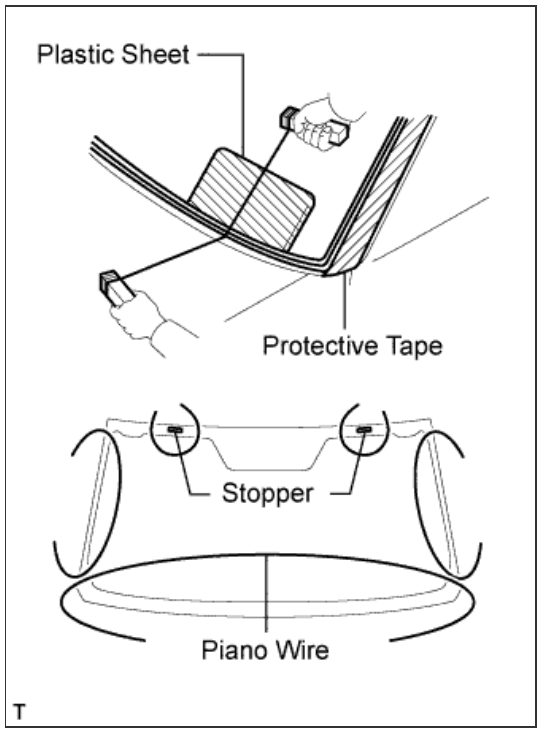
a. Apply protective tape to the outer surface of the vehicle body to prevent scratches.

b. From the interior, insert a piano wire between the vehicle body and glass as shown in the illustration.

c. Tie objects that can serve as handles (for example, wooden blocks) to both wire ends.

NOTICE:

- **When separating the glass from the vehicle, be careful not to damage the vehicle paint or interior/exterior ornaments.**
- **To prevent the instrument panel from being scratched when removing the glass, place a plastic sheet between the piano wire and instrument panel.**



d. Place matchmarks over the glass and vehicle body on the locations indicated in the illustration.

NOTICE:

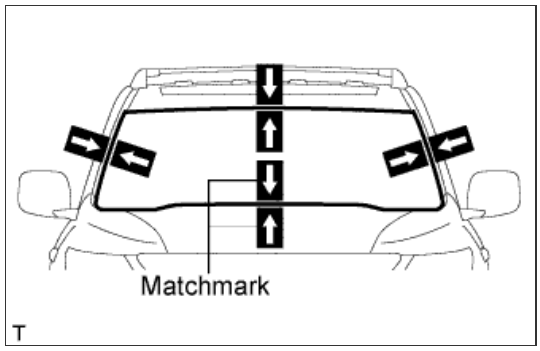
Matchmarks do not need to be placed if not reusing the glass.

e. w/ Windshield Deicer System:
Disconnect the windshield deicer connector.

f. Cut through the adhesive by pulling the piano wire around the glass.

NOTICE:

Leave as much adhesive on the vehicle body as possible when removing the glass.



g. Disconnect the stoppers.

h. Using suction cups, remove the glass.

32. REMOVE NO. 2 WINDSHIELD GLASS STOPPER

a. Using a scraper, remove the 2 stoppers.

33. REMOVE WINDSHIELD GLASS ADHESIVE DAM

a. Using a scraper, remove the dam.

34. REMOVE FRONT INNER WINDOW MOULDING COVER LH

a. Using a scraper, remove the cover.

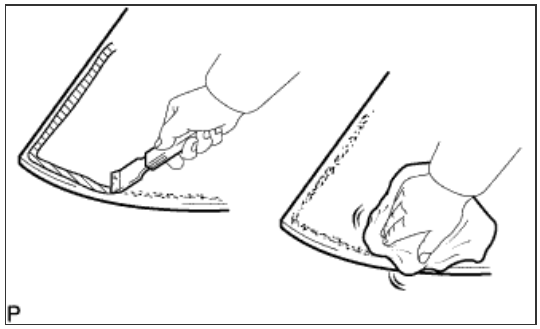
35. CLEAN WINDSHIELD GLASS

a. Using a scraper, remove the damaged stoppers, dam and adhesive sticking to the glass.

b. Clean the outer circumference of the glass with non-residue solvent.

NOTICE:

- **Do not touch the glass surface after cleaning it.**
- **Be careful not to damage the glass.**
- **Even if using new glass, clean the glass with non-residue solvent.**



36. REMOVE WINDSHIELD GLASS STOPPER

a. Remove the 2 windshield glass stoppers.

37. CLEAN VEHICLE BODY

a. Clean and shape the contact surface of the vehicle body.

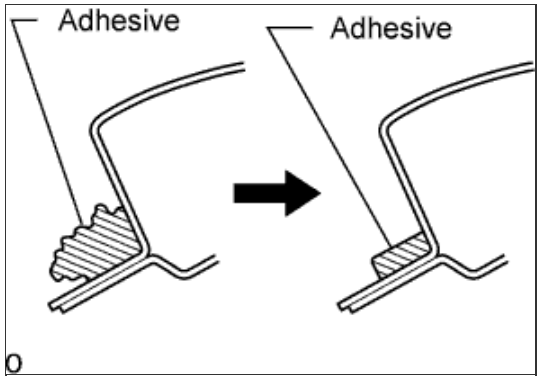
i. On the contact surface of the vehicle body, use a knife to cut away excess adhesive as shown in the illustration.

NOTICE:

Be careful not to damage the vehicle body.

HINT:

Leave as much adhesive on the vehicle body as possible.



b. Clean the contact surface of the vehicle body with cleaner.

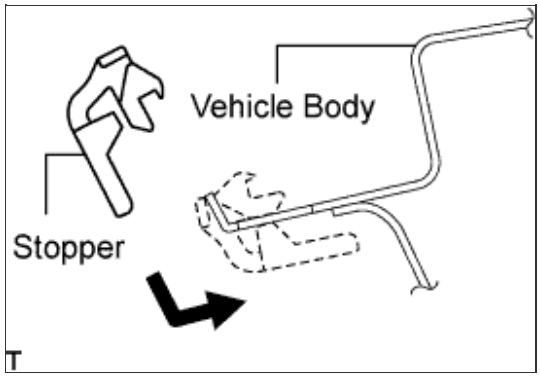
HINT:

Even if all the adhesive has been removed, clean the vehicle body.

for Preparation Click here

1. INSTALL WINDSHIELD GLASS STOPPER

a. Install 2 new stoppers to the vehicle body as shown in the illustration.



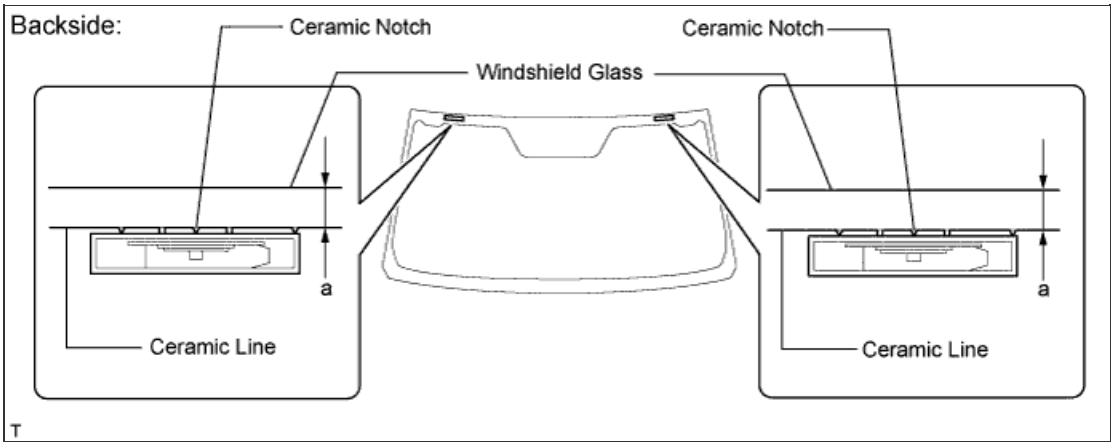
2. INSTALL NO. 2 WINDSHIELD GLASS STOPPER

a. Apply Primer G to the glass where the stopper will be installed.

NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**

b. Install 2 new stoppers onto the glass as shown in the illustration.



Standard:

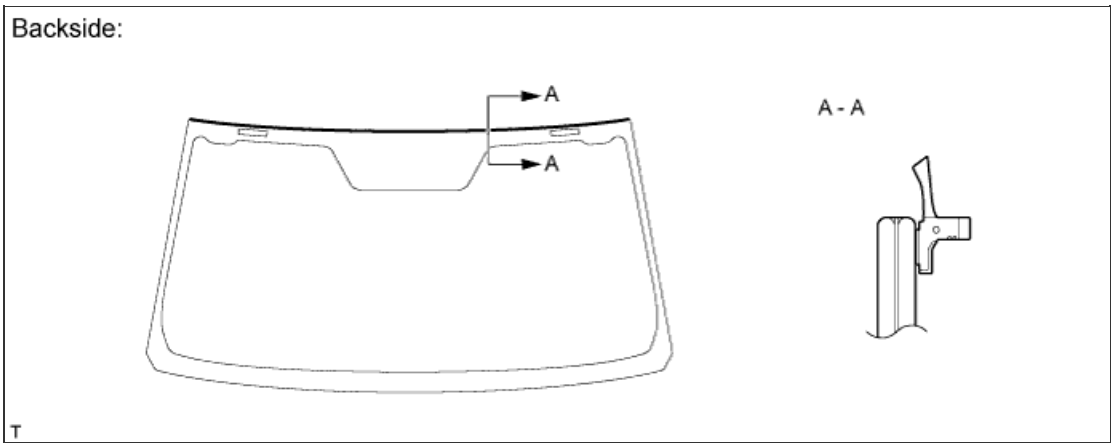
Area	Specified Condition
a	13.2 mm (0.520 in.)

3. INSTALL WINDSHIELD OUTSIDE MOULDING

a. Using a brush or sponge, coat the contact surface of the glass and moulding with Primer G as shown in the illustration.

NOTICE:

- **Allow the primer coating to dry for 3 minutes or more.**
- **Do not coat the adhesive with Primer G.**
- **Throw away any leftover primer.**



NOTICE:

Do not drive the vehicle for the amount of time written in the table below.

Usage Time Frame:

Temperature	Usage Time Frame
35°C (95°F)	15 minutes
20°C (68°F)	1 hour 40 minutes
5°C (41°F)	8 hours

b. Remove the peeling paper from the windshield outside moulding. Install the moulding as shown in the illustration.

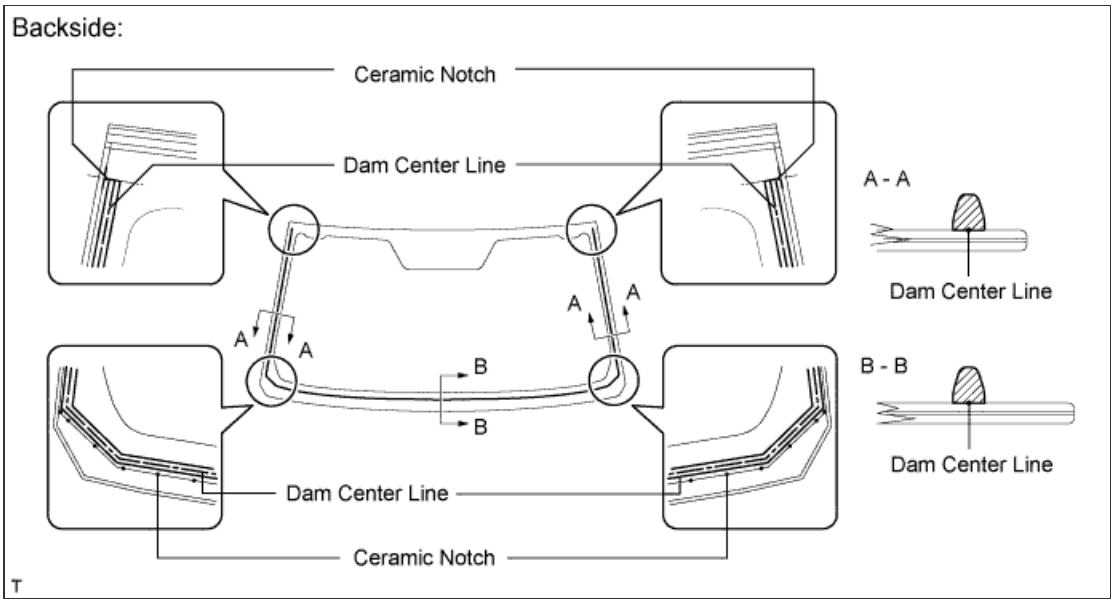
4. INSTALL WINDSHIELD GLASS ADHESIVE DAM

a. Apply Primer G to the glass where the glass adhesive dam will be installed.

NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**

b. Remove the peeling paper from the adhesive part of the dam. Install the dam (adhesive side) to the glass (Primer G area), but exclude the area above the notches on the upper part of the glass.



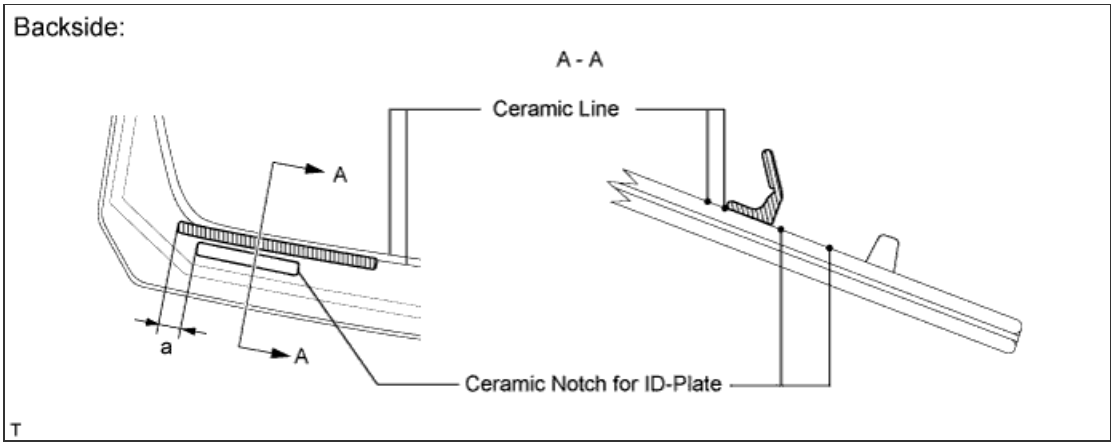
5. INSTALL FRONT INNER WINDOW MOULDING COVER LH

a. Apply Primer G to the glass where the inner window moulding cover will be installed.

NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**

b. Remove the peeling paper from the inner window moulding cover. Install the cover to the glass, as shown in the illustration.



Standard:

Area	Specified Condition
a	14.0 mm (0.551 in.)

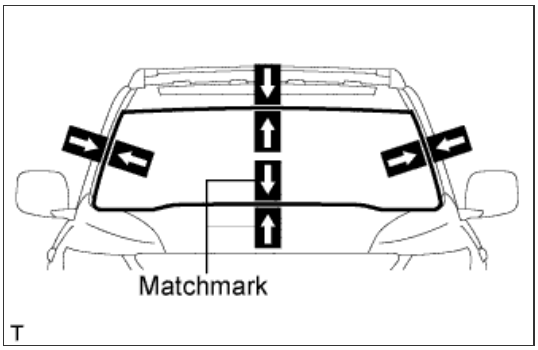
6. INSTALL WINDSHIELD GLASS

a. Position the glass.

i. Using suction cups, place the glass in the correct position.

ii. Check that the entire contact surface of the glass rim is perfectly even.

iii. Place matchmarks on the glass and vehicle body on the locations indicated in the illustration.



HINT:

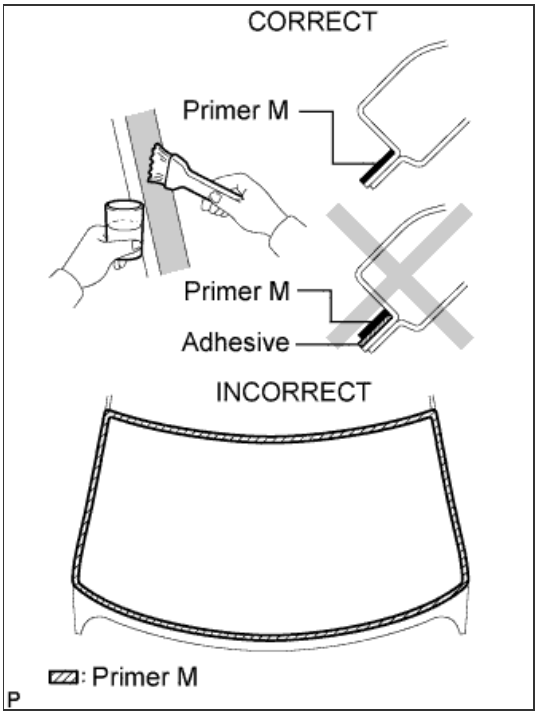
- **Placing matchmarks is only necessary when installing new glass. If it is the reused glass, matchmarks should already be present.**
- **When reusing the glass, check and correct the matchmark positions.**

NOTICE:

Check that the stoppers are attached to the vehicle body correctly.

iv. Using suction cups, remove the glass.

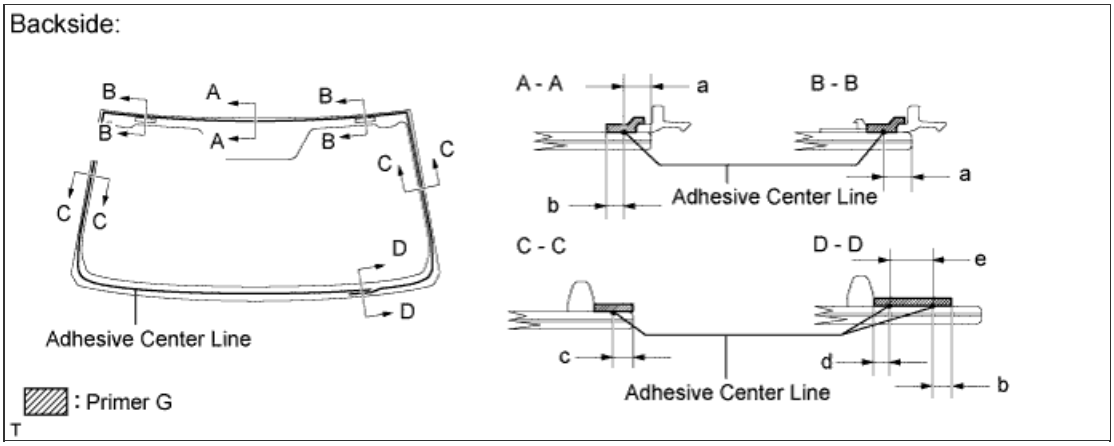
b. Using a brush, apply Primer M to the exposed part of the vehicle body.



NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Do not apply primer to the adhesive.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**

c. Using a brush or sponge, apply Primer G to the contact surface of the glass.



Standard:

Area	Specified Condition
a	9.0 mm (0.354 in.)
b	7.0 mm (0.276 in.)
c	3.0 mm (0.118 in.)
d	4.0 mm (0.157 in.)

e	8.0 mm (0.315 in.)

HINT:

If the primer is applied to an area that is not specified, apply non-residue solvent to a clean cloth and wipe off the excess primer before it dries.

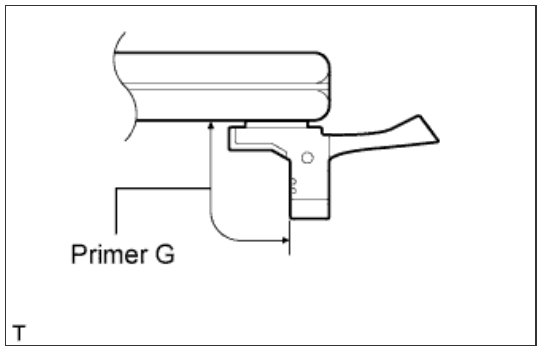
NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**

d. Using a brush or sponge, coat the windshield outside moulding with Primer G as shown in the illustration.

NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**



e. Apply adhesive to the glass.

Adhesive:
Toyota Genuine Windshield Glass Adhesive or equivalent

i. Cut off the tip of the cartridge nozzle as shown in the illustration.

HINT:

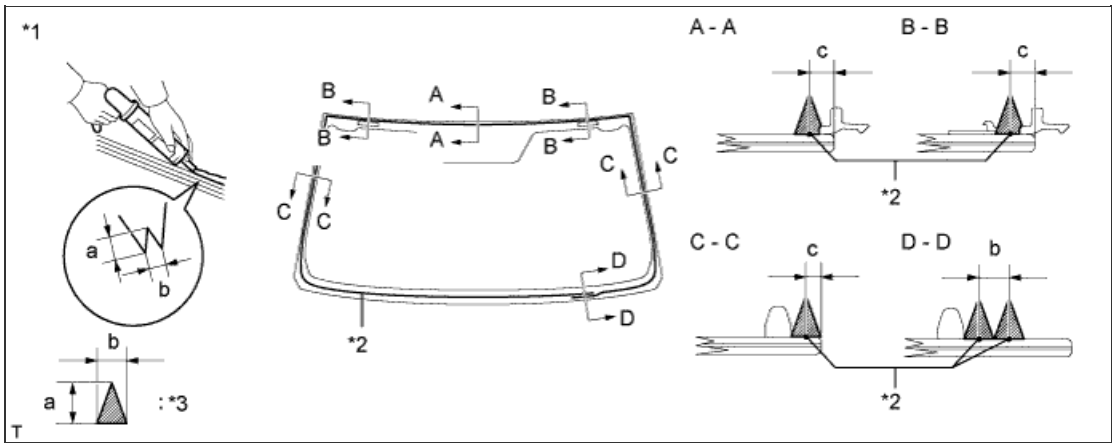
After cutting off the tip, use all adhesive within the time written in the table below.

Usage Time Frame:

Temperature	Usage Time Frame
35°C (95°F)	15 minutes
20°C (68°F)	1 hour 40 minutes
5°C (41°F)	8 hours

ii. Load the sealer gun with the cartridge.

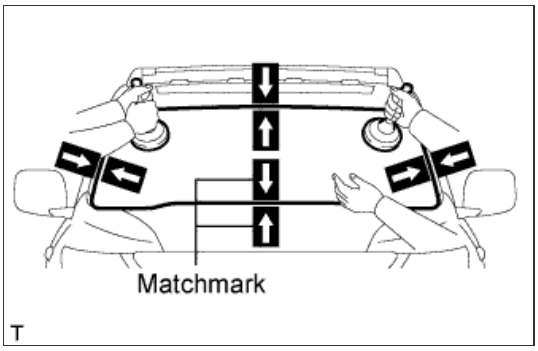
iii. Apply adhesive to the glass as shown in the illustration.



Standard:

Area	Specified Condition
a	12.0 mm (0.472 in.)
b	8.0 mm (0.315 in.)
c	9.0 mm (0.354 in.)
d	3.0 mm (0.118 in.)

f. Install the glass to the vehicle body.



i. Using suction cups, position the glass so that the matchmarks are aligned. Press it in gently along the rim.

ii. Lightly press the outer surface of the glass to ensure that it is securely fit to the vehicle body.

NOTICE:

- **Check that the stoppers are attached to the vehicle body correctly.**
- **Check that the vehicle body and glass have a small gap between them.**

iii. Hold the glass in place securely with protective tape or equivalent until the adhesive hardens.

NOTICE:

Do not drive the vehicle for the amount of time written in the table below.

Minimum Time:

Temperature	Minimum Time Prior to Driving Vehicle
35°C (95°F)	1 hour 30 minutes
20°C (68°F)	5 hours
5°C (41°F)	24 hours

g. w/ Windshield Deicer System:
Connect the windshield deicer connector.

7. CHECK FOR LEAK AND REPAIR

a. Conduct a leak test after the adhesive has completely hardened.

b. Seal any leaks with auto glass sealer.

8. INSTALL ROOF HEADLINING

a. Return the roof headlining to its original position. Refer to the following procedures (Click here).

9. INSTALL RAIN SENSOR TAPE

HINT:

Only perform this procedure when replacing the rain sensor tape.

a. Apply new rain sensor tape to the rain sensor surface indicated by the hatched area.

NOTICE:

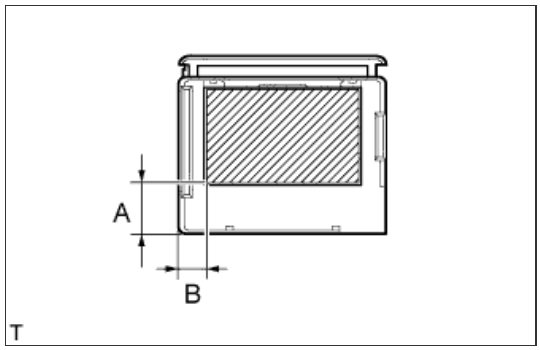
- **Keep the exposed adhesive on the tape free from dust and fingerprints.**
- **Apply the tape exactly according to the specifications below.**
- **When installing a new rain sensor, peel the release paper off**

from the silicon sheet first.

- Be careful not to leave any air bubbles in the rain sensor tape when installing it.

Standard:

Area	Specified Condition
A	15 mm (0.591 in.)
B	8 mm (0.315 in.)



10. INSTALL RAIN SENSOR

NOTICE:

- Make sure the adhesive between the bracket and windshield glass is normal.
- If there is any residue left from the rain sensor tape on the windshield, remove it.
- Clean the glass surface with cloth or similar material.
- Make sure there are no air bubbles between the rain sensor and windshield.

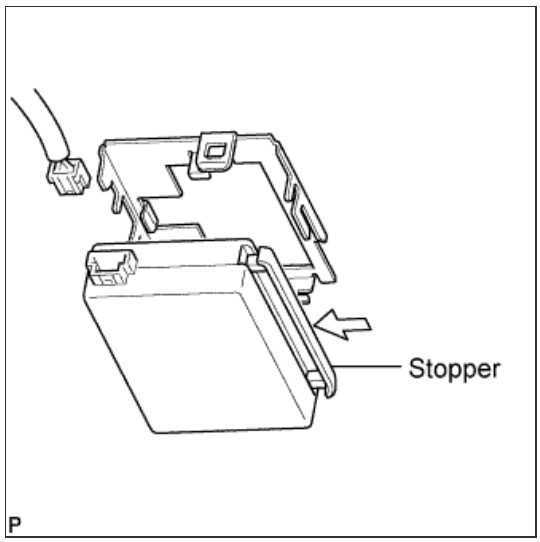
a. Securely attach the rain sensor to the bracket.

b. Push in the stopper.

NOTICE:

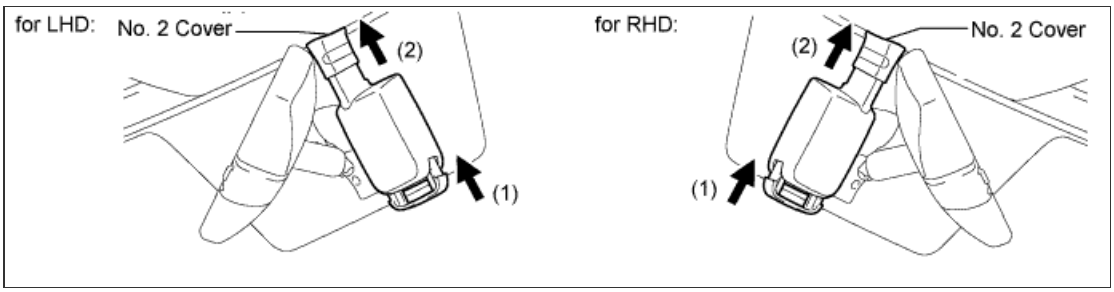
The stopper can be used a maximum of 5 times.

c. Connect the connector.



11. INSTALL RAIN SENSOR COVER

a. Push in the stopper in the direction of the arrow labeled (1) to install the rain sensor cover.



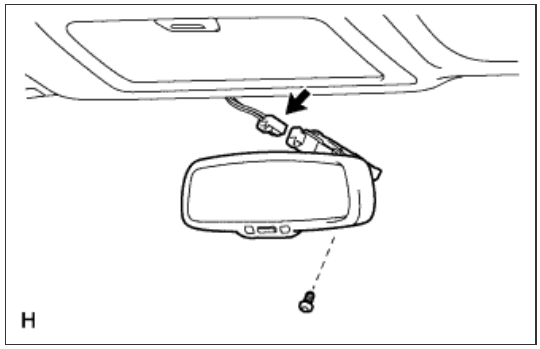
b. Slide the No. 2 cover in the direction of the arrow labeled (2) to fix it in place.

12. INSTALL INNER REAR VIEW MIRROR ASSEMBLY

a. Using a T20 "TORX" socket wrench, install the inner rear view mirror with the screw.

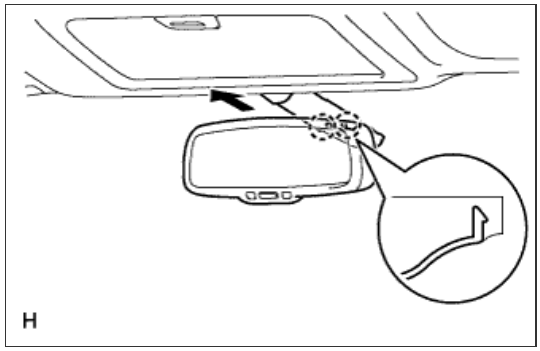
Torque:
1.5 N*m{ 15 kgf*cm , 13 in.*lbf }

b. Connect the connector.



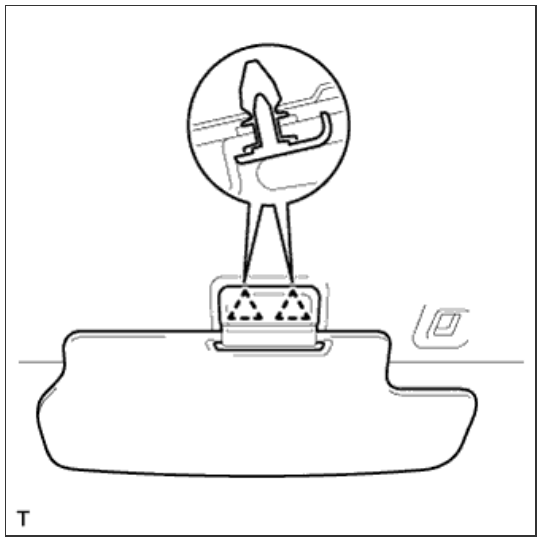
13. INSTALL INNER REAR VIEW MIRROR STAY HOLDER COVER

a. Attach the 2 claws to install the cover as shown in the illustration.



14. INSTALL CENTER VISOR ASSEMBLY LH

a. Attach the 2 clips to install the center visor.



15. INSTALL CENTER VISOR ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

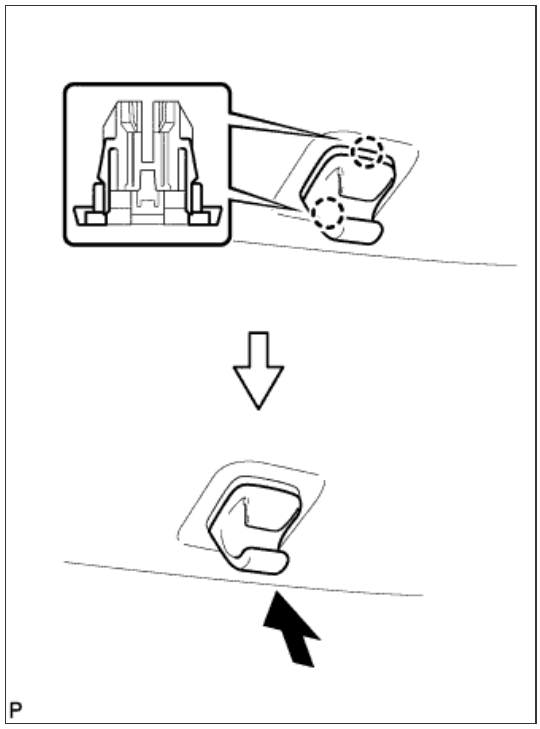
16. INSTALL VISOR HOLDER

HINT:

Use the same procedures to install the visor holder on the other side.

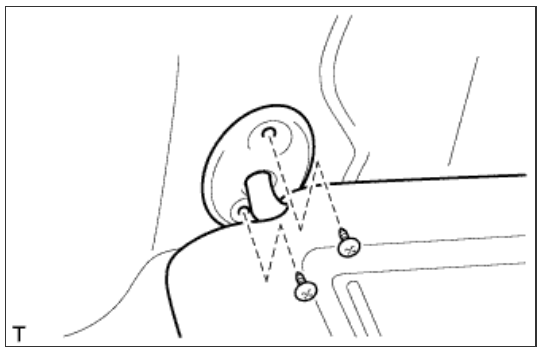
a. Attach the 2 claws.

b. Push in the visor holder to install it.



17. INSTALL VISOR ASSEMBLY LH

a. Install the visor with the 2 screws.



18. INSTALL VISOR ASSEMBLY RH

HINT:

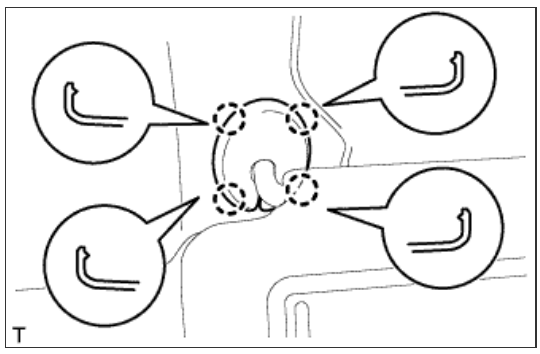
Use the same procedures described for the LH side.

19. 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.



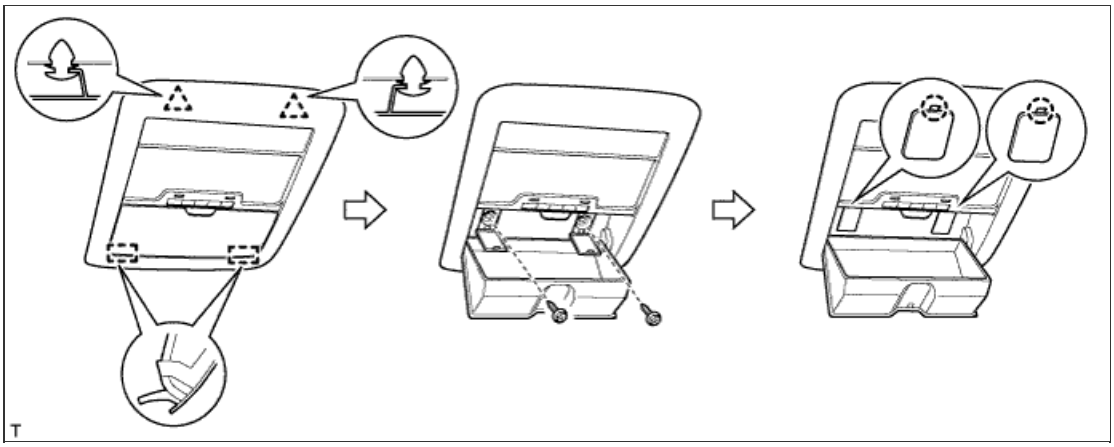
20. INSTALL MAP LIGHT ASSEMBLY

a. Connect the 2 connectors.

b. Attach the 2 clips and 2 guides to install the map light.

c. Install the 2 screws.

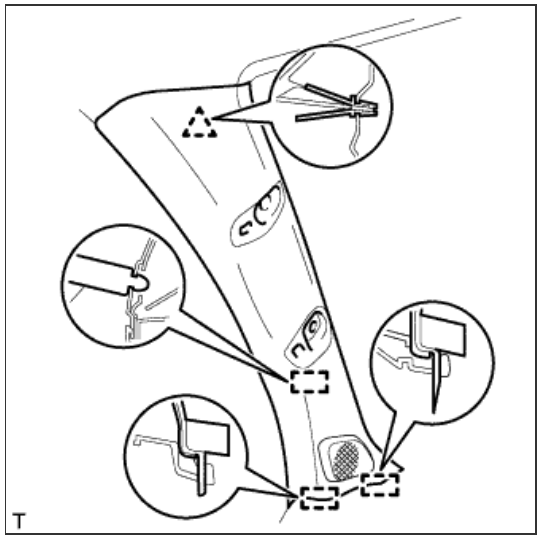
d. Attach the 2 claws to close the 2 covers.



21. INSTALL FRONT PILLAR GARNISH LH

a. Connect the speaker connector.

b. Attach the clip and 3 guides to install the front pillar garnish.



22. INSTALL FRONT PILLAR GARNISH RH

HINT:

Use the same procedures described for the LH side.

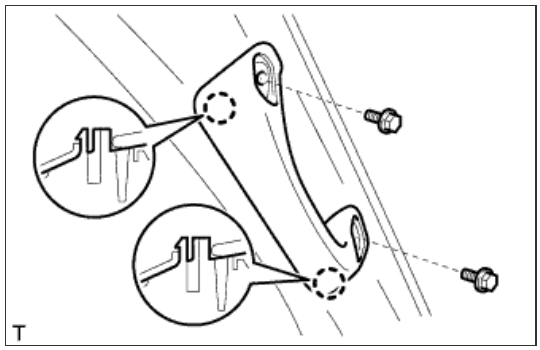
23. INSTALL FRONT ASSIST GRIP SUB-ASSEMBLY

HINT:

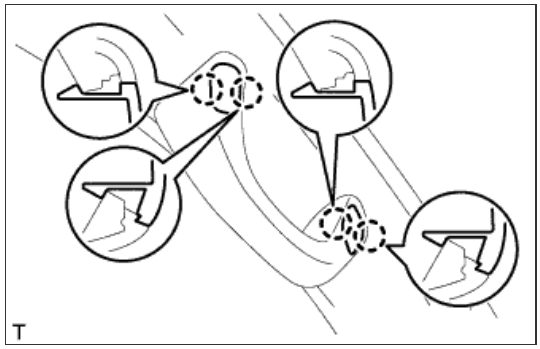
Use the same procedure to install the front assist grip on the other side.

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.



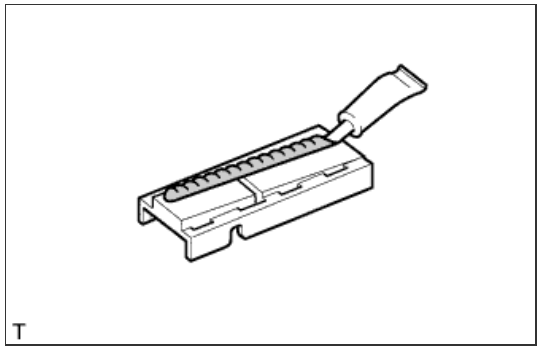
24. INSTALL ROOF DRIP SIDE FINISH MOULDING CLIP

HINT:

Perform the following procedures if replacing any roof drip side finish moulding clip.

NOTICE:

Remove the double-sided tape where the clips will be installed on the body and clean the body with a non-residue type solvent.



a. Apply a 2 to 3 mm (0.0787 to 0.118 in.) bead of adhesive (3M DP-105 or equivalent) to a new roof drip side finish moulding clip.

HINT:

Adhesive strength (tensile strength): 13.7 MPa (140 kgf/cm ^{2}, 1991 psi) or more when the temperature is 23°C (73°F).

b. Apply primer to the body where the roof drip side finish moulding clip will be installed.

NOTICE:

Do not let the primer dry.

c. Install the clips to the positions on the roof panel shown in the illustration. Determine the locations and firmly press and install the roof drip side finish moulding clip after lightly applying adhesive (3M DP-105 or equivalent).

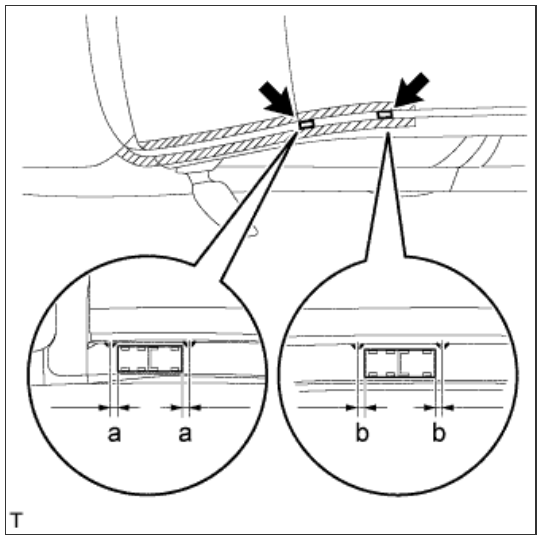
Standard:

Area	Specified Condition
a	-0.5 to 9.5 mm (0.0197 to 0.374 in.)
b	-3.0 to 3.0 mm (-0.118 to 0.118 in.)

d. Install the windshield outside moulding when 40 minutes or more have elapsed after pressing and installing the roof drip side finish moulding clip.

HINT:

- **Initial hardening time: 40 minutes**
- **Complete hardening time: 48 hours**



25. INSTALL NO. 3 WINDSHIELD OUTSIDE MOULDING CLIP

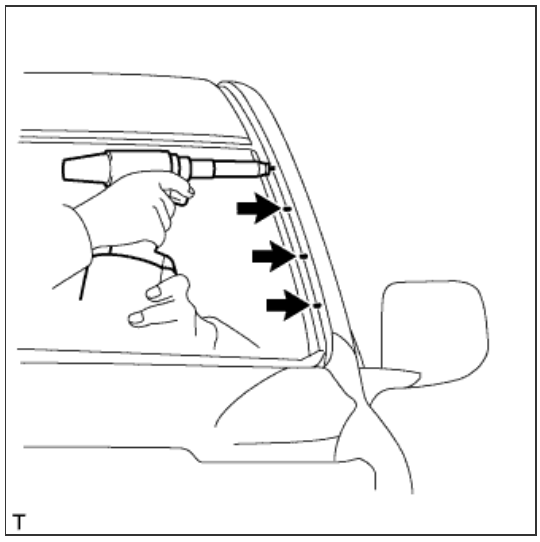
HINT:

Perform the following procedures if replacing any No. 3 windshield outside moulding clip(s).

a. Install a nose piece to an air riveter or hand riveter.

b. Insert the mandrel part of a new No. 3 windshield outside moulding clip into the nose piece.

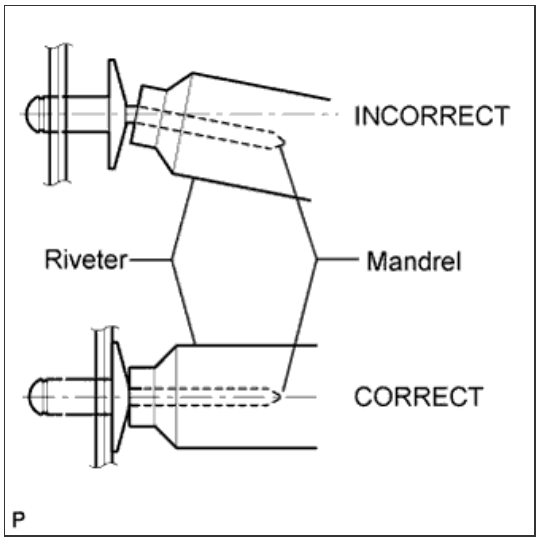
c. Using the riveter, install the No. 3 windshield outside moulding clip(s) shown in the illustration.



HINT:

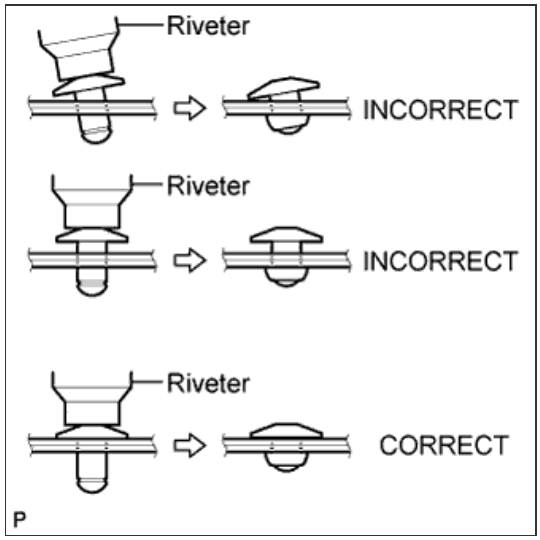
If the rivet cannot be cut, pull it once and cut it.

NOTICE:

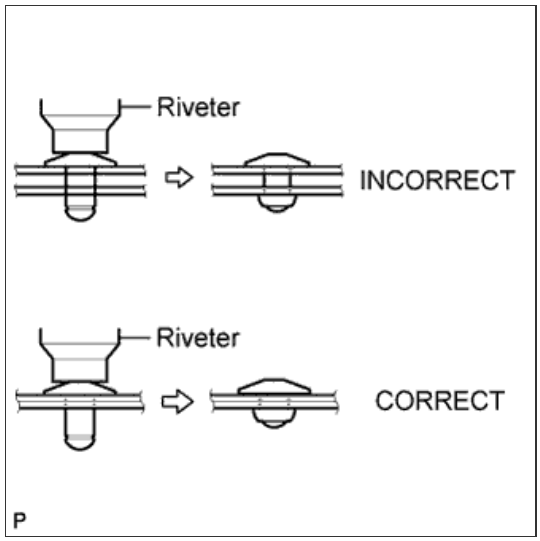


-
- **Do not pry the rivet with the riveter, as this will cause damage to the riveter and mandrel.**

- **Confirm that the riveter are seated properly against the moulding.**
- **Do not tilt the riveter when installing the rivet to the moulding.**
- **Do not leave any space between the rivet head and moulding.**



- **Do not leave any space between the moulding and body. Firmly hold together the 2 items while installing the rivet.**

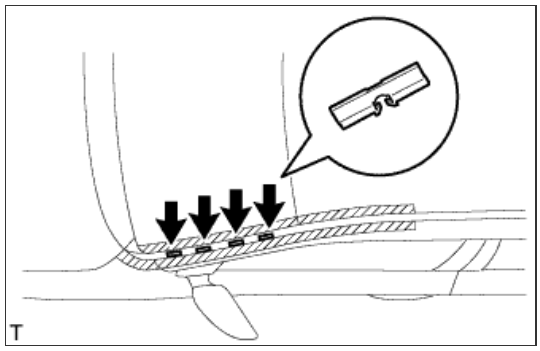


26. INSTALL NO. 4 WINDSHIELD MOULDING PAD

a. Install the 4 No. 4 moulding pads.

HINT:

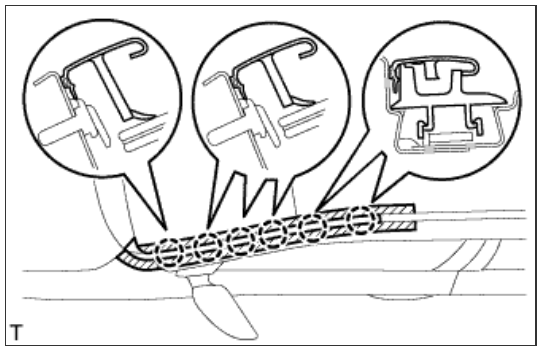
Use the same procedure to install the 4 windshield moulding pads on the other side.



27. INSTALL WINDSHIELD OUTSIDE MOULDING LH

a. Attach the 6 clips to install the moulding.

b. Remove the protective tape from the edges of the moulding.



28. INSTALL WINDSHIELD OUTSIDE MOULDING RH

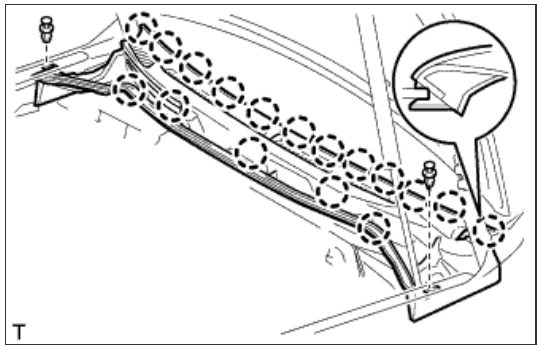
HINT:

Use the same procedures described for the LH side.

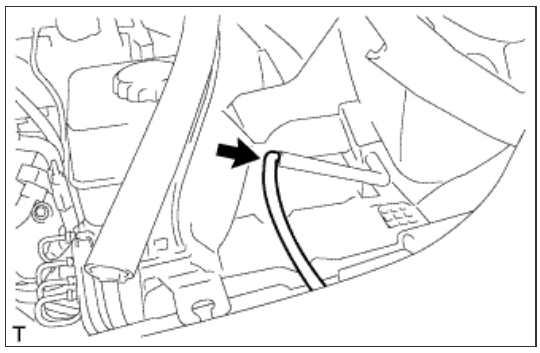
29. INSTALL COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY

a. Push in the ventilator louver to attach the 17 claws and install the ventilator louver.

b. Install the 2 clips.

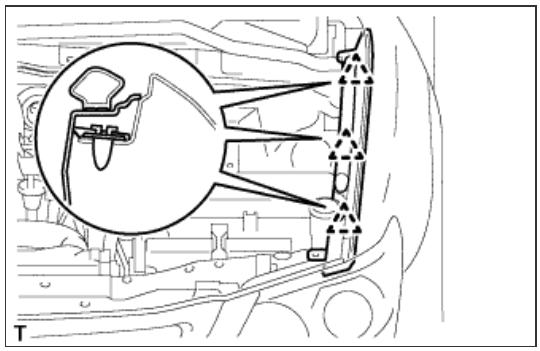


c. Connect the washer hose.



30. INSTALL FRONT FENDER MAIN SEAL LH

a. Attach the 3 clips to install the fender main seal.



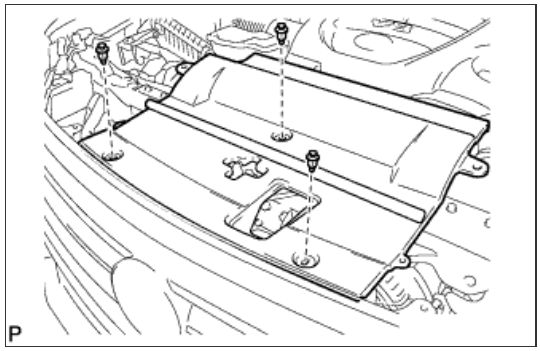
31. INSTALL FRONT FENDER MAIN SEAL RH

HINT:

Use the same procedures described for the LH side.

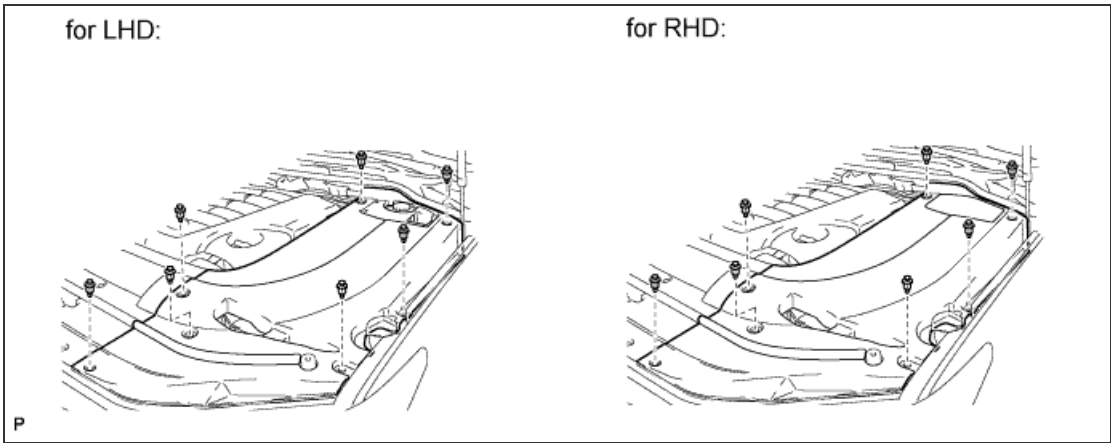
32. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the upper radiator support seal with the 3 clips.



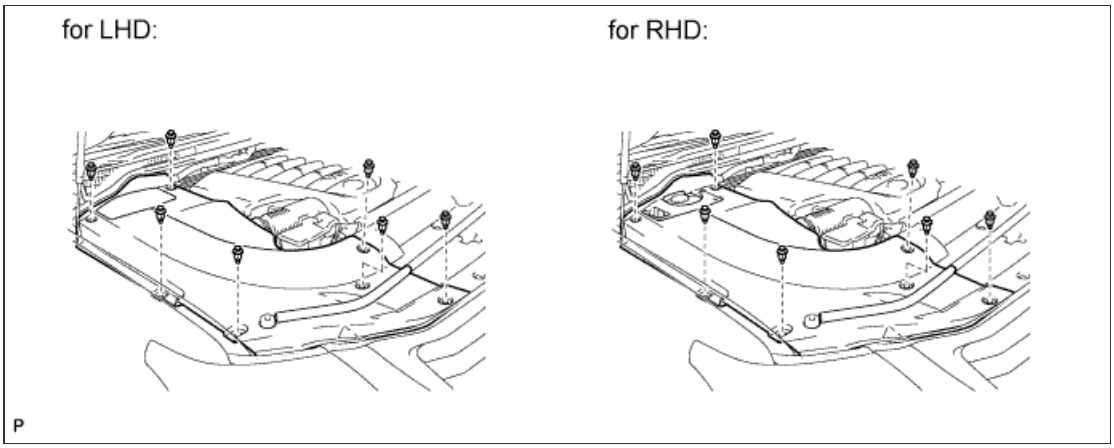
33. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



34. INSTALL ENGINE ROOM SIDE COVER RH

a. Install the engine room side cover with the 7 clips.



35. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

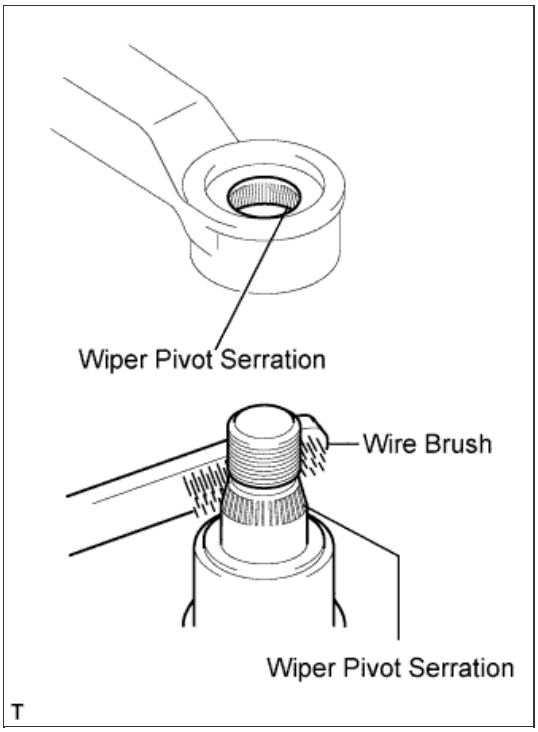
NOTICE:

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

36. INSTALL FRONT WIPER ARM LH

a. Stop the wiper motor at the automatic stop position.

b. Clean the wiper pivot serrations with a wire brush.



c. Install the wiper arm and blade with the nut. Make sure that the wiper arm and blade come to the position shown in the illustration.

Standard:

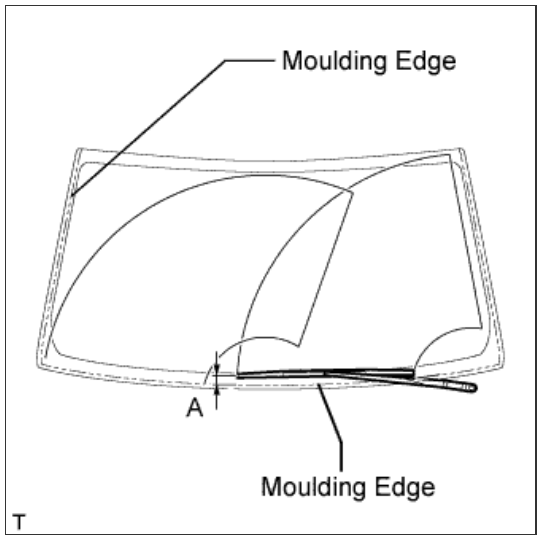
Position	Specified Condition
A	16.8 to 36.8 mm (0.661 to 1.45 in.)

Torque:

25 N*m{ 255 kgf*cm , 18 ft.*lbf }

HINT:

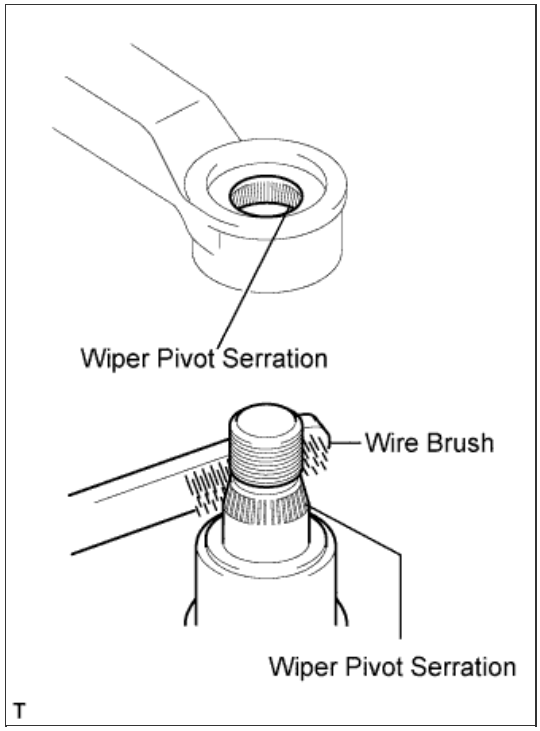
Hold down the wiper arm hinge with your hand while tightening the nut.



37. INSTALL FRONT WIPER ARM RH

a. Stop the wiper motor at the automatic stop position.

b. Clean the wiper pivot serrations with a wire brush.



c. Install the wiper arm and blade with the nut. Make sure that the wiper arm and blade come to the position shown in the illustration.

Standard:

Position	Specified Condition
B	20.0 to 40.0 mm (0.787 to 1.57 in.)

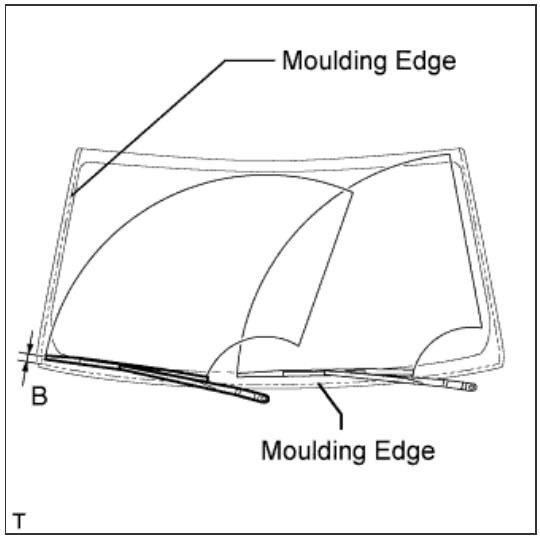
Torque:

25 N*m{ 255 kgf*cm , 18 ft.*lbf }

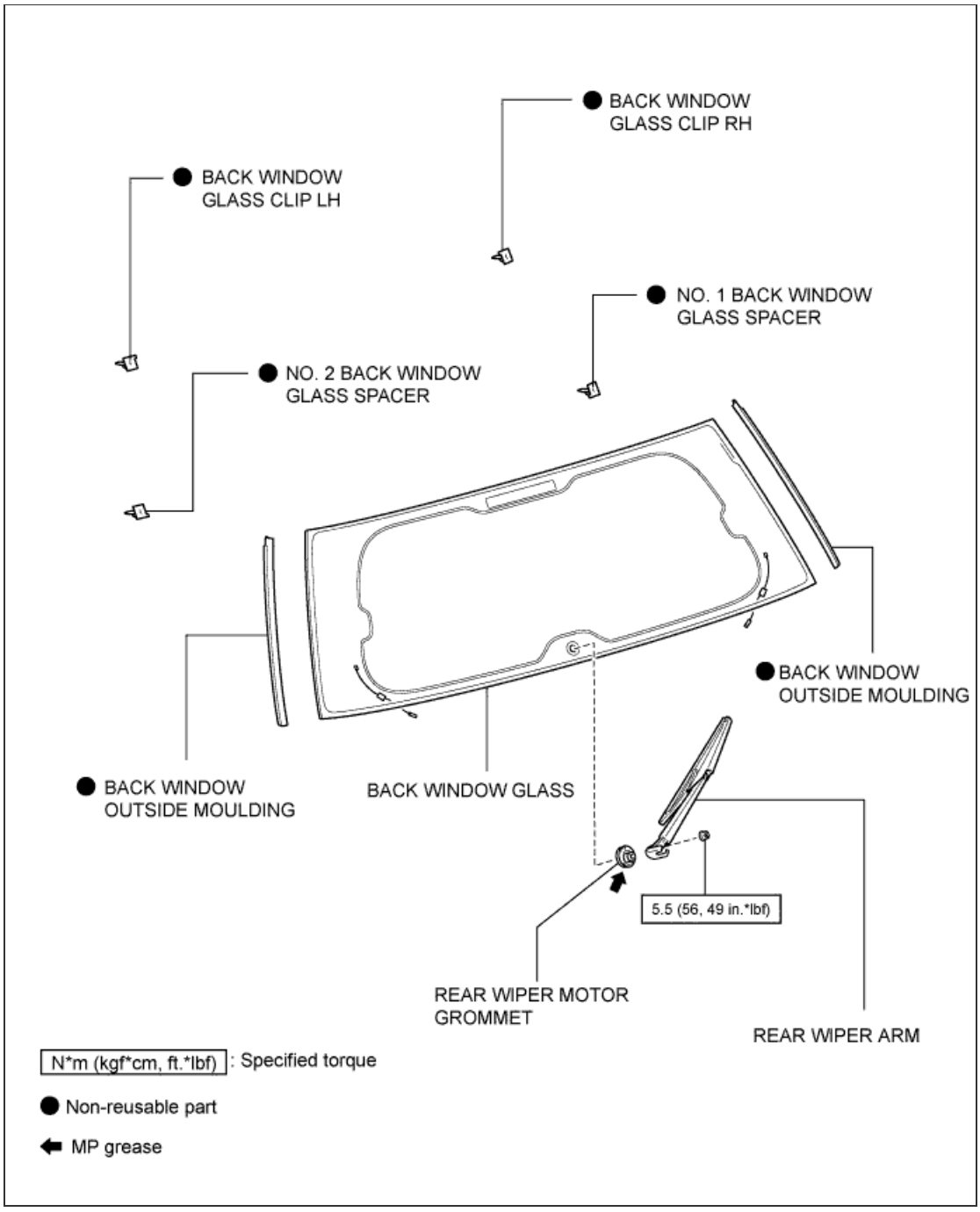
HINT:

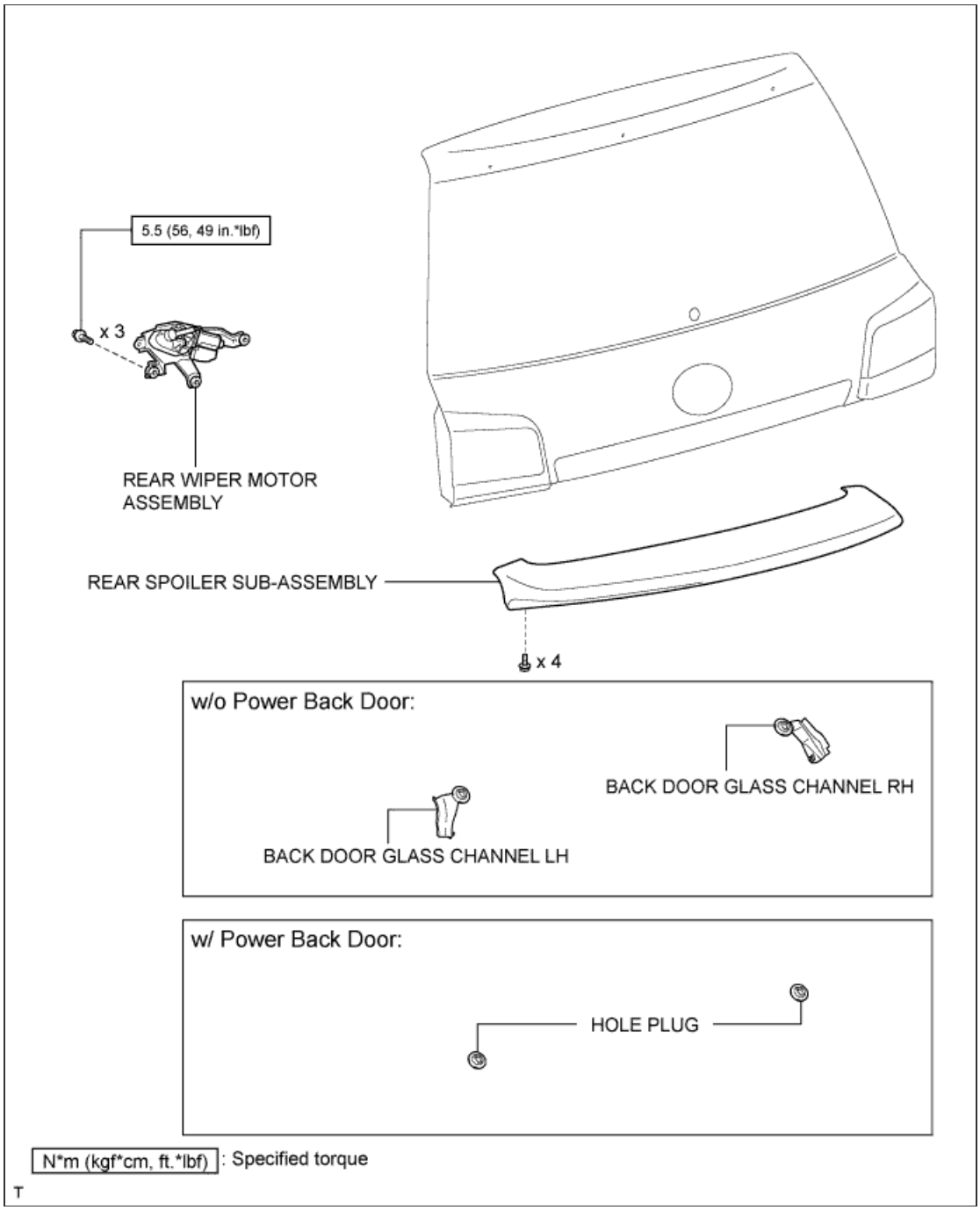
Hold down the wiper arm hinge with your hand while tightening the nut.

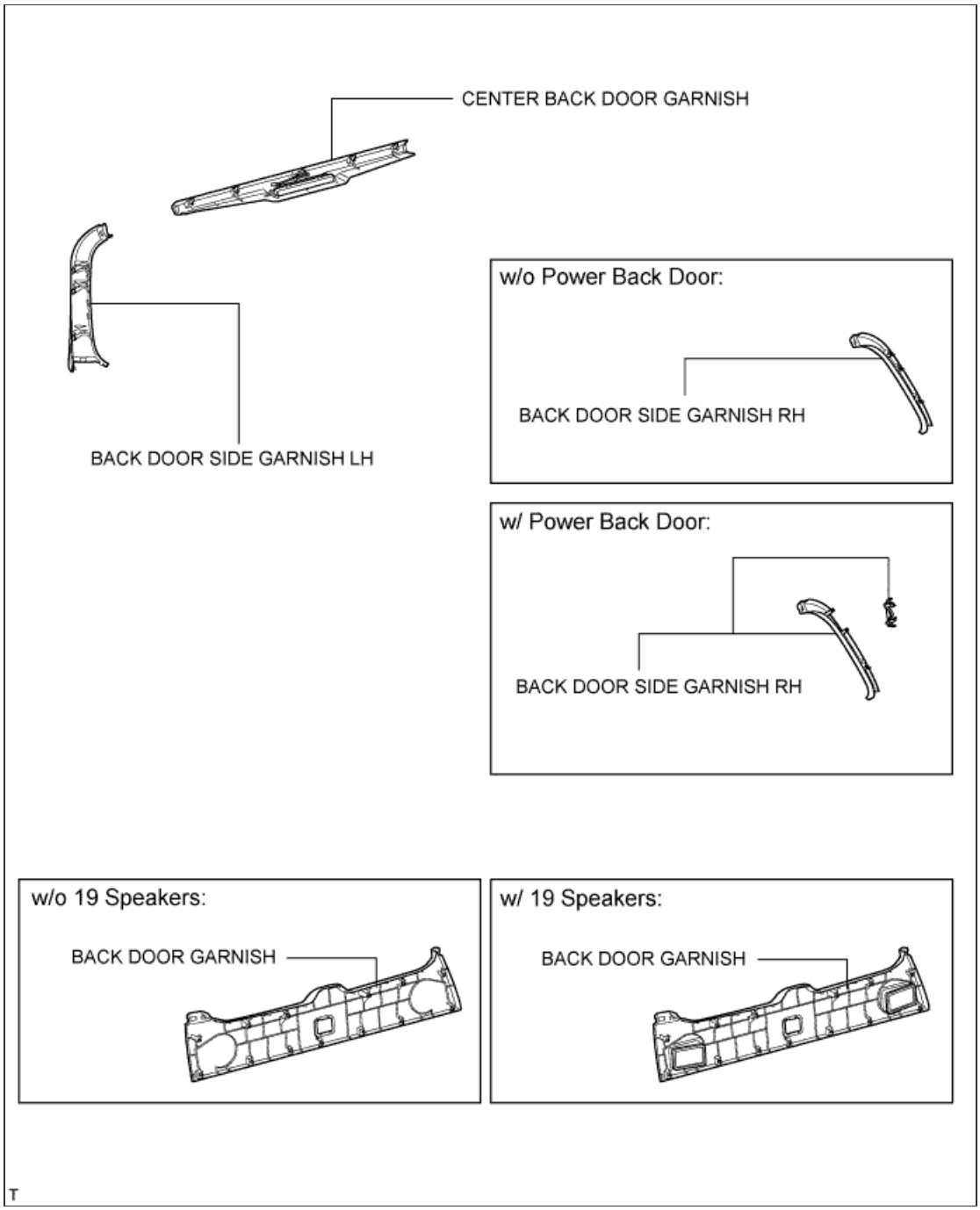
d. Operate the front wipers while spraying washer fluid on the windshield glass. Make sure that the front wipers function properly and there is no interference with the vehicle body.



for Preparation Click here




5.5 (56, 49 in.*lbf)
x 3
REAR WIPER MOTOR ASSEMBLY
REAR SPOILER SUB-ASSEMBLY
x 4
w/o Power Back Door:
BACK DOOR GLASS CHANNEL RH
BACK DOOR GLASS CHANNEL LH
w/ Power Back Door:
HOLE PLUG
N*m (kgf*cm, ft.*lbf) : Specified torque
T


CENTER BACK DOOR GARNISH
BACK DOOR SIDE GARNISH LH
w/o Power Back Door:
BACK DOOR SIDE GARNISH RH
w/ Power Back Door:
BACK DOOR SIDE GARNISH RH
w/o 19 Speakers:
BACK DOOR GARNISH
w/ 19 Speakers:
BACK DOOR GARNISH
T

for Preparation Click here

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

CAUTION:

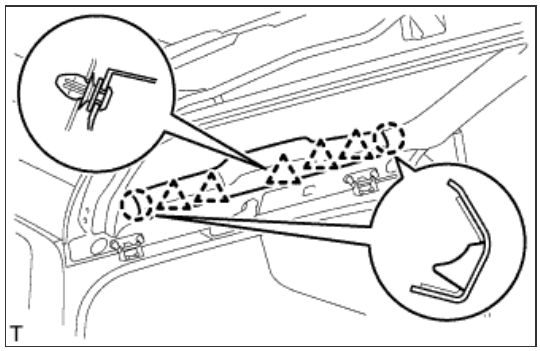
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

NOTICE:

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

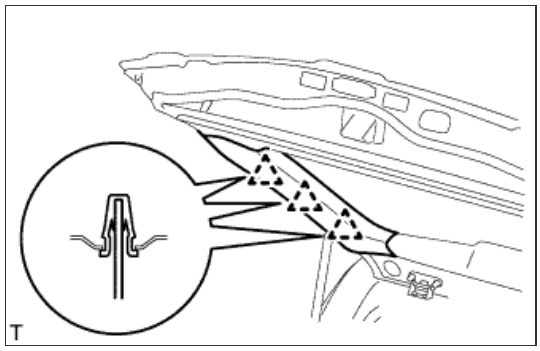
2. REMOVE CENTER BACK DOOR GARNISH

a. Detach the 5 clips and 2 claws, and remove the back door garnish.



3. REMOVE BACK DOOR SIDE GARNISH LH

a. Detach the 3 clips and remove the back door side garnish.



4. REMOVE BACK DOOR SIDE GARNISH RH

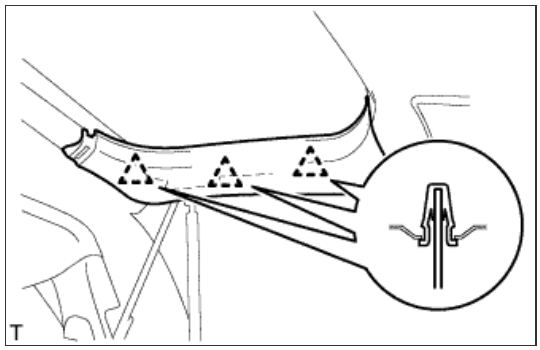
a. w/o Power Back Door:

HINT:

Use the same procedures described for the LH side.

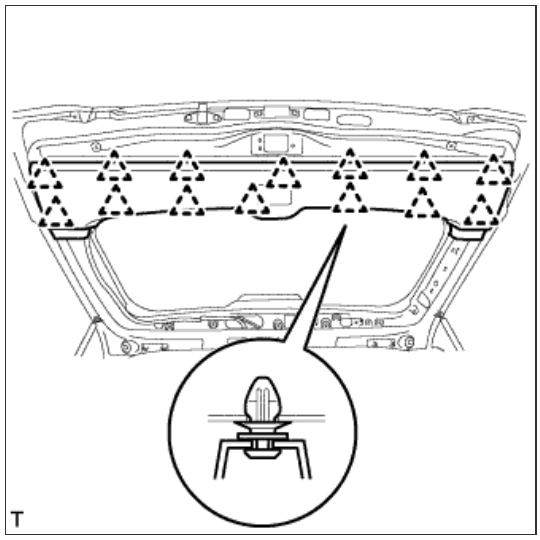
b. w/ Power Back Door:

i. Detach the 3 clips and remove the back door side garnish.



5. REMOVE BACK DOOR GARNISH

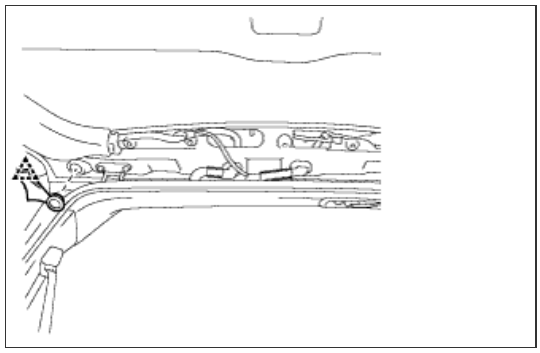
a. Using a screwdriver, detach the 14 clips and remove the back door garnish.



6. REMOVE BACK DOOR GLASS CHANNEL LH (w/o Power Back Door)

a. Using a clip remover, remove the clip.

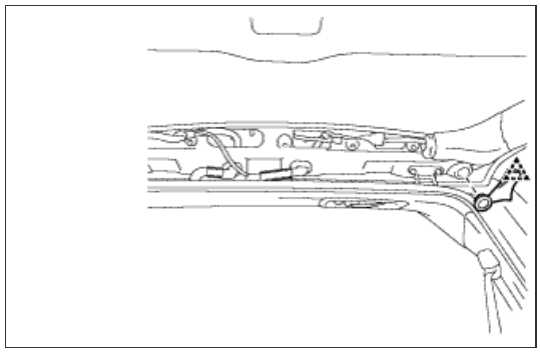
b. Remove the back door glass channel LH.



7. REMOVE BACK DOOR GLASS CHANNEL RH (w/o Power Back Door)

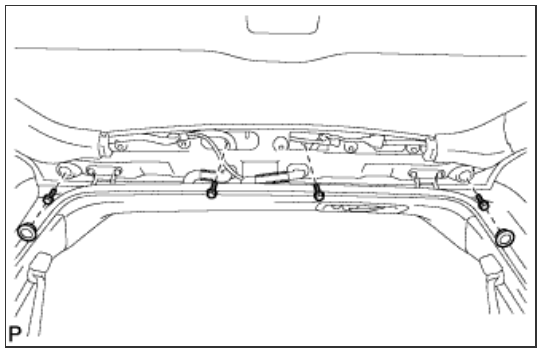
a. Using a clip remover, remove the clip.

b. Remove the back door glass channel RH.

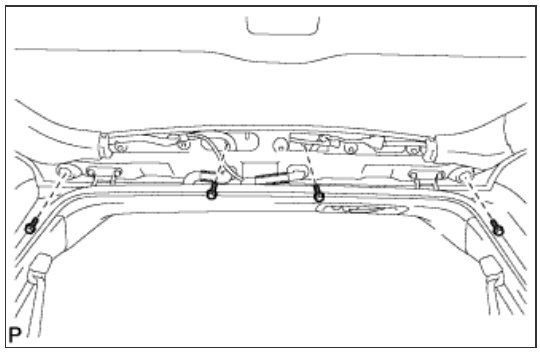


8. REMOVE REAR SPOILER SUB-ASSEMBLY

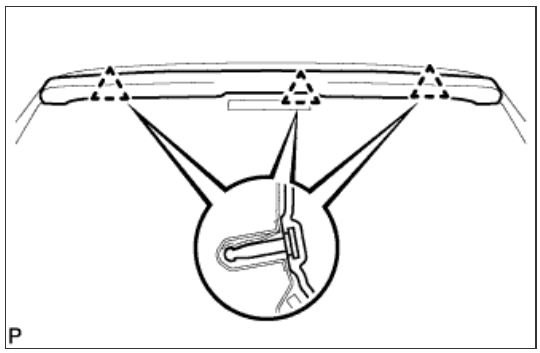
a. w/ Power Back Door:
Remove the 2 hole plugs and 4 bolts.



b. w/o Power Back Door:
Remove the 4 bolts.



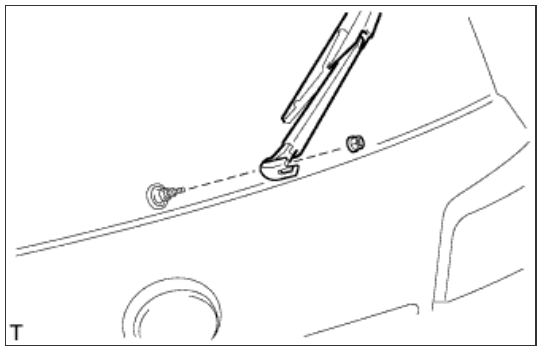
c. Detach the 3 clips and remove the rear spoiler.



9. REMOVE REAR WIPER ARM

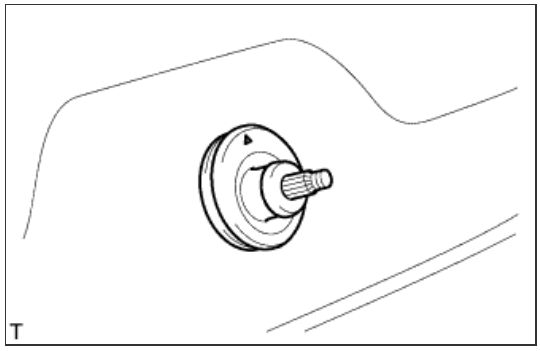
a. Open the cover.

b. Remove the nut and rear wiper arm.



10. REMOVE REAR WIPER MOTOR GROMMET

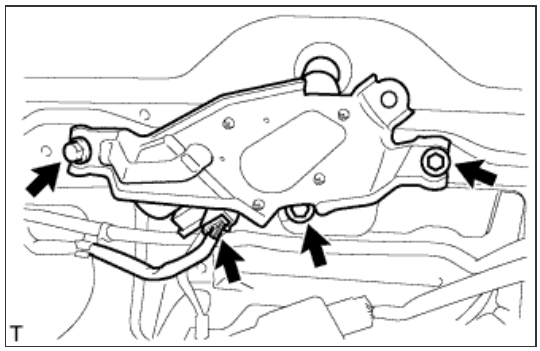
a. Remove the wiper motor grommet.



11. REMOVE REAR WIPER MOTOR ASSEMBLY

a. Disconnect the connector.

b. Remove the 3 bolts and rear wiper motor assembly.



12. REMOVE BACK WINDOW MOULDING OUTSIDE LH

a. Using a knife, cut off the moulding as shown in the illustration.

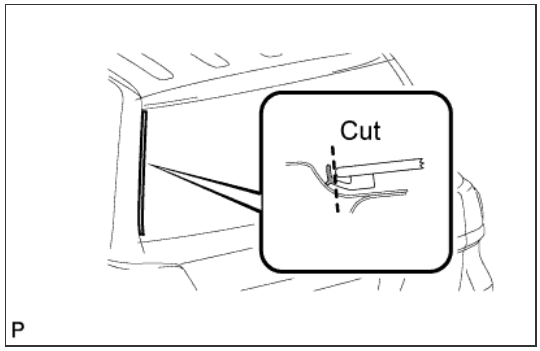
NOTICE:

Be careful not to damage the vehicle body.

b. Pull the shaded area shown in the illustration by the hand to remove the back window moulding outside.

HINT:

Make a partial cut in the moulding. Then pull and remove it by hand.



13. REMOVE BACK WINDOW MOULDING OUTSIDE

a. Using a knife, cut off the moulding as shown in the illustration.

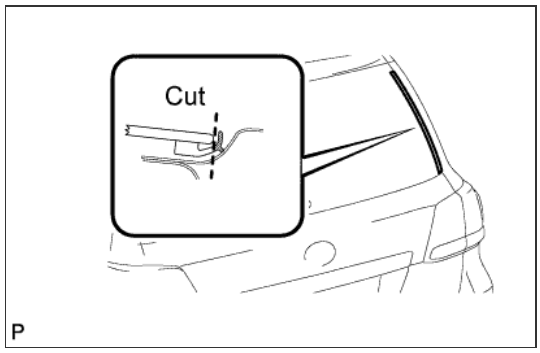
NOTICE:

Be careful not to damage the vehicle body.

b. Pull the shaded area shown in the illustration by the hand to remove the back window moulding outside.

HINT:

Make a partial cut in the moulding. Then pull and remove it by hand.



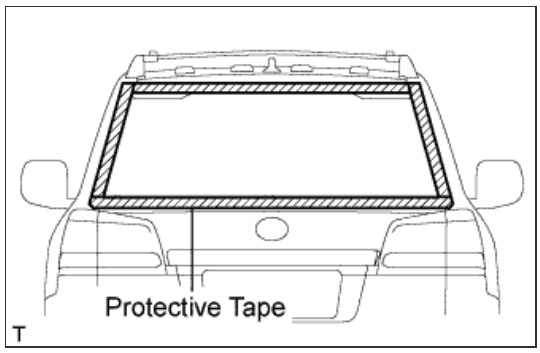
14. REMOVE BACK WINDOW GLASS

a. Apply protective tape to the outer surface of the vehicle body to prevent scratches.

NOTICE:

When separating the back window glass from the vehicle, be careful not to damage the vehicle paint or interior/exterior ornaments.

b. Disconnect the 3 connectors.

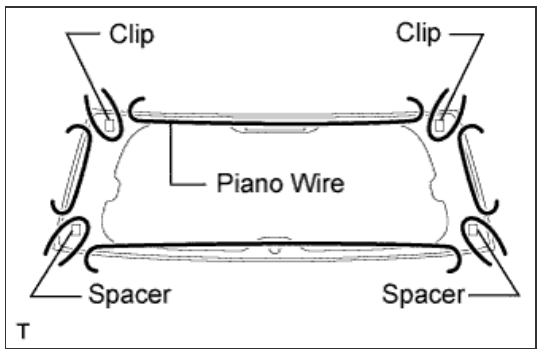


c. From the interior, insert a piano wire between the vehicle body and back window glass as shown in the illustration.

NOTICE:

Make sure not to damage the wire harness.

d. Tie objects that can serve as handles (for example, wooden blocks) to both wire ends.



e. Place matchmarks over the glass and vehicle body on the locations indicated in the illustration.

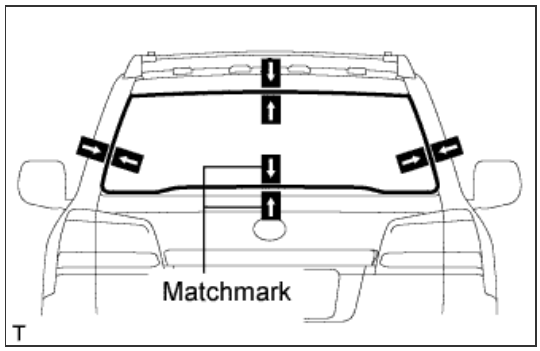
HINT:

Matchmarks do not need to be placed if the glass is not going to be reused.

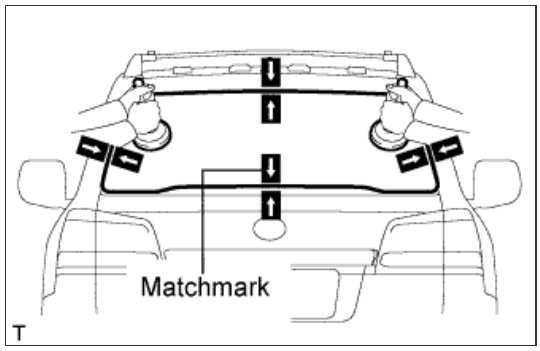
f. Cut through the adhesive by pulling the piano wire around the back window glass.

NOTICE:

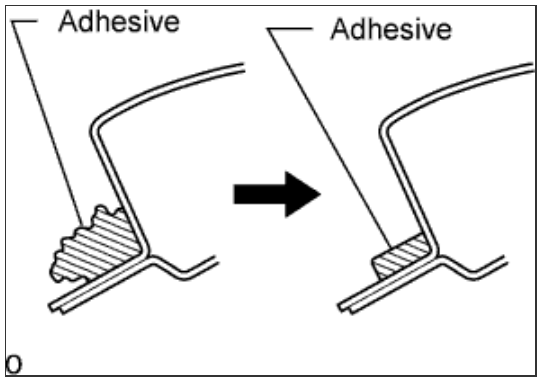
Leave as much adhesive on the vehicle body as possible when removing the back window glass.



g. Using suction cups, remove the back window glass.



15. CLEAN VEHICLE BODY



a. Using a scraper, remove the moulding and adhesive from the back window glass.

b. Clean and shape the contact surface of the vehicle body.

i. On the contact surface of the vehicle body, use a knife to cut away excess adhesive as shown in the illustration.

HINT:

Leave as much adhesive on the vehicle body as possible.

NOTICE:

Be careful not to damage the vehicle body.

ii. Clean the contact surface of the vehicle body with cleaner.

HINT:

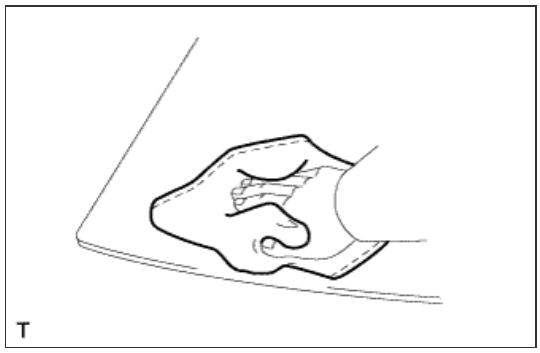
Even if all the adhesive has been removed, clean the vehicle body.

for Preparation Click here

1. CLEAN BACK DOOR GLASS

a. Using a scraper, remove the damaged clips and spacers, adhesive sticking to the glass.

b. Clean the outer circumference of the glass with non-residue solvent.



NOTICE:

- **Do not touch the glass surface after cleaning it.**
- **Be careful not to damage the glass.**
- **Even if using new glass, clean the glass with non-residue solvent.**

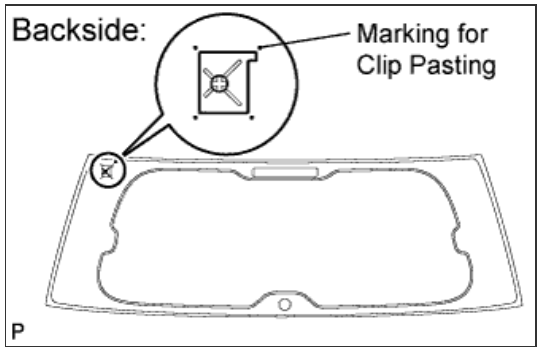
2. INSTALL BACK WINDOW GLASS CLIP RH

a. Apply Primer G to the glass where the clip will be installed.

HINT:

If the primer is applied to an area that is not specified, apply non-residue solvent to a clean cloth and wipe off the excess primer before it dries.

b. Remove the peeling paper from a new clip. Install a clip onto the glass as shown in the illustration.



NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**

3. INSTALL BACK WINDOW GLASS CLIP LH

a. Apply Primer G to the glass where the clip will be installed.

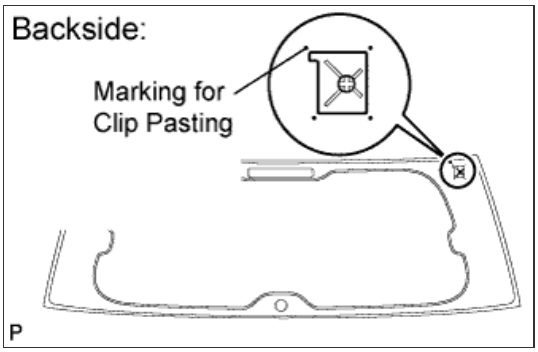
HINT:

If the primer is applied to an area that is not specified, apply non-residue solvent to a clean cloth and wipe off the excess primer before it dries.

b. Remove the peeling paper from a new clip. Install a clip onto the glass as shown in the illustration.

NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**



4. INSTALL NO. 1 BACK WINDOW GLASS SPACER

a. Apply Primer G to the glass where the spacer will be installed.

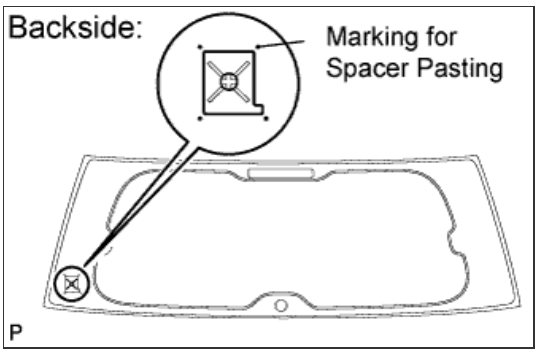
HINT:

If the primer is applied to an area that is not specified, apply non-residue solvent to a clean cloth and wipe off the excess primer before it dries.

b. Remove the peeling paper from a new spacer. Install a spacer onto the glass as shown in the illustration.

NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**



5. INSTALL NO. 2 BACK WINDOW GLASS SPACER

a. Apply Primer G to the glass where the spacer will be installed.

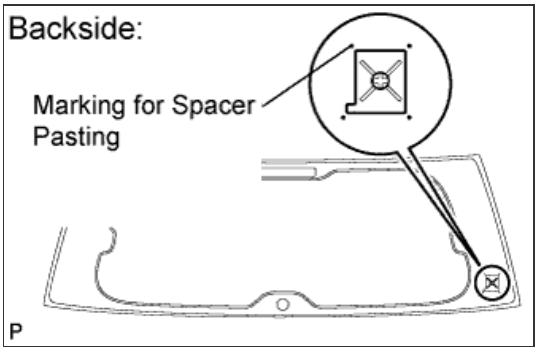
HINT:

If the primer is applied to an area that is not specified, apply non-residue solvent to a clean cloth and wipe off the excess primer before it dries.

b. Remove the peeling paper from a new spacer. Install a spacer onto the glass as shown in the illustration.

NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**



6. INSTALL BACK WINDOW OUTSIDE MOULDING

a. Using a brush or sponge, coat the application area of the back window glass outside moulding with Primer G.

Standard:

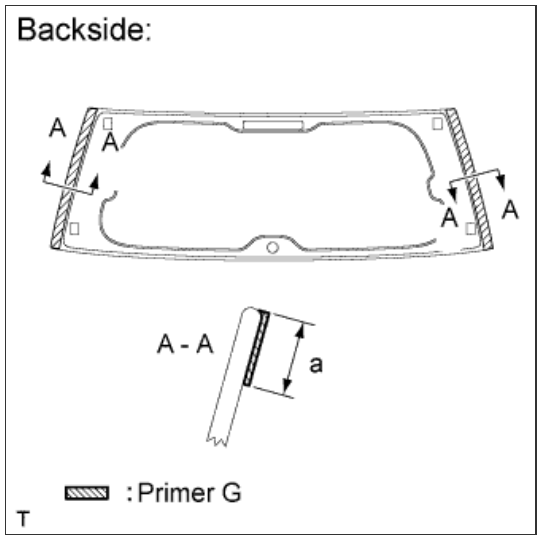
Area	Specified Condition
a	13.0 mm (0.512 in.)

NOTICE:

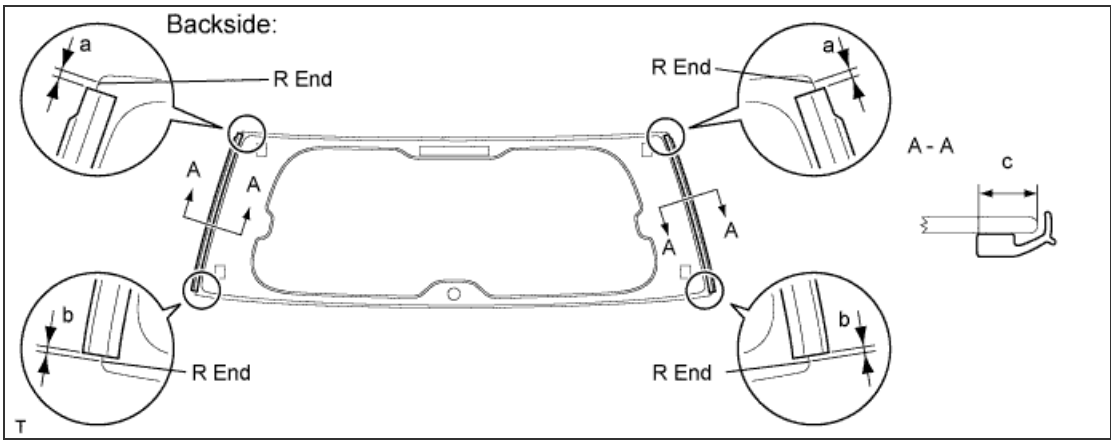
- **Allow the primer to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**

HINT:

If the primer is applied to an area that is not specified, apply non-residue solvent to a clean cloth and wipe off the excess primer before it dries.



b. Remove the peeling paper from 2 new back window outside mouldings. Install the 2 mouldings as shown in the illustration.



Standard:

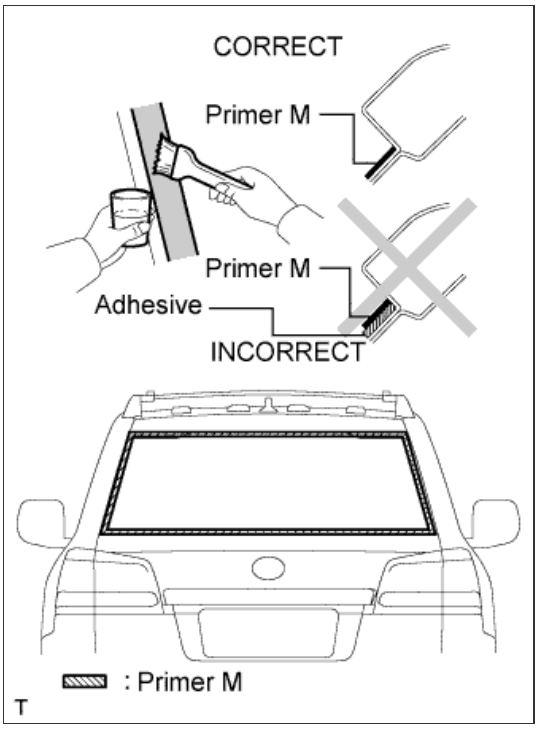
Area	Specified Condition
a	1.5 mm (0.0591 in.)
b	1.0 mm (0.0394 in.)
c	11.0 mm (0.433 in.)

7. INSTALL BACK WINDOW GLASS

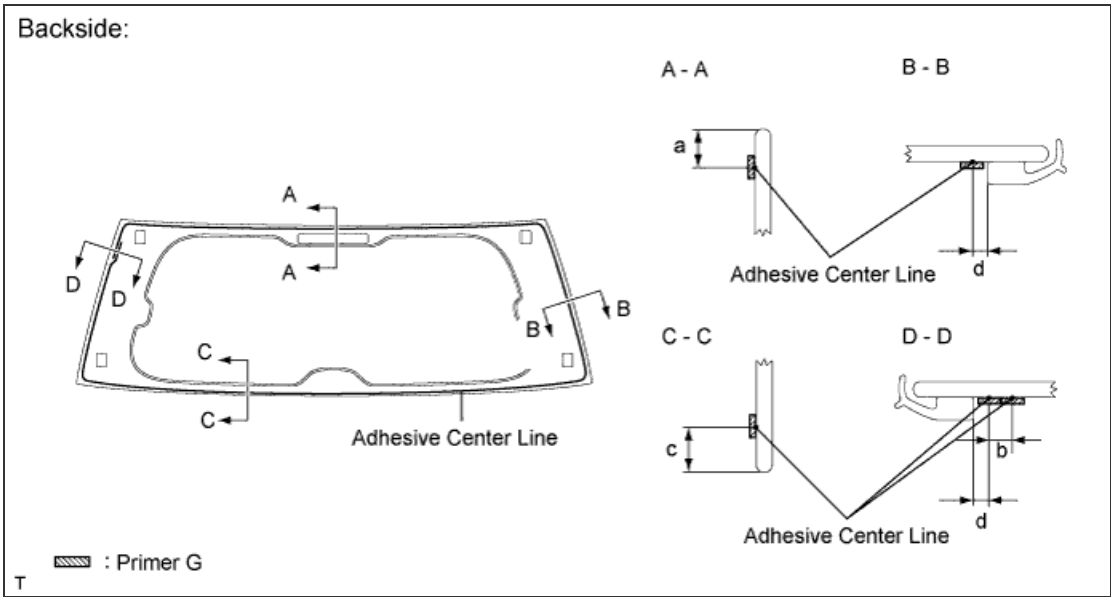
a. Using a brush or sponge, apply Primer M to the exposed part of the vehicle body.

NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Do not apply primer to the adhesive.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**



b. Using a brush or sponge, apply Primer G to the contact surface of the back window glass.



Standard:

Area	Specified Condition
a	11.0 mm (0.433 in.)
b	8.0 mm (0.315 in.)
c	13.0 mm (0.512 in.)
d	5.0 mm (0.197 in.)

HINT:

If primer is applied to an area that is not specified, wipe off the primer with a non-residue solvent before it dries.

NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**

c. Apply adhesive to the back window glass.

Adhesive:
Toyota Genuine Windshield Glass Adhesive or equivalent

i. Cut off the tip of the cartridge nozzle as shown in the illustration below.

HINT:

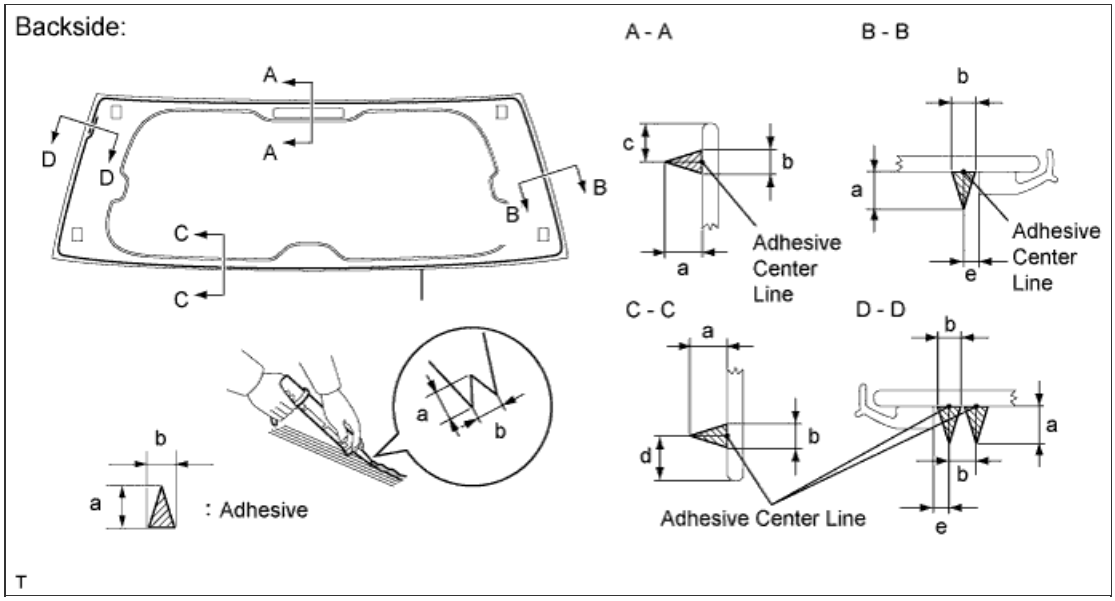
After cutting off the tip, use all adhesive within the time written in the table below.

Usage Time Frame:

Temperature	Usage Time Frame
35°C (95°F)	15 minutes
20°C (68°F)	1 hour 40 minutes
5°C (41°F)	8 hours

ii. Load the sealer gun with the cartridge.

iii. Apply adhesive to the back window glass as shown in the illustration.



Standard:

Area	Specified Condition
a	12.0 mm (0.472 in.)
b	8.0 mm (0.315 in.)
c	11.0 mm (0.433 in.)
d	13.0 mm (0.512 in.)
e	5.0 mm (0.197 in.)

d. Install the back window glass to the vehicle body.

i. Hold the back window glass securely in place with tape or equivalent until the adhesive has hardened.

NOTICE:

- **Allow the primer coating to dry for 3 minutes or more.**
- **Check that the clips are attached to the vehicle body correctly.**
- **Check the clearance between the vehicle body and glass.**

ii. Lightly press the front surface of the back window glass to ensure that the back window glass is securely fit to the vehicle body.

iii. Using a scraper, remove any excess or protruding adhesive.

HINT:

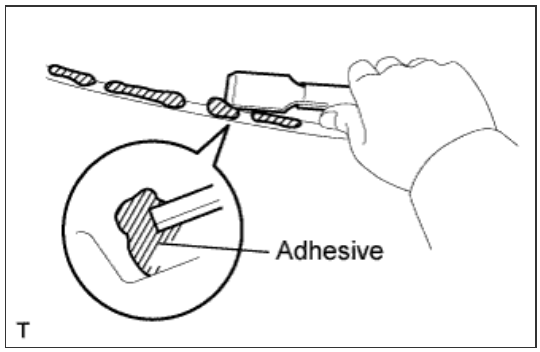
Apply adhesive onto the glass rim.

NOTICE:

Do not drive the vehicle within the time written in the table below.

Minimum Time:

Temperature	Minimum Time Prior to Driving Vehicle
35°C (95°F)	1 hour 30 minutes
20°C (68°F)	5 hours
5°C (41°F)	24 hours



iv. Connect the 3 connectors.

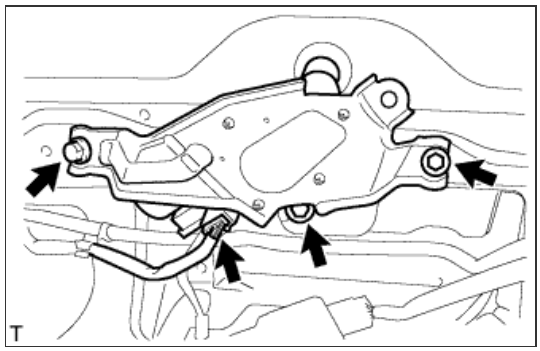
8. INSTALL REAR WIPER MOTOR ASSEMBLY

a. Temporarily install the rear wiper motor assembly with the 3 bolts.

b. Tighten the 3 bolts.

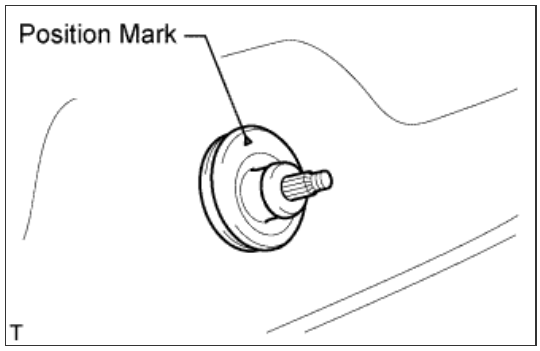
Torque:
5.5 N*m{ 56 kgf*cm , 49 in.*lbf }

c. Connect the connector.



9. INSTALL REAR WIPER MOTOR GROMMET

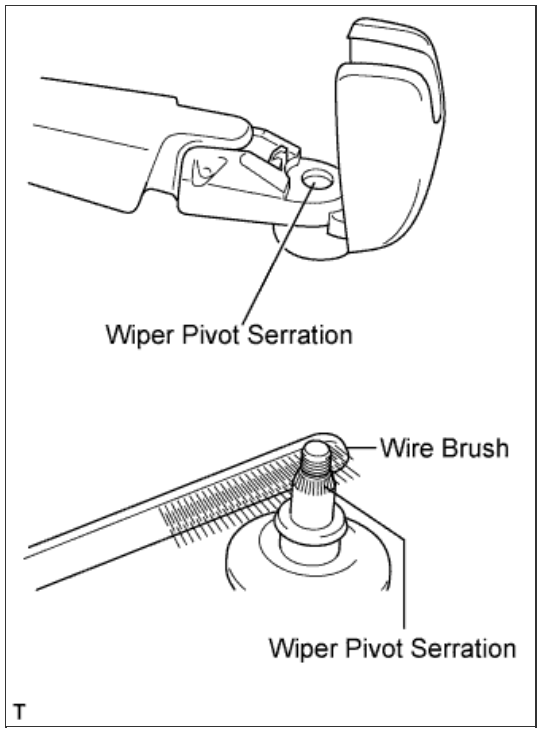
a. Install the rear wiper motor grommet with the position mark facing upward as shown in the illustration.



10. INSTALL REAR WIPER ARM

a. Operate the rear wiper, and stop the rear wiper motor at the automatic stop position.

b. Clean the wiper pivot serration with a wire brush.

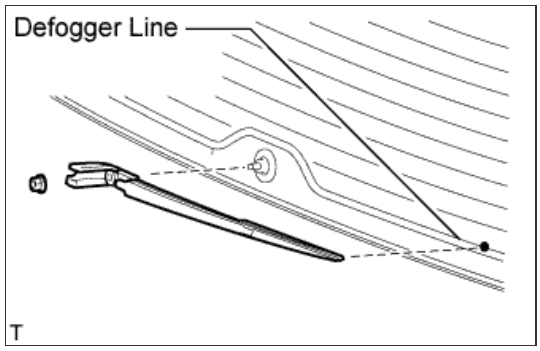


c. Set the head of the blade on the defogger line.

d. Install the rear wiper arm with the nut.

Torque:
5.5 N*m{ 56 kgf*cm , 49 in.*lbf }

e. Close the cover.



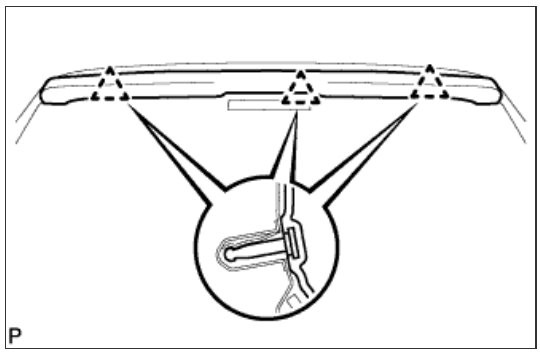
11. CHECK FOR LEAK AND REPAIR

a. Conduct a leak test after the adhesive has completely hardened.

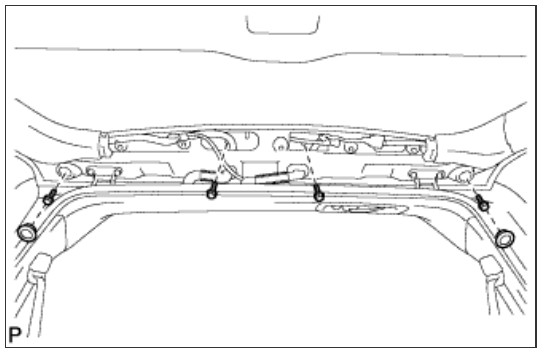
b. Seal any leaks with auto glass sealer.

12. INSTALL REAR SPOILER SUB-ASSEMBLY

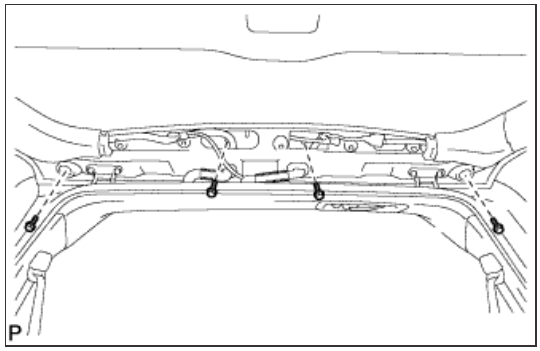
a. Attach the 3 clips to install the rear spoiler.



b. w/ Power Back Door:
Install the 4 bolts and 2 hole plugs.

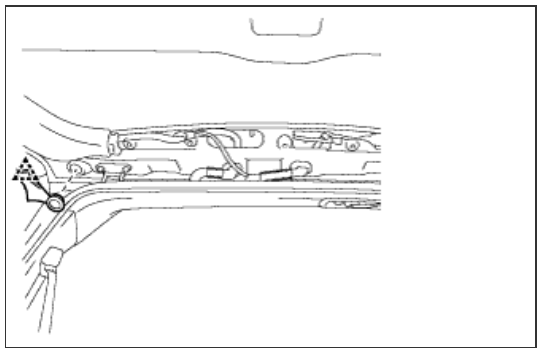


c. w/o Power Back Door:
Install the 4 bolts.



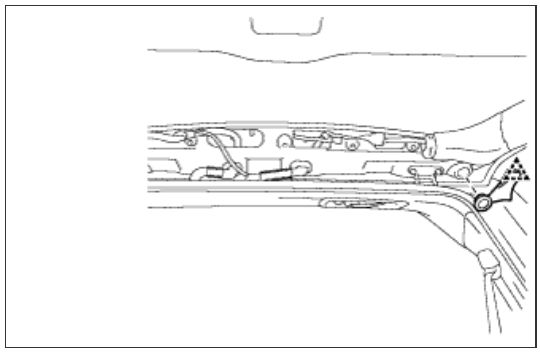
13. INSTALL BACK DOOR GLASS CHANNEL LH (w/o Power Back Door)

a. Attach the clip and install the back door glass channel.



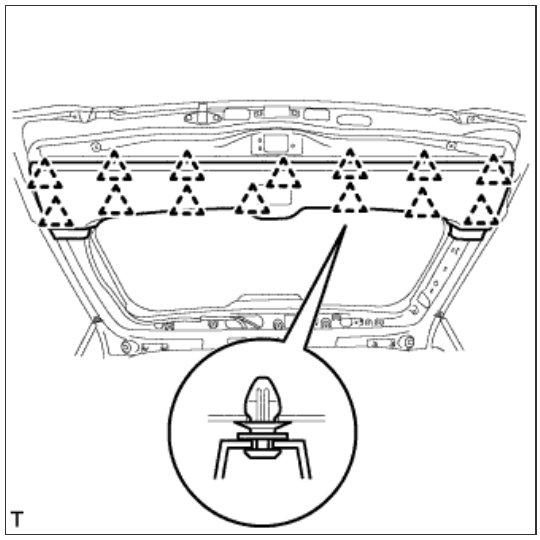
14. INSTALL BACK DOOR GLASS CHANNEL RH (w/o Power Back Door)

a. Attach the clip and install the back door glass channel.



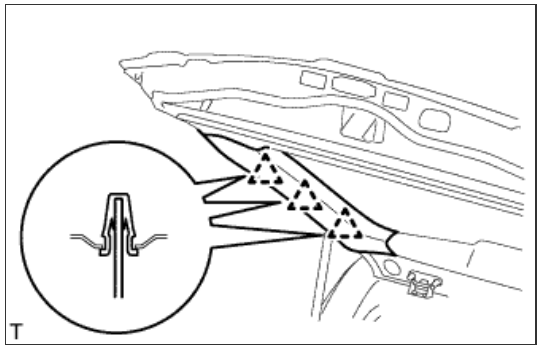
15. INSTALL BACK DOOR GARNISH

a. Attach the 14 clips to install the back door garnish.



16. INSTALL BACK DOOR SIDE GARNISH LH

a. Attach the 3 clips to install the back door side garnish.



17. INSTALL BACK DOOR SIDE GARNISH RH

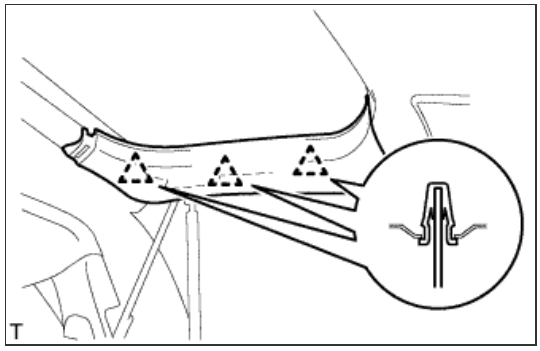
a. w/o Power Back Door:

HINT:

Use the same procedures described for the LH side.

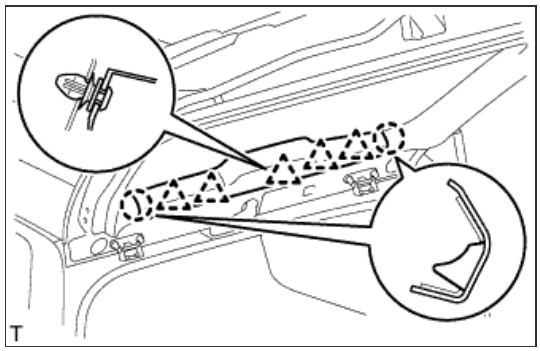
b. w/ Power Back Door:

i. Attach the 3 clips to install the back door side garnish.



18. INSTALL CENTER BACK DOOR GARNISH

a. Attach the 5 clips and 2 claws to install the back door garnish.

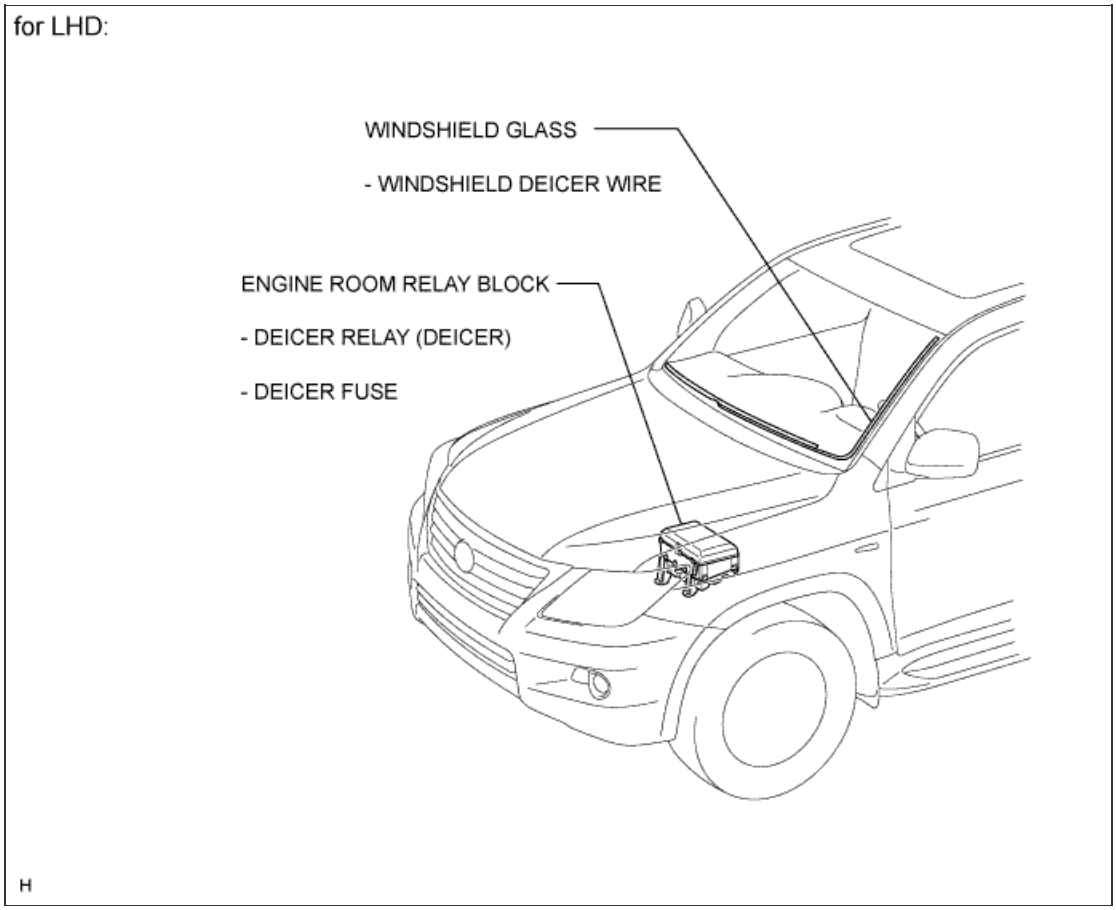


19. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

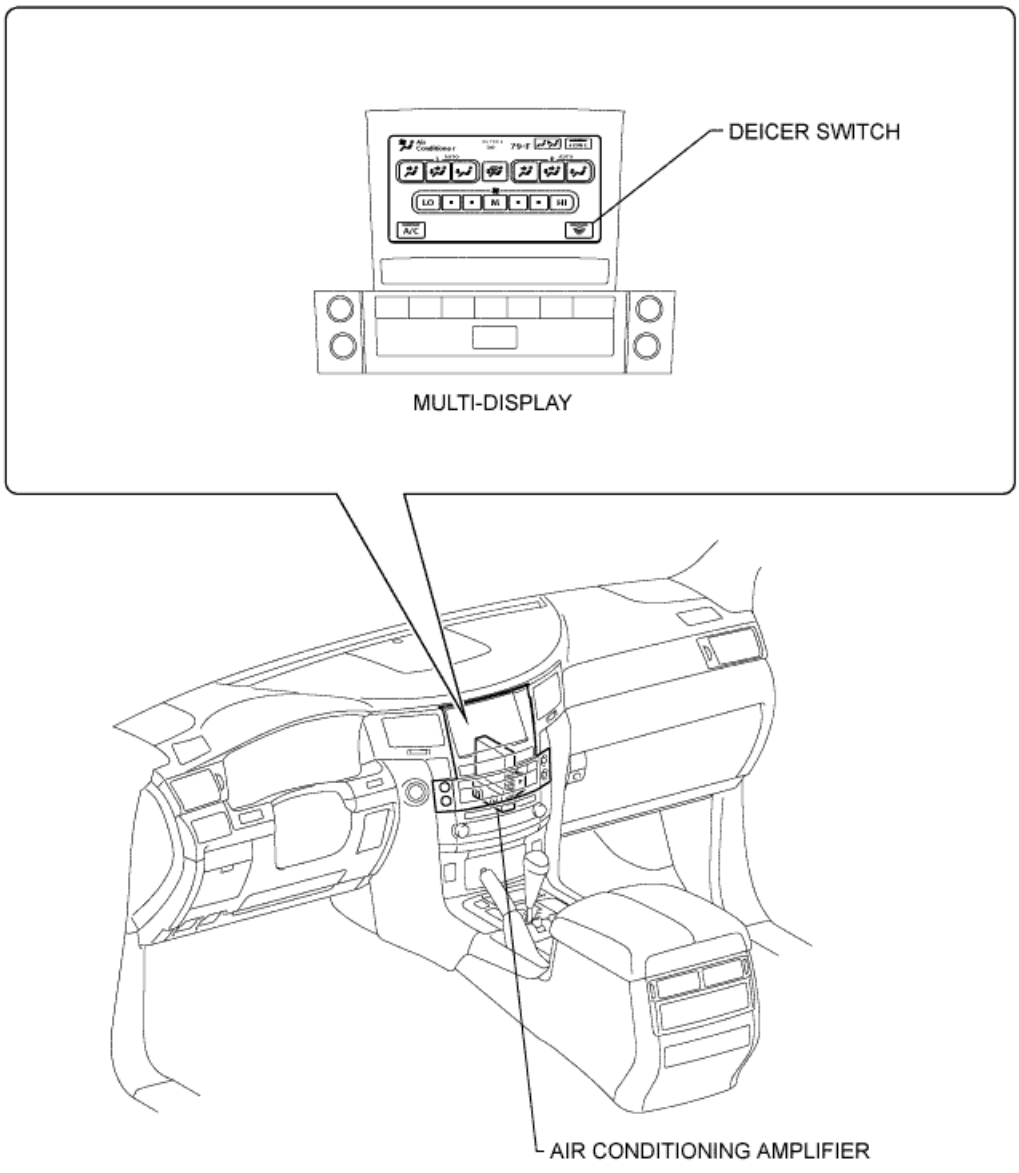
NOTICE:

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

for Preparation Click here

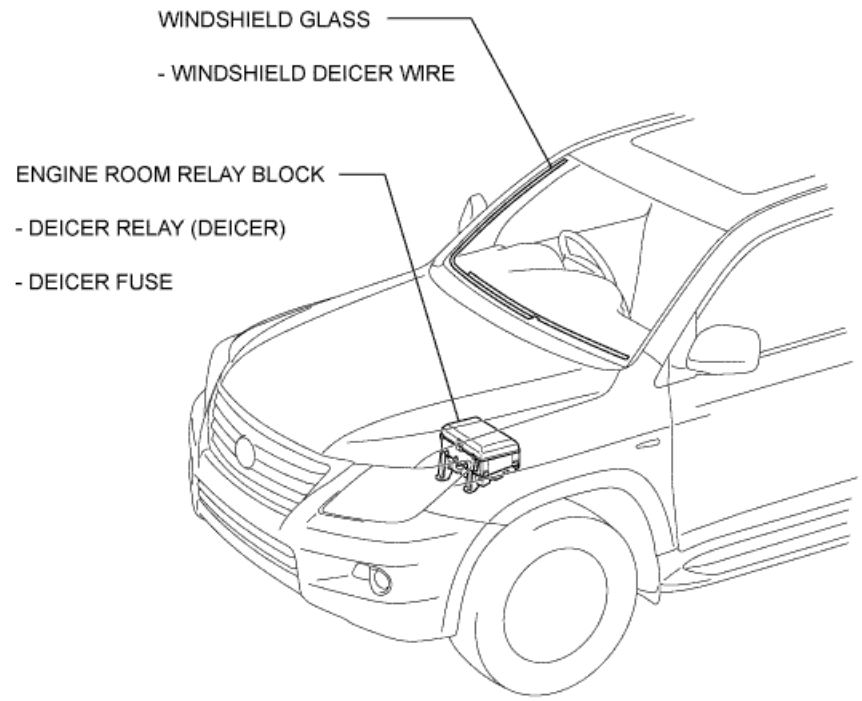


for LHD:



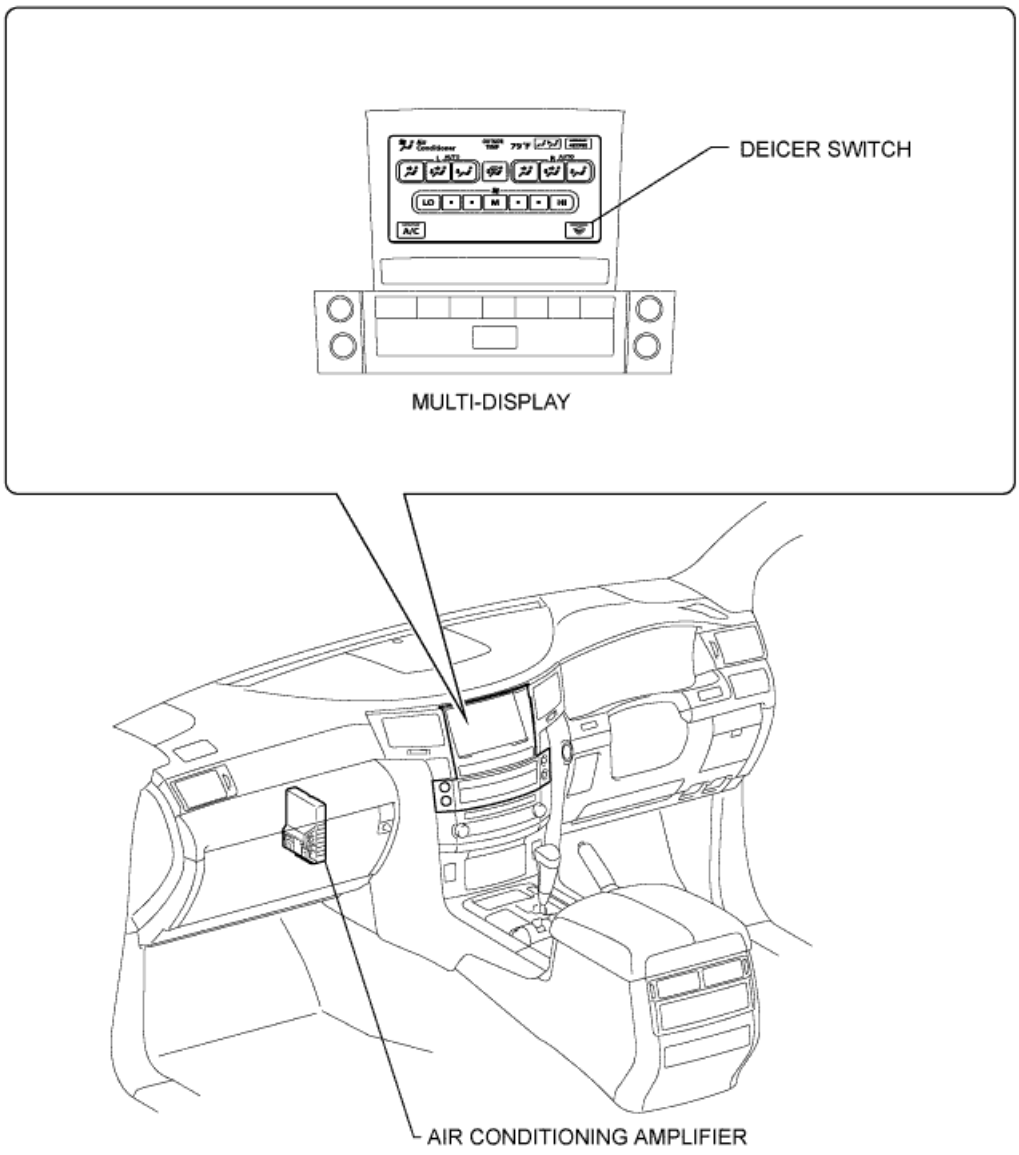
H

for RHD:


WINDSHIELD GLASS
- WINDSHIELD DEICER WIRE
ENGINE ROOM RELAY BLOCK
- DEICER RELAY (DEICER)
- DEICER FUSE

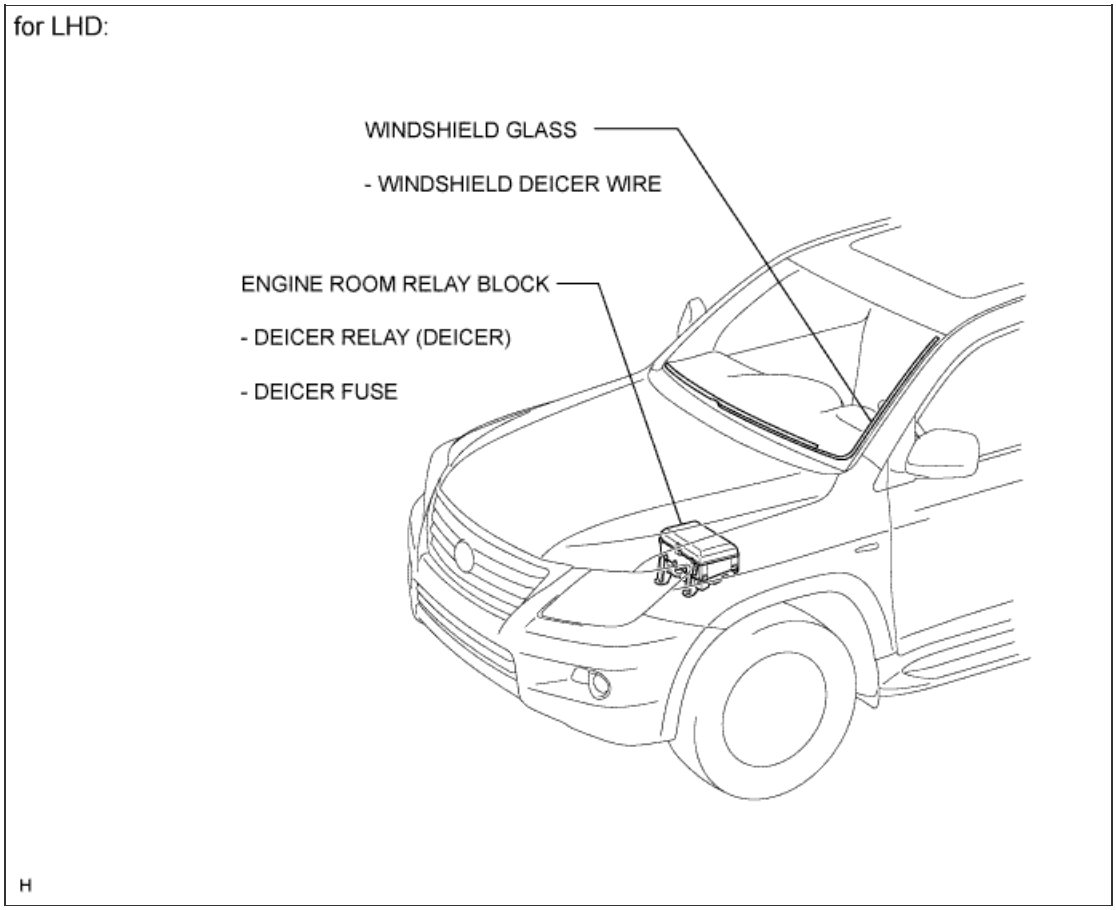
H

for RHD:

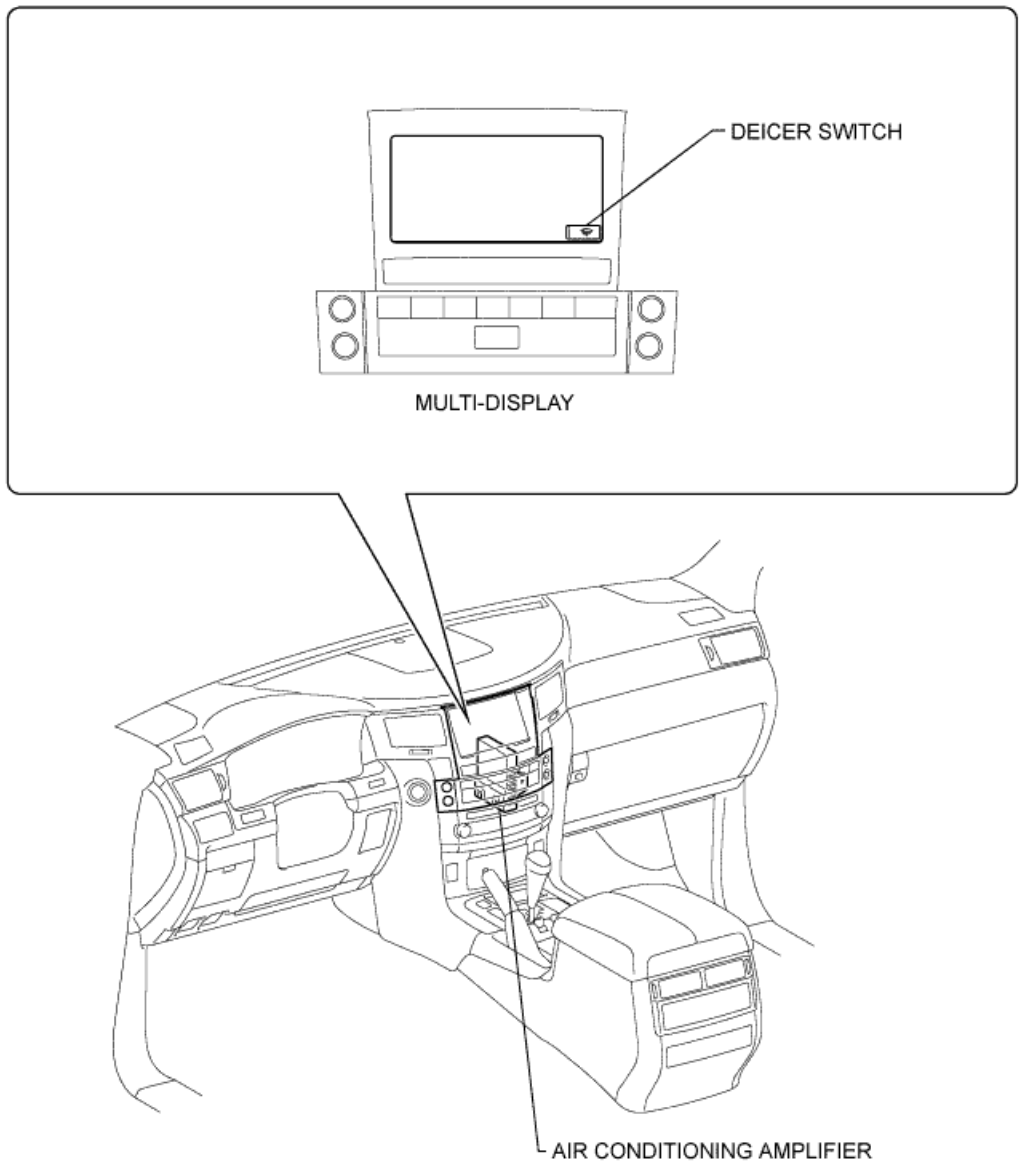


H

for Preparation Click here

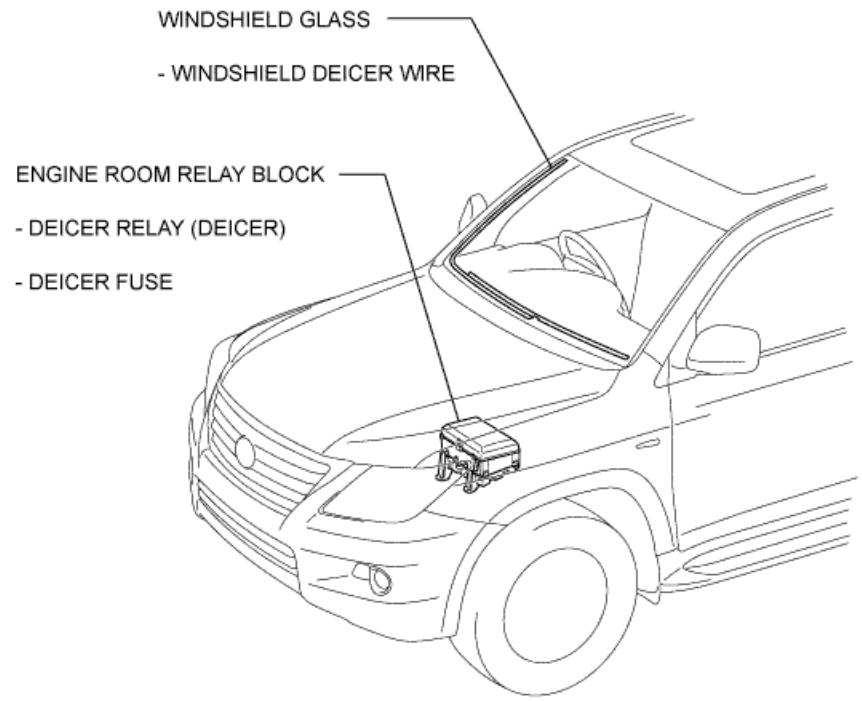


for LHD:



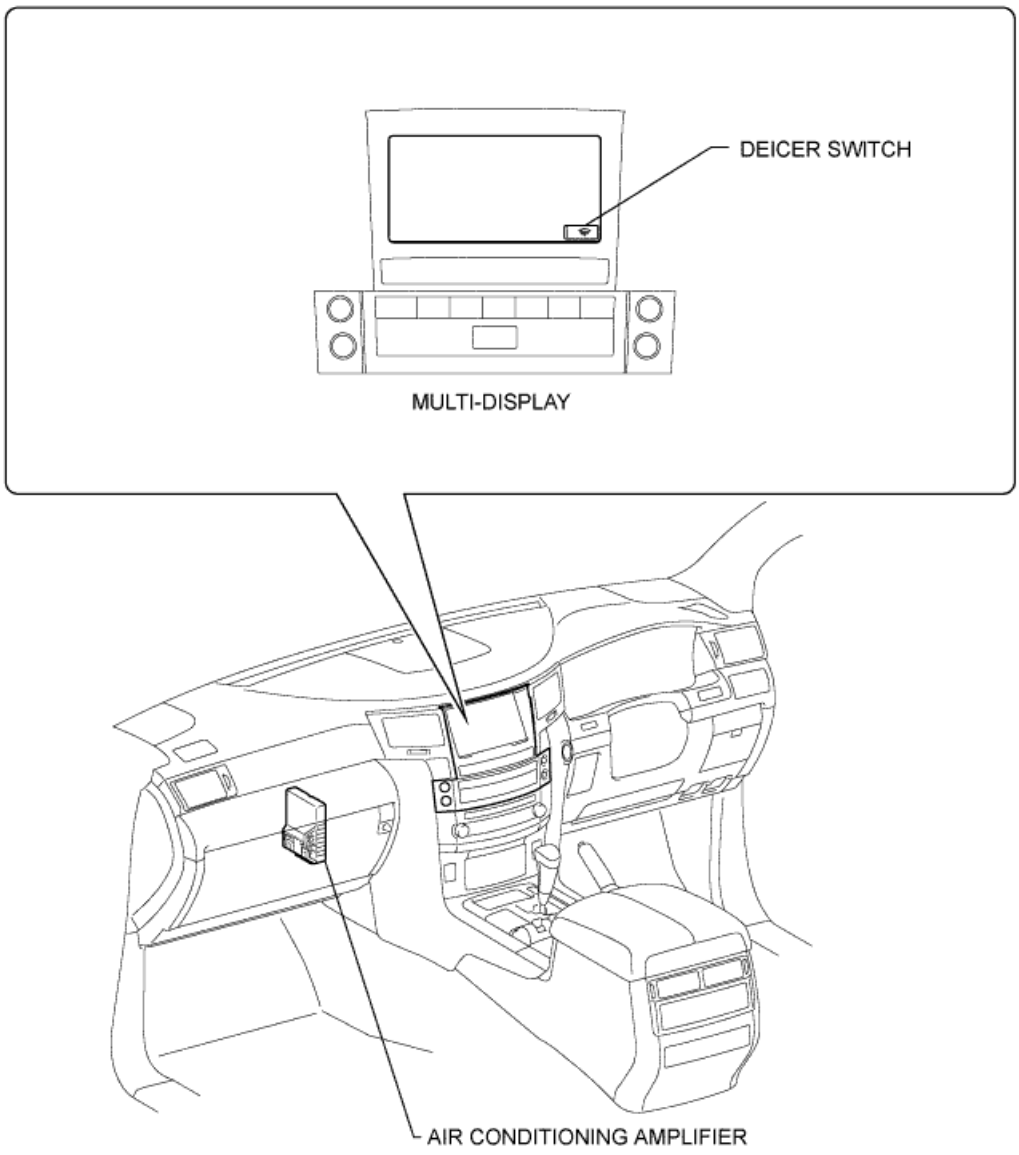
H

for RHD:


WINDSHIELD GLASS
- WINDSHIELD DEICER WIRE
ENGINE ROOM RELAY BLOCK
- DEICER RELAY (DEICER)
- DEICER FUSE

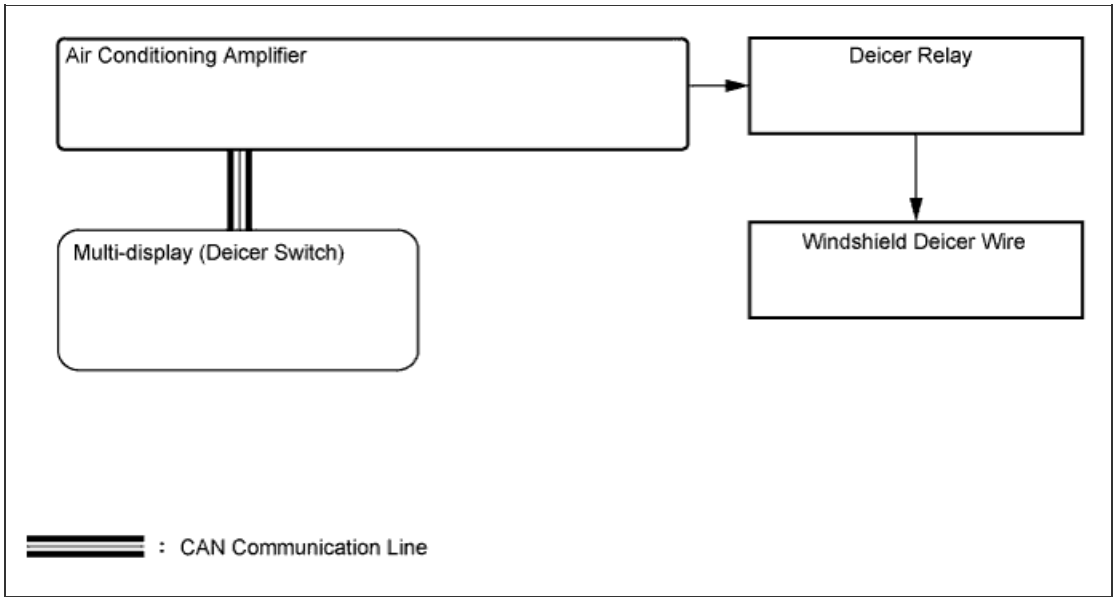
H

for RHD:



H

for Preparation Click here



Communication Table

Transmitter	Receiver	Signal	Line
Multi-display	Air conditioning amplifier	Windshield deicer switch signal	CAN

for Preparation Click here

GENERAL

The thin heater wires of the windshield deicer system are attached to the inside of the windshield glass and deice the windshield surface quickly. The indicator light illuminates while the system is operating. The system automatically turns off after approximately 15 minutes.

FUNCTION OF MAIN COMPONENT

Component	Outline
Deicer switch	Located on the multi-display, it detects deicer switch operation and transmits signals to the air conditioning amplifier through the CAN communication line.
Deicer relay	Receives windshield deicer activation request signals from the air conditioning amplifier and supplies power to the windshield deicer.
Windshield deicer	Receives power from the deicer relay and heats the windshield deicer wire.

DESCRIPTION

Function	Outline
Deice front window surface	• The deicer relay receives windshield deicer activation request signals from the air conditioning amplifier and supplies power to the windshield deicer. • Receives power from the deicer relay and heats the windshield deicer wire.

for Preparation Click here

HINT:

- **Use these procedures to troubleshoot the windshield deicer 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 if the CAN communication system is functioning normally.

OK:
CAN DTC is not output.

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 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

5.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Terminals of ECU (Click here)

b. Data List / Active Test (Click here)

NEXT

6.REPAIR OR REPLACE

NEXT

7.CONFIRMATION TEST

NEXT

END

for Preparation Click here

HINT:

- **Use these procedures to troubleshoot the windshield deicer 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 if the CAN communication system is functioning normally.

OK:
CAN DTC is not output.

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 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

5.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Terminals of ECU (Click here)

b. Data List / Active Test (Click here)

NEXT

6.REPAIR OR REPLACE

NEXT

7.CONFIRMATION TEST

NEXT

END

for Preparation Click here

HINT:

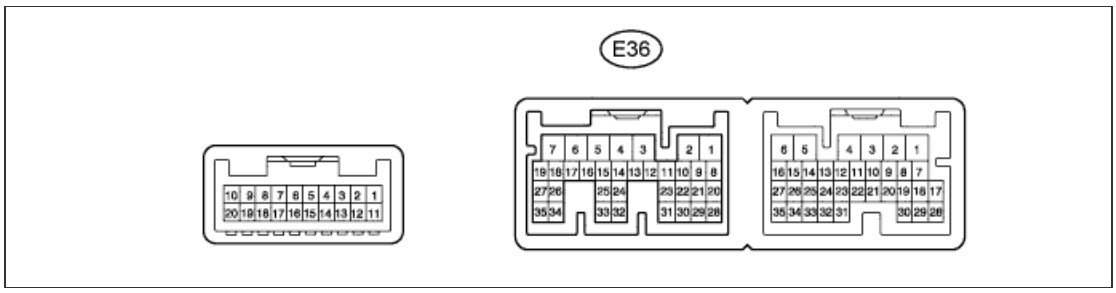
Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed.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

Windshield Deicer System

Symptom	Suspected Area	See page
Windshield deicer does not operate	DEICER relay	Click here
	CAN communication system	-
	Air conditioning amplifier	-
	Multi-display	-
	DEICER fuse	-
	Harness or connector	-

for Preparation Click here

CHECK AIR CONDITIONING AMPLIFIER



a. Disconnect the E36 air conditioning amplifier 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
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
E36-6 (+B1) - E36-1 (GND)	R - W-B	Battery power source	Always	11 to 14 V
E36-7 (+B2) - E36-1 (GND)	R - W-B	Battery power source	Always	11 to 14 V
E36-1 (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.

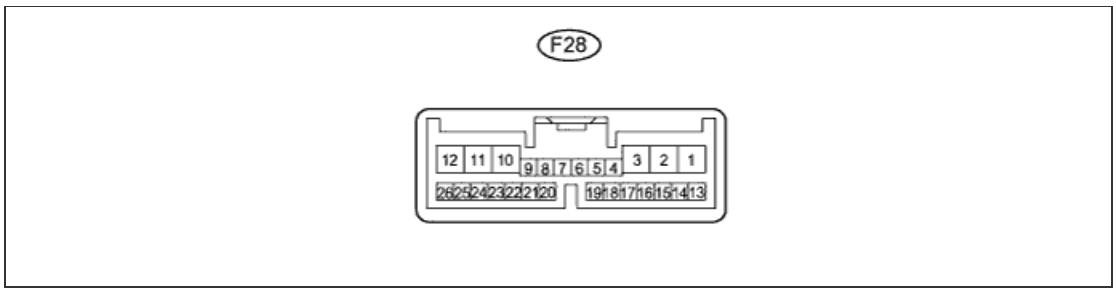
c. Reconnect the E36 air conditioning amplifier connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
E36-23 (FDEF) - E36-1 (GND)	GR - W-B	Deicer relay	Engine switch on (IG) and deicer switch off	11 to 14 V
			Engine switch on (IG) and deicer switch on	Below 1 V

If the result is not as specified, the air conditioning amplifier or fuse may have a malfunction.

CHECK MULTI-DISPLAY



a. Disconnect the F28multi-display connector.

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

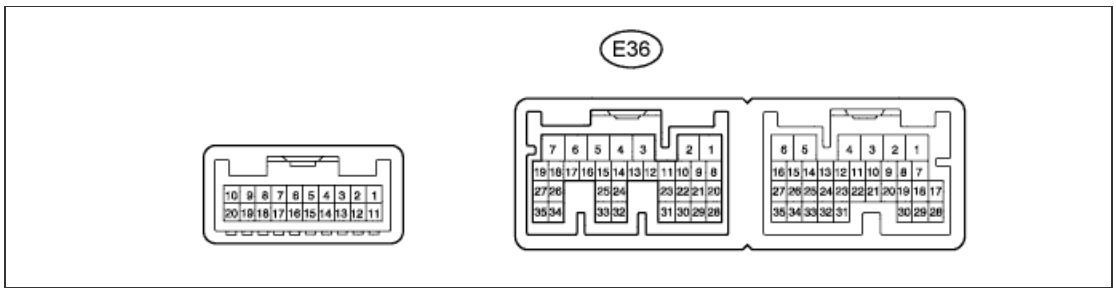
Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
F28-3 (IG) - F28-10 (GND1)	G - W-B	Ignition power supply	Engine switch on (IG)	11 to 14 V
			Engine switch off	Below 1 V

F28-1 (+B1) - F28-10 (GND1)	R - W-B	Battery power source	Always	11 to 14 V
F28-10 (GND1) - 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 AIR CONDITIONING AMPLIFIER



a. Disconnect the E36 air conditioning amplifier 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
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
E36-6 (+B1) - E36-1 (GND)	R - W-B	Battery power source	Always	11 to 14 V
E36-7 (+B2) - E36-1 (GND)	R - W-B	Battery power source	Always	11 to 14 V
E36-1 (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.

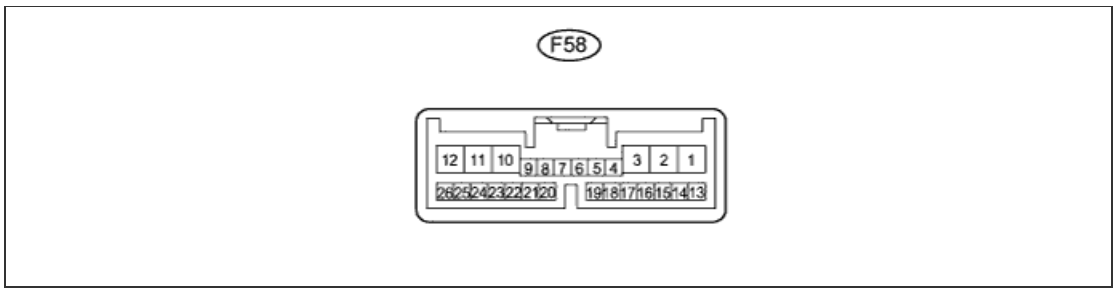
c. Reconnect the E36 air conditioning amplifier connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
E36-23 (FDEF) - E36-1 (GND)	GR - W-B	Deicer relay	Engine switch on (IG) and deicer switch off	11 to 14 V
			Engine switch on (IG) and deicer switch on	Below 1 V

If the result is not as specified, the air conditioning amplifier or fuse may have a malfunction.

CHECK MULTI-DISPLAY



a. Disconnect the F58 multi-display 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
F58-3 (IG) - F58-10 (GND1)	G - W-B	Ignition power supply	Engine switch on (IG)	11 to 14 V
			Engine switch off	Below 1 V

F58-1 (+B1) - F58-10 (GND1)	R - W-B	Battery power source	Always	11 to 14 V
F58-10 (GND1) - 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

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.

Air Conditioner

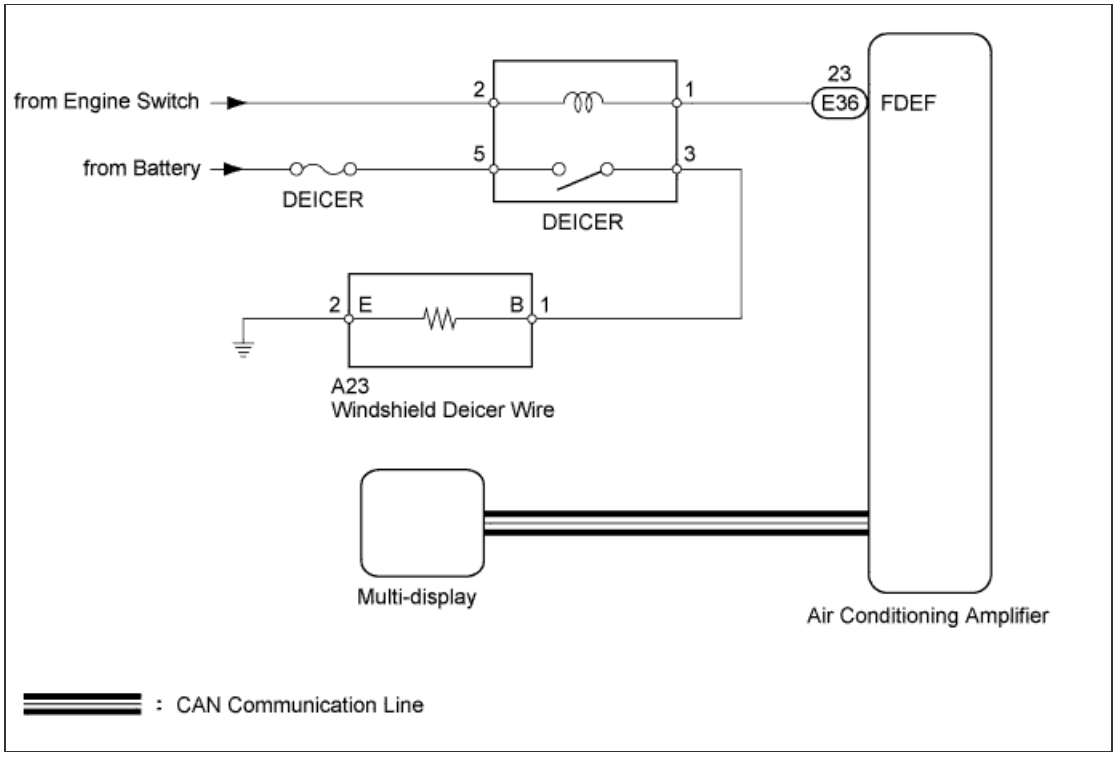
Tester Display	Test Part	Control Range	Diagnostic Note
Deicer Relay (Front)	Deicer relay operation	OFF or ON	-

for Preparation Click here

DESCRIPTION

When the windshield deicer switch is turned on, a windshield deicer activation request signal is sent via the CAN communication line to the air conditioning amplifier. Then the air conditioning amplifier operates the windshield deicer. When the on signal from the switch is received, the deicer relay (DEICER) is operated for 15 minutes. Also, if the off signal from the switch is received within 15 minutes, the deicer relay (DEICER) operation is stopped.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Check for DTC.

Result

Result	Proceed to
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.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (DEICER RELAY)

a. Select the Active Test using the intelligent tester to generate a control command, and then check that the windshield deicer operates.

Air Conditioner

Tester Display	Test Part	Control Range	Diagnostic Note
Deicer Relay (Front)	Deicer relay operation	OFF or ON	-

Result

Result	Proceed to
Windshield deicer operates normally (w/ Navigation System)	A
Windshield deicer operates normally (w/o Navigation System)	B
Windshield deicer does not operate	C

B → Go to step 5

C → Go to step 7

A

3.REPLACE MULTI-DISPLAY

a. Temporarily replace the multi-display with a new or normally functioning one (Click here).

NEXT

4.CHECK WINDSHIELD DEICER SYSTEM

a. Turn the engine switch on (IG).

b. Check that pressing the windshield deicer switch illuminates the indicator and warms the front windshield surface.

c. Check that after approximately 15 minutes, the indicator light turns off and the windshield deicer deactivates.

OK:
Windshield deicer system functioning normally.

NG → REPLACE AIR CONDITIONING AMPLIFIER (Click here)

OK

END

5.REPLACE MULTI-DISPLAY

a. Temporarily replace the multi-display with a new or normally functioning one (Click here).

NEXT

6.CHECK WINDSHIELD DEICER SYSTEM

a. Turn the engine switch on (IG).

b. Check that pressing the windshield deicer switch illuminates the indicator and warms the front windshield surface.

c. Check that after approximately 15 minutes, the indicator light turns off and the windshield deicer deactivates.

OK:
Windshield deicer system functioning normally.

NG → REPLACE AIR CONDITIONING AMPLIFIER (Click here)

OK

END

7.INSPECT FUSE (DEICER)

a. Remove the DEICER 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
DEICER fuse	Always	Below 1 Ω

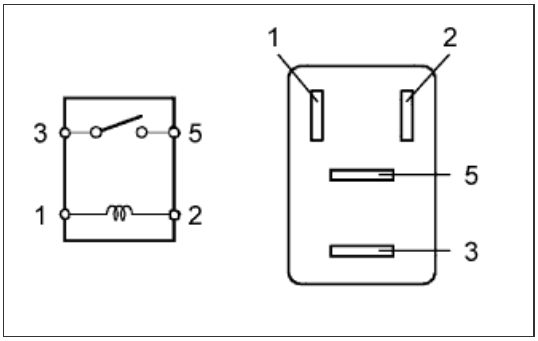
NG → REPLACE FUSE

OK

8.INSPECT DEICER RELAY

a. Remove the deicer 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
	Battery voltage is applied to terminals 1 and 2	Below 1 Ω

NG → REPLACE DEICER RELAY

OK

9.CHECK HARNESS AND CONNECTOR (DEICER RELAY - AIR CONDITIONING AMPLIFIER AND BATTERY)

a. Remove the deicer relay from the engine room relay block.

b. Disconnect the E36 air conditioning amplifier connector.

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

Standard Voltage:

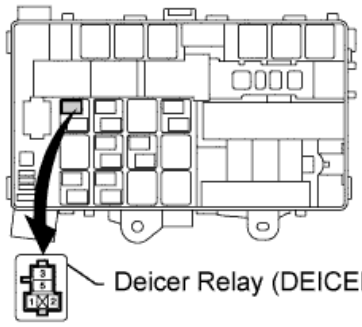
Tester Connection	Condition	Specified Condition
Deicer relay terminal 2 - Body ground	Engine switch on (IG)	11 to 14 V
Deicer relay terminal 5 - Body ground	Always	11 to 14 V

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

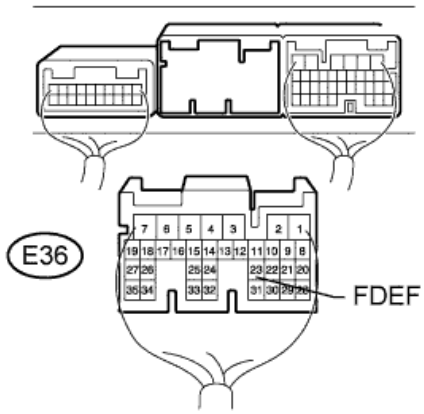
Standard Resistance:

Tester Connection	Condition	Specified Condition
Deicer relay terminal 1 - E36-23 (FDEF)	Always	Below 1 Ω
Deicer relay terminal 1 - Body ground	Always	10 kΩ or higher

Component without relay connected:
(Engine Room Relay Block)



Rear view of wire harness connector:
(to Air Conditioning Amplifier)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

10.CHECK HARNESS AND CONNECTOR (DEICER RELAY - WINDSHIELD DEICER WIRE)

a. Remove the deicer relay from the engine room relay block.

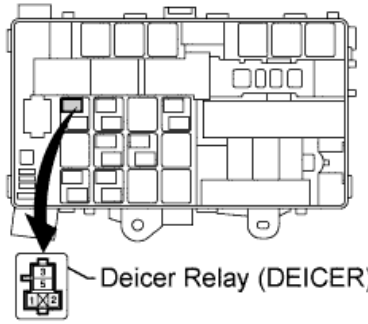
b. Disconnect the A23 windshield deicer wire connector.

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

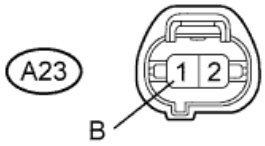
Standard Resistance:

Tester Connection	Condition	Specified Condition
A23-1 (B) - Deicer relay terminal 3	Always	Below 1 Ω
Deicer relay terminal 3 - Body ground	Always	10 kΩ or higher

Component without relay connected:
(Engine Room Relay Block)



Front view of wire harness connector:
(to Windshield Deicer Wire)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

11.CHECK HARNESS AND CONNECTOR (WINDSHIELD DEICER WIRE - BODY GROUND)

a. Disconnect the A23 windshield deicer wire connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
A23-2 (E) - Body ground	Always	Below 1 Ω

Front view of wire harness connector:
(to Windshield Deicer Wire)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

12.CHECK WINDSHIELD DEICER WIRE

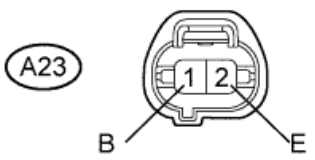
a. Disconnect the A23 windshield deicer wire connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
A23-1 (B) - A23-2 (E)	Engine switch on (IG) and deicer switch on	11 to 14 V

Front view of wire harness connector:
(to Windshield Deicer Wire)

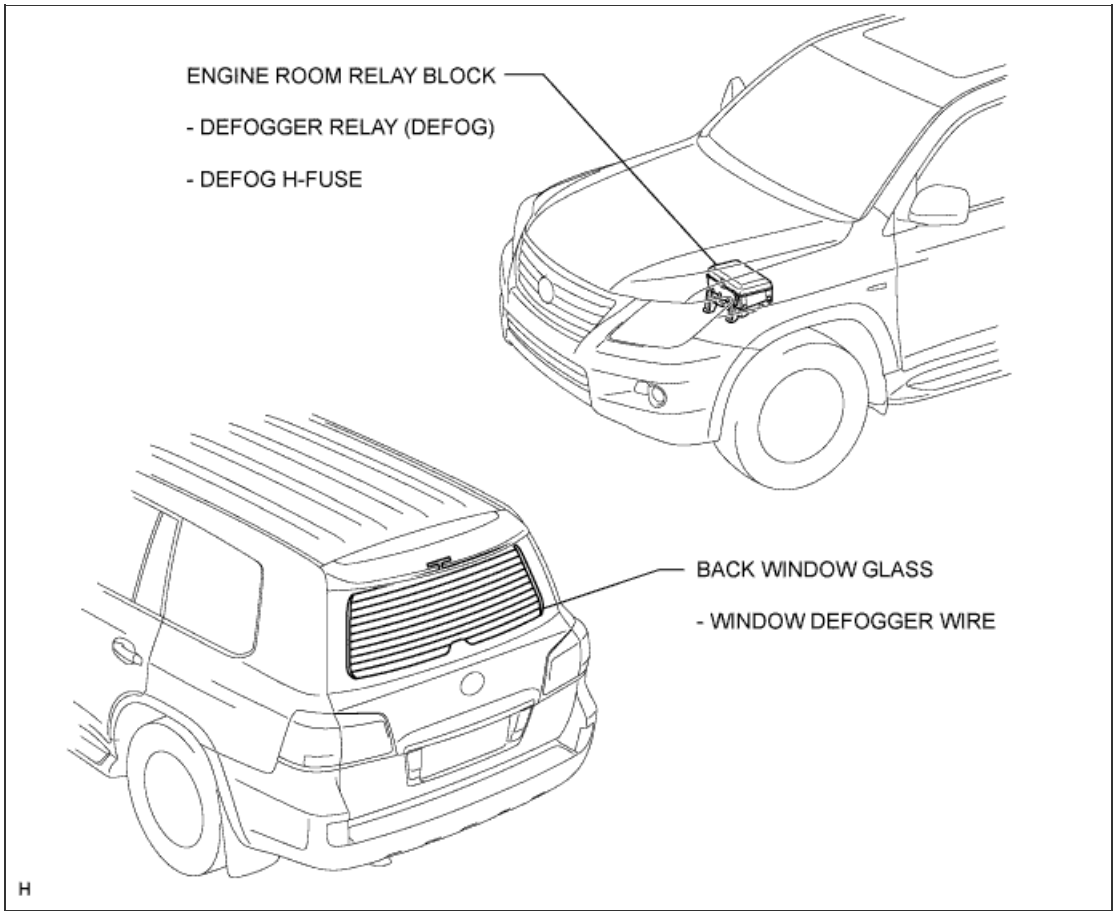


NG → REPLACE AIR CONDITIONING AMPLIFIER (Click here)

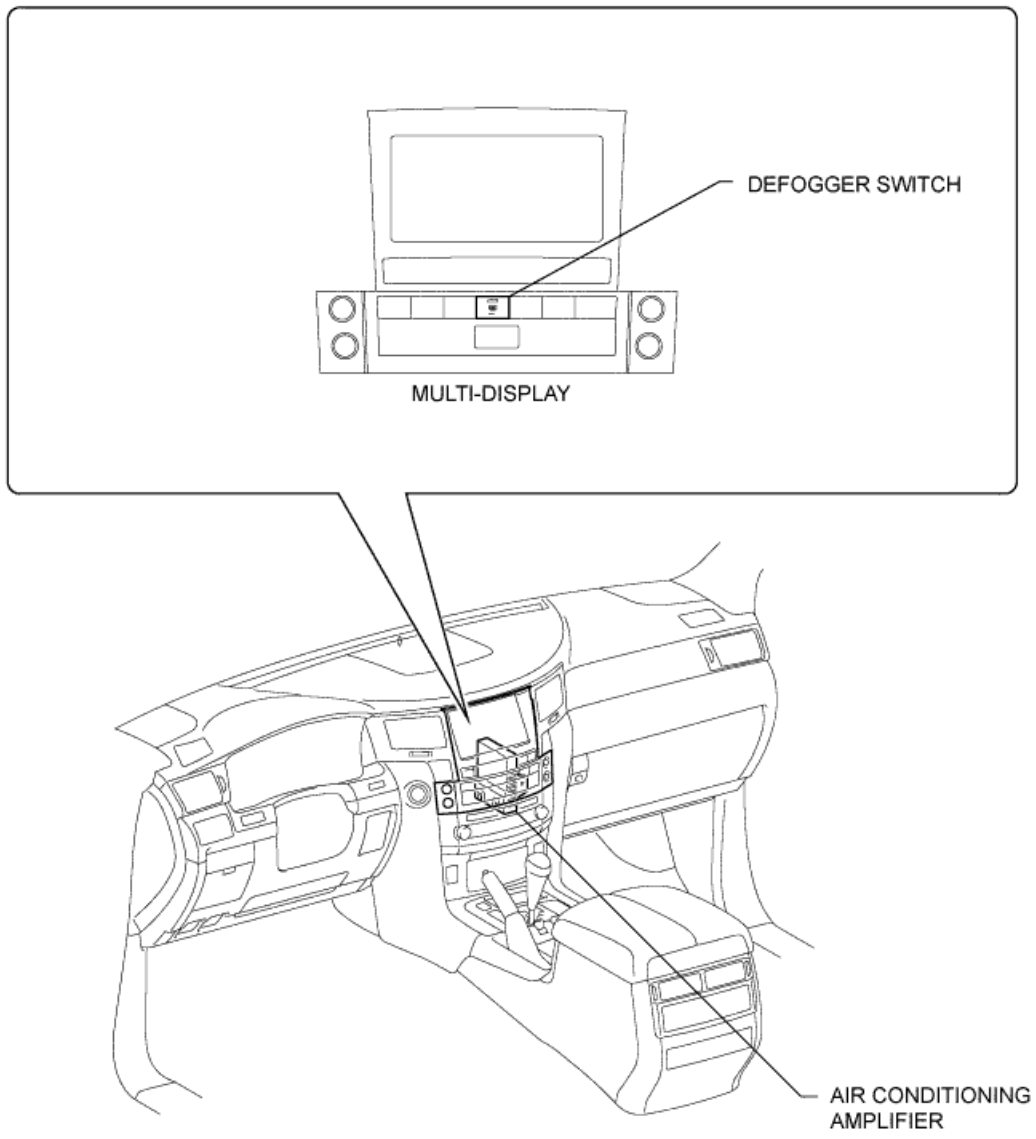
OK

REPLACE WINDSHIELD GLASS (Click here)

for Preparation Click here

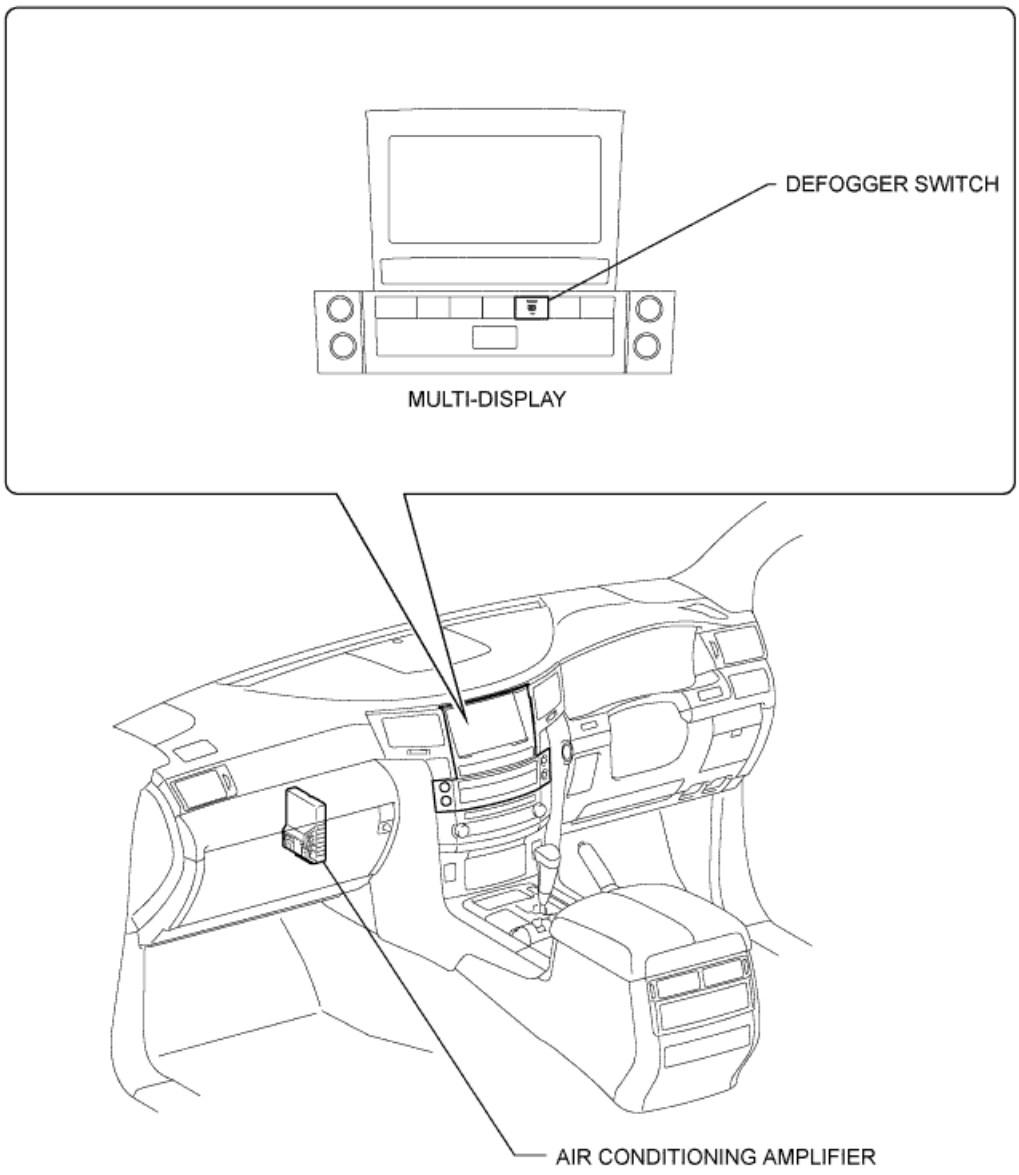


for LHD:


DEFOGGER SWITCH
MULTI-DISPLAY
AIR CONDITIONING
AMPLIFIER

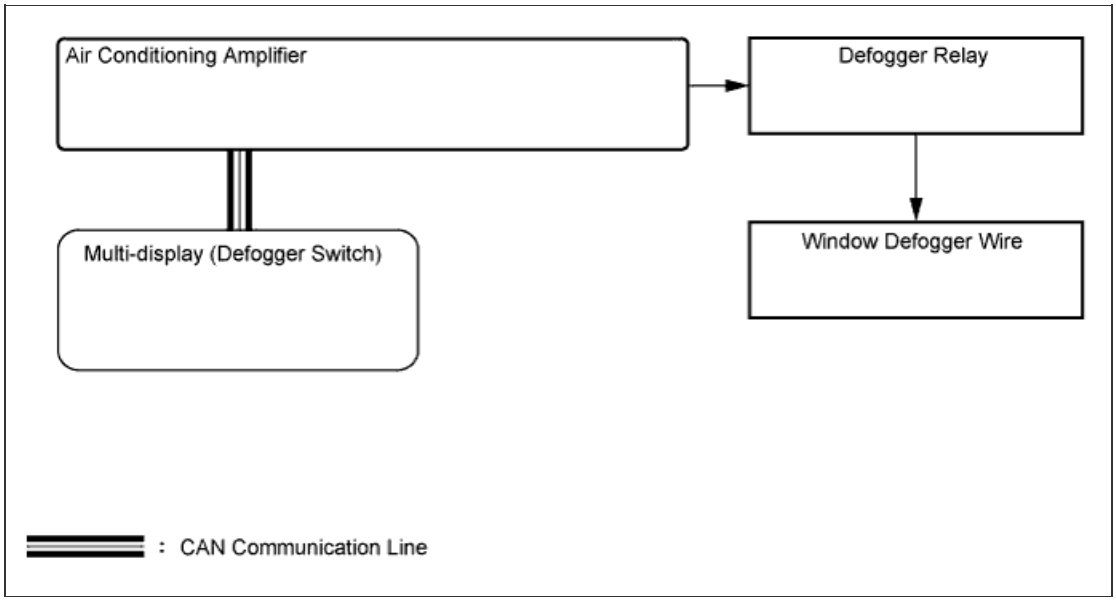
H

for RHD:


DEFOGGER SWITCH
MULTI-DISPLAY
AIR CONDITIONING AMPLIFIER

H

for Preparation Click here



Communication Table

Transmitter	Receiver	Signal	Line
Multi-display	Air conditioning amplifier	Window defogger switch signal	CAN

for Preparation Click here

GENERAL

The thin heater wires of the defogger system are attached to the rear window and defog the rear window surface quickly. The indicator light illuminates while the system is operating. The system automatically turns off after approximately 15 minutes.

FUNCTION OF MAIN COMPONENT

Component	Outline
Defogger switch	Located on the multi-display, it detects defogger switch operation and transmits signals to the air conditioning amplifier through the CAN communication line.
Defogger relay	Receives rear window defogger activation request signals from the air conditioning amplifier and supplies power to the rear window defogger.
Rear window defogger	Receives power from the defogger relay and heats the defogger wire.

DESCRIPTION

Function	Outline
Defog rear window surface	• The defogger relay receives rear window defogger activation request signals from the air conditioning amplifier and defogs the rear window surface. • Receives power from the defogger relay and heats the defogger wire.

for Preparation Click here

HINT:

- **Use these procedures to troubleshoot the window defogger 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 if the CAN communication system is functioning normally.

OK:
CAN DTC is not output.

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)

OK

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 8

A

5.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Terminals of ECU (Click here)

b. Data List / Active Test (Click here)

NEXT

6.REPAIR OR REPLACE

NEXT

7.CONFIRMATION TEST

NEXT

END

for Preparation Click here

HINT:

- **Use these procedures to troubleshoot the window defogger 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 if the CAN communication system is functioning normally.

OK:
CAN DTC is not output.

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)

OK

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 8

A

5.OVERALL ANALYSIS AND TROUBLESHOOTING*

a. Terminals of ECU (Click here)

b. Data List / Active Test (Click here)

NEXT

6.REPAIR OR REPLACE

NEXT

7.CONFIRMATION TEST

NEXT

END

for Preparation Click here

HINT:

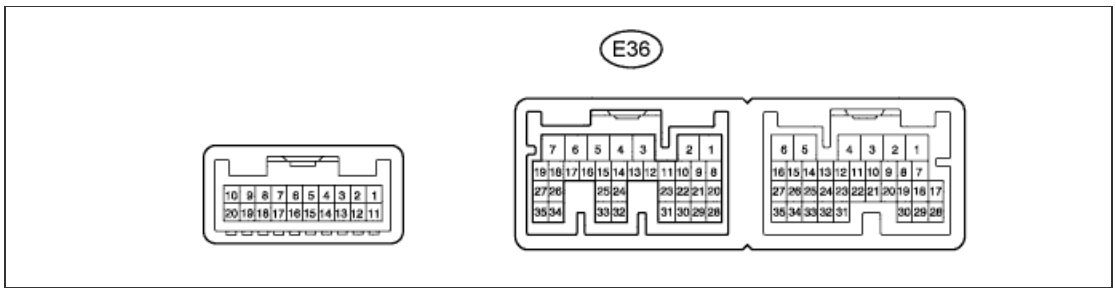
Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed.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

Window Defogger System

Symptom	Suspected Area	See page
Rear window defogger system does not operate	DEFOG relay	Click here
	CAN communication system	-
	Air conditioning amplifier	-
	Multi-display	-
	DEFOG H-fuse	-
	Harness or connector	-

for Preparation Click here

CHECK AIR CONDITIONING AMPLIFIER



a. Disconnect the E36 air conditioning amplifier 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
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
E36-6 (+B1) - E36-1 (GND)	R - W-B	Battery power source	Always	11 to 14 V
E36-7 (+B2) - E36-1 (GND)	R - W-B	Battery power source	Always	11 to 14 V
E36-1 (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.

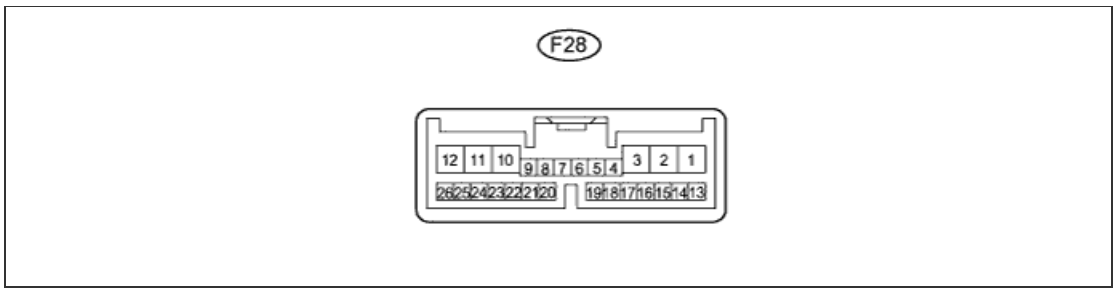
c. Reconnect the E36 air conditioning amplifier connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
E36-24 (RDEF) - E36-1 (GND)	G - W-B	Defogger relay	Engine switch on (IG) and defogger switch off	11 to 14 V
			Engine switch on (IG) and defogger switch on	Below 1 V

If the result is not as specified, the air conditioning amplifier or fuse may have a malfunction.

CHECK MULTI-DISPLAY



a. Disconnect the F28 multi-display connector.

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

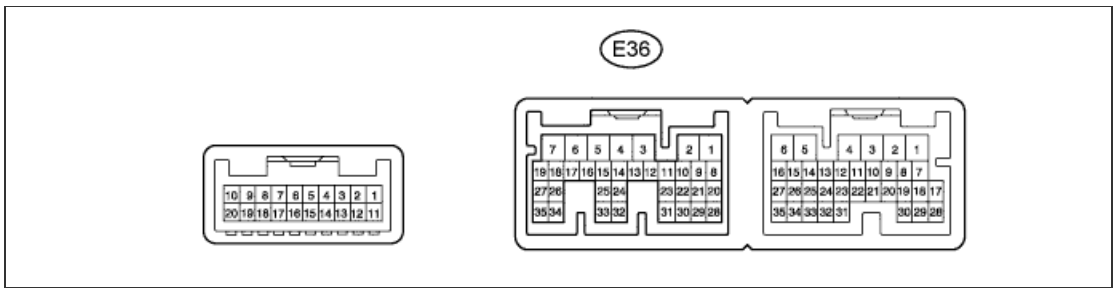
Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
F28-3 (IG) - F28-10 (GND1)	G - W-B	Ignition power supply	Engine switch on (IG)	11 to 14 V
			Engine switch off	Below 1 V

F28-1 (+B1) - F28-10 (GND1)	R - W-B	Battery power source	Always	11 to 14 V
F28-10 (GND1) - 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 AIR CONDITIONING AMPLIFIER



a. Disconnect the E36 air conditioning amplifier 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
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
E36-6 (+B1) - E36-1 (GND)	R - W-B	Battery power source	Always	11 to 14 V
E36-7 (+B2) - E36-1 (GND)	R - W-B	Battery power source	Always	11 to 14 V
E36-1 (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.

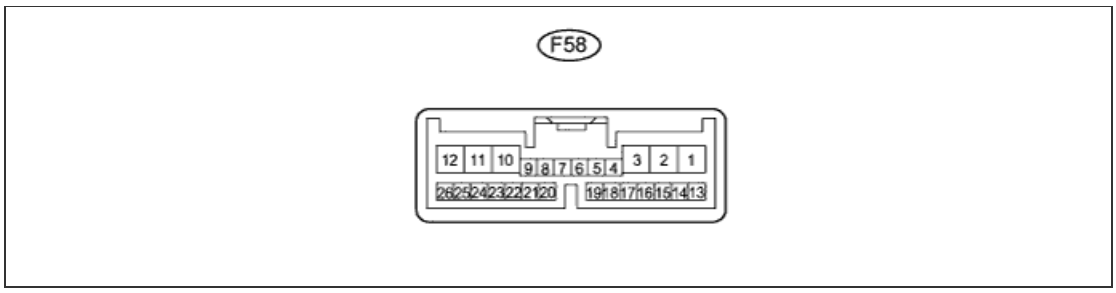
c. Reconnect the E36 air conditioning amplifier connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
E36-24 (RDEF) - E36-1 (GND)	G - W-B	Defogger relay	Engine switch on (IG) and defogger switch off	11 to 14 V
			Engine switch on (IG) and defogger switch on	Below 1 V

If the result is not as specified, the air conditioning amplifier or fuse may have a malfunction.

CHECK MULTI-DISPLAY



a. Disconnect the F58 multi-display 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
F58-3 (IG) - F58-10 (GND1)	G - W-B	Ignition power supply	Engine switch on (IG)	11 to 14 V
			Engine switch off	Below 1 V

F58-1 (+B1) - F58-10 (GND1)	R - W-B	Battery power source	Always	11 to 14 V
F58-10 (GND1) - 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

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.

Air Conditioner

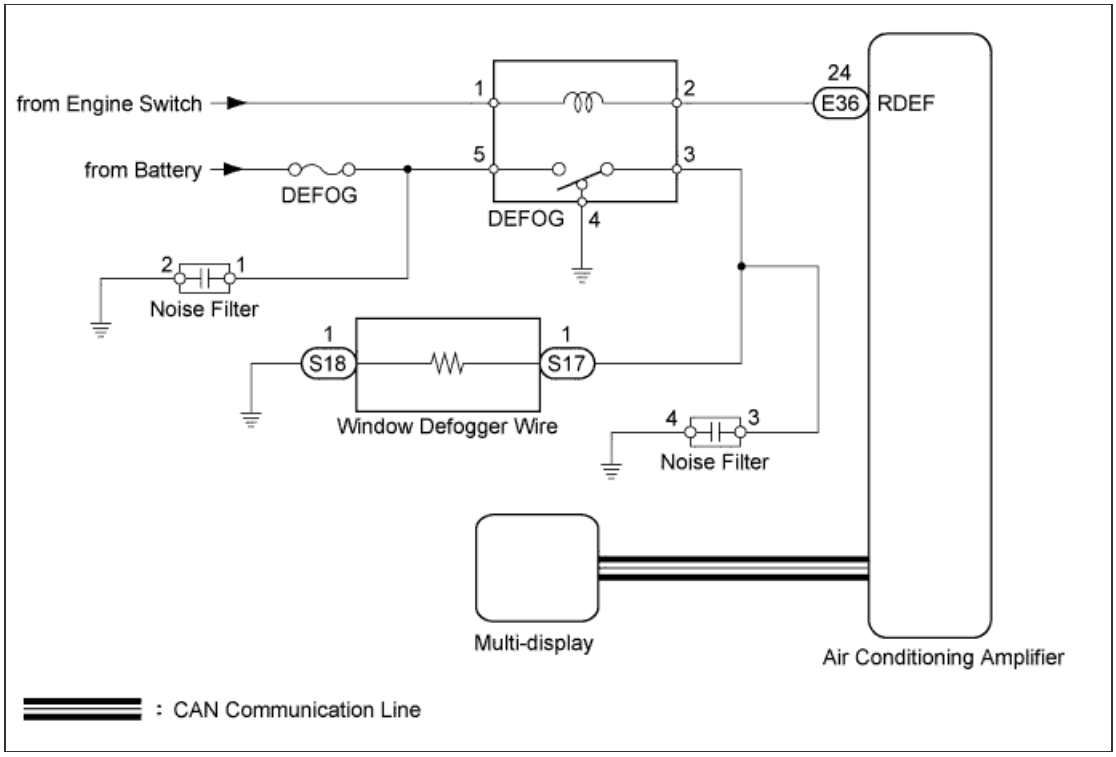
Tester Display	Test Part	Control Range	Diagnostic Note
Defogger Relay (Rear)	Rear window defogger relay operation	OFF or ON	-

for Preparation Click here

DESCRIPTION

When the window defogger switch is turned on, a window defogger activation request signal is sent via the CAN communication line to the air conditioning amplifier. Then the air conditioning amplifier operates the window defogger. When the on signal from the switch is received, the defogger relay (DEFOG) is operated for 15 minutes. Also, if the off signal from the switch is received within 15 minutes, the defogger relay (DEFOG) operation is stopped.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Check for DTC.

Result

Result	Proceed to
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.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (DEFOGGER RELAY)

a. Select the Active Test using the intelligent tester to generate a control command, and then check that the rear window defogger operates.

Air Conditioner

Tester Display	Test Part	Control Range	Diagnostic Note
Defogger Relay (Rear)	Rear window defogger relay operation	OFF or ON	-

Result

Result	Proceed to
Rear window defogger operates normally (w/ Navigation System)	A
Rear window defogger operates normally (w/o Navigation System)	B
Rear window defogger does not operate	C

B → Go to step 5

C → Go to step 7

A

3.REPLACE MULTI-DISPLAY

a. Temporarily replace the multi-display with a new or normally functioning one (Click here).

NEXT

4.CHECK WINDOW DEFOGGER SYSTEM

a. Turn the engine switch on (IG).

b. Check that pressing the defogger switch illuminates the indicator and warms the rear window surface.

c. Check that after approximately 15 minutes, the indicator light turns off and the rear window defogger deactivates.

OK:
Rear window defogger system functioning normally.

NG → REPLACE AIR CONDITIONING AMPLIFIER (Click here)

OK

END

5.REPLACE MULTI-DISPLAY

a. Temporarily replace the multi-display with a new or normally functioning one (Click here).

NEXT

6.CHECK WINDOW DEFOGGER SYSTEM

a. Turn the engine switch on (IG).

b. Check that pressing the defogger switch illuminates the indicator and warms the rear window surface.

c. Check that after approximately 15 minutes, the indicator light turns off and the rear window defogger deactivates.

OK:
Rear window defogger system functioning normally.

NG → REPLACE AIR CONDITIONING AMPLIFIER (Click here)

OK

END

7.CHECK FUSE (DEFOG)

a. Remove the DEFOG H-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
DEFOG H-fuse	Always	Below 1 Ω

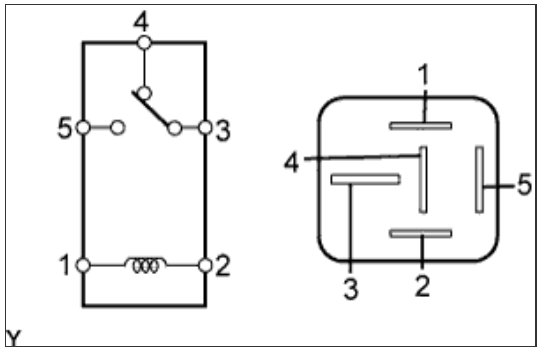
NG → REPLACE FUSE

OK

8.INSPECT DEFOGGER RELAY (DEFOG)

a. Remove the defogger 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 to terminals 1 and 2	Below 1 Ω
3 - 5		10 kΩ or higher
3 - 4	Battery voltage is applied to terminals 1 and 2	10 kΩ or higher
3 - 5		Below 1 Ω

NG → REPLACE DEFOGGER RELAY

OK

9.CHECK HARNESS AND CONNECTOR (DEFOGGER RELAY - BATTERY AND AIR CONDITIONING AMPLIFIER)

a. Remove the defogger relay from the engine room relay block.

b. Disconnect the E36 air conditioning amplifier connector.

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

Standard Voltage:

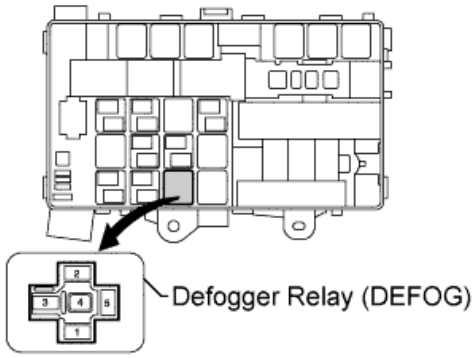
Tester Connection	Condition	Specified Condition
Defogger relay terminal 1 - Body ground	Engine switch on (IG)	11 to 14 V
Defogger relay terminal 5 - Body ground	Always	11 to 14 V

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

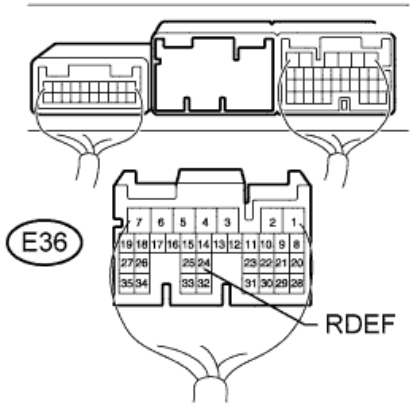
Standard Resistance:

Tester Connection	Condition	Specified Condition
Defogger relay terminal 2 - E36-24 (RDEF)	Always	Below 1 Ω

Component without relay connected:
(Engine Room Relay Block)



Rear view of wire harness connector:
(to Air Conditioning Amplifier)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

10.CHECK HARNESS AND CONNECTOR (WINDOW DEFOGGER WIRE - DEFOGGER RELAY AND BODY GROUND)

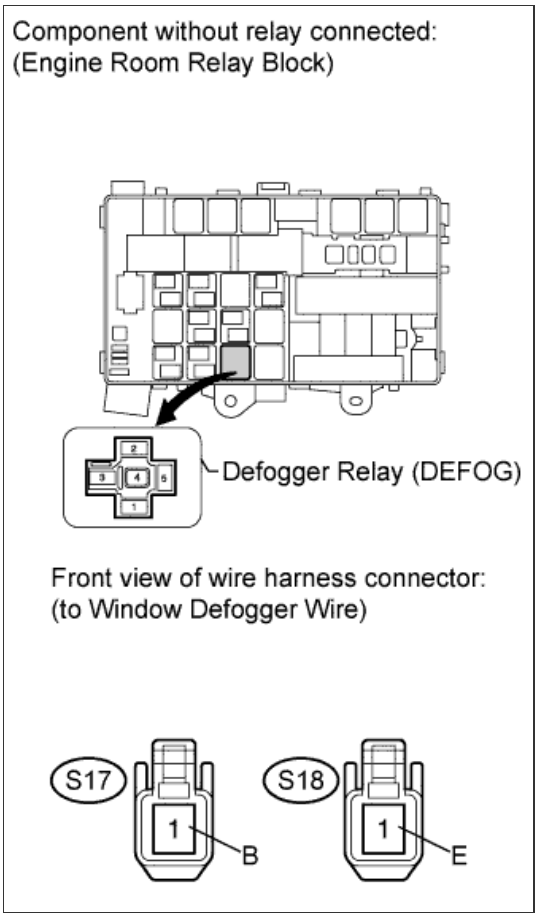
a. Disconnect the S17 and S18 defogger wire connectors.

b. Remove the defogger 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
S17-1 (B) - Defogger relay terminal 3	Always	Below 1 Ω
S18-1 (E) - Body ground		
Defogger relay terminal 4 - Body ground		
S17-1 (B) - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

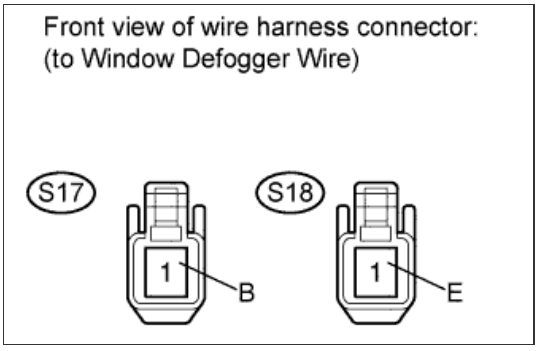
11.CHECK WINDOW DEFOGGER WIRE

a. Disconnect the S17 and S18 defogger wire connectors.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
S17-1 (B) - S18-1 (E)	Engine switch on (IG) and defogger switch on	11 to 14 V



NG → REPLACE AIR CONDITIONING AMPLIFIER (Click here)

OK

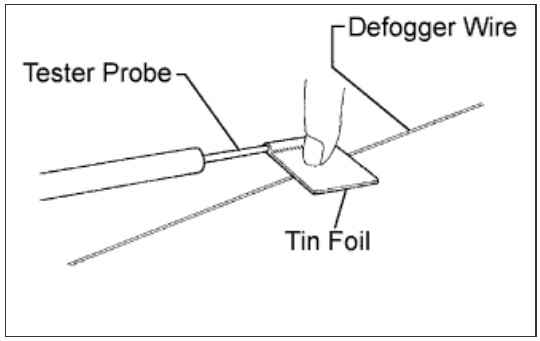
REPAIR OR REPLACE BACK WINDOW GLASS (Click here)

for Preparation Click here

1. INSPECT BACK WINDOW GLASS (DEFOGGER WIRE)

NOTICE:

- **When cleaning the glass, wipe the glass along the wire using a soft, dry cloth. Take care not to damage the defogger wires.**
- **Do not use detergents or glass cleaners that have abrasive ingredients.**
- **When measuring voltage, wrap a piece of tin foil around the tip of the negative (-) tester probe and press the foil against the wire with your finger, as shown in the illustration.**



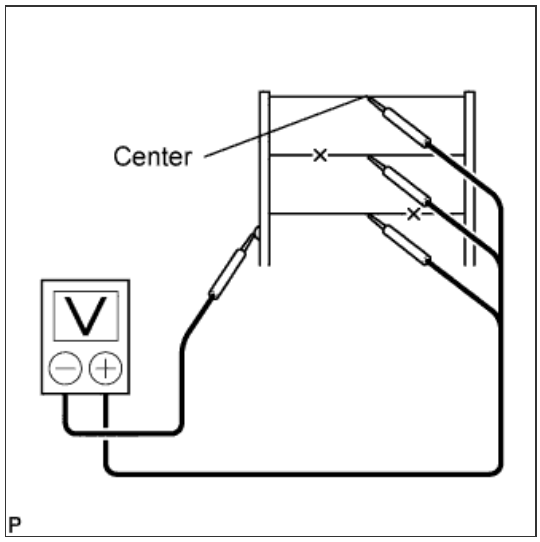
a. Turn the engine switch on (IG).

b. Turn the defogger switch on.

c. Measure the voltage at the center of each defogger wire as shown in the illustration.

Standard Voltage:

Voltage	Criteria
Approx. 5 V	Wire is not broken
Approx. 10 or 0 V	Wire is broken



HINT:

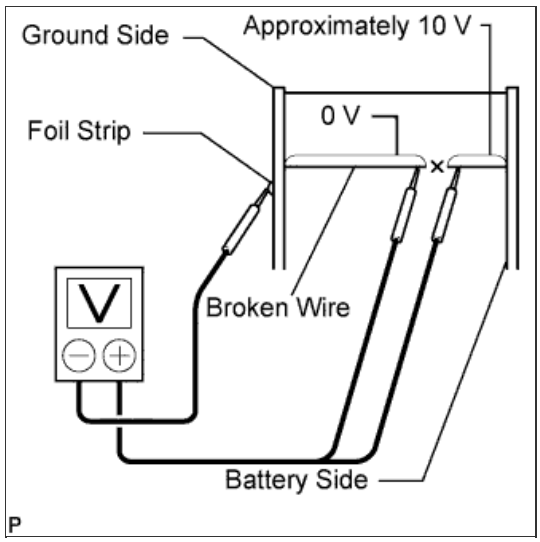
If there is approximately 10 V, the wire may be faulty between the center of the wire and the wire end on the battery side. If there is no voltage, the wire may be faulty between the center of the wire end and the wire end on the ground side.

d. Place the voltmeter positive (+) lead against the defogger wire on the battery side.

e. Place the voltmeter negative (-) lead with the foil strip against the wire on the ground side.

f. Slide the positive (+) lead from the battery side to the ground side.

g. The point where the voltage drops from approximately 10 V to 0 V is where the defogger wire is broken.



HINT:

If the defogger wire is not broken, the voltmeter indicates 0 V at the positive (+) end of the defogger wire and gradually increases to approximately 12 V as the meter probe moves to the other end.

for Preparation Click here

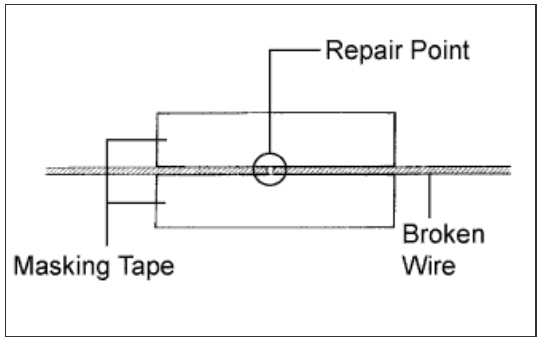
1. REPAIR DEFOGGER WIRE

a. Clean the broken wire tips with grease, wax and silicone remover.

b. Place masking tape along both sides of the wire.

c. Thoroughly mix the repair agent.

DuPont paste:
No. 4817 or equivalent

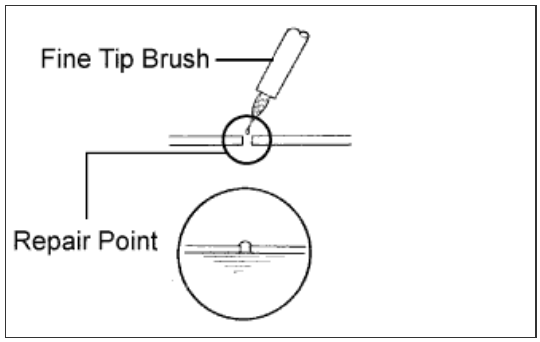


d. Using a fine tip brush, apply a small amount of the agent to the wire.

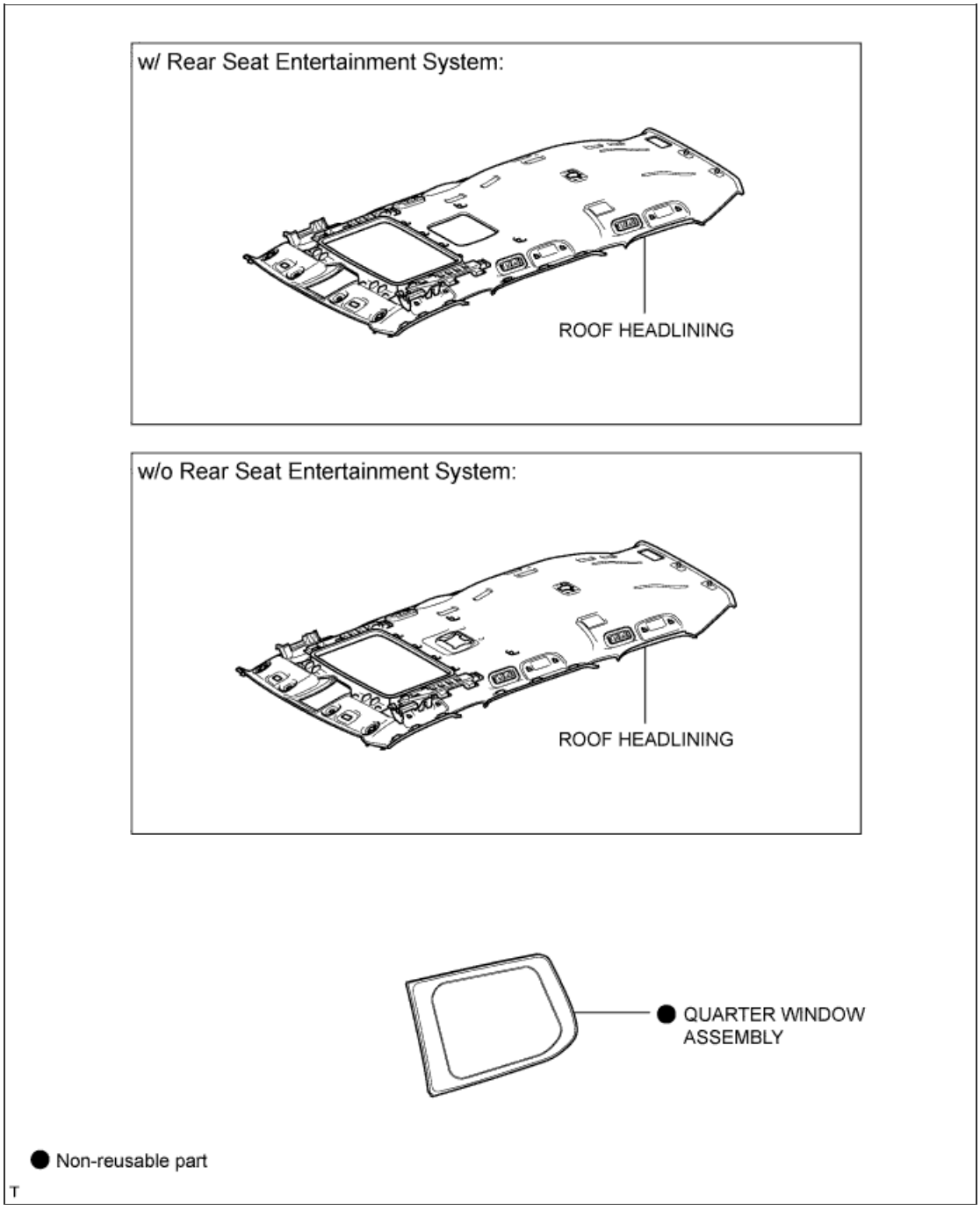
e. After a few minutes, remove the masking tape.

NOTICE:

Do not allow electricity to flow in the defogger wire for at least 24 hours.



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 ROOF HEADLINING

a. Remove the roof headlining (Click here).

2. REMOVE QUARTER WINDOW ASSEMBLY

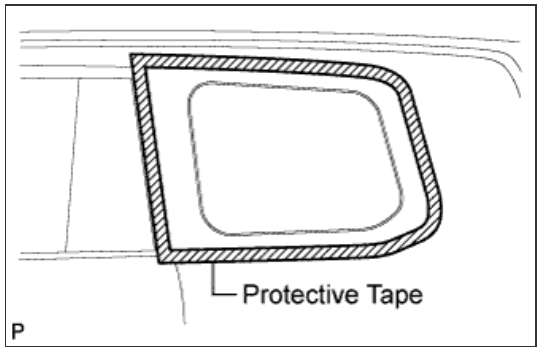
HINT:

Apply protective tape to the outer surface of the vehicle body to prevent scratches.

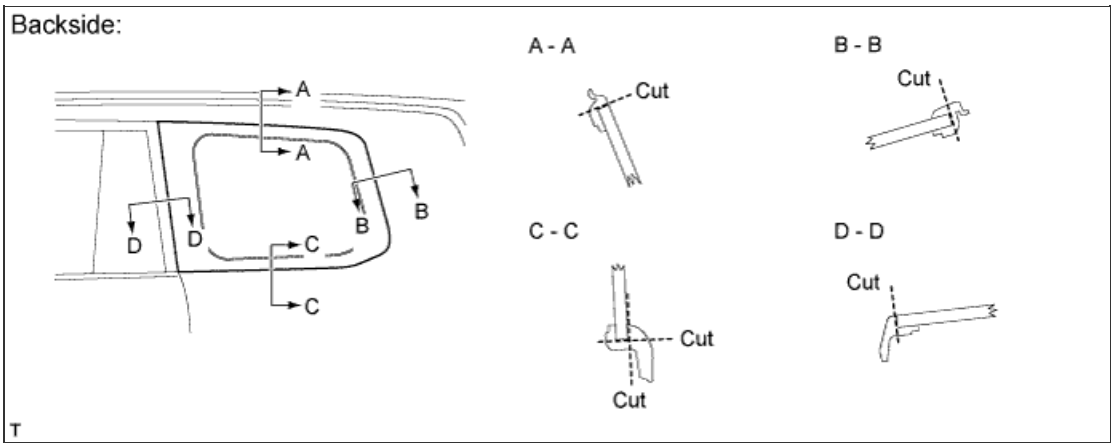
NOTICE:

When separating the quarter window glass from the vehicle, be careful not to damage the vehicle paint or interior/exterior ornaments.

a. Disconnect the connector.



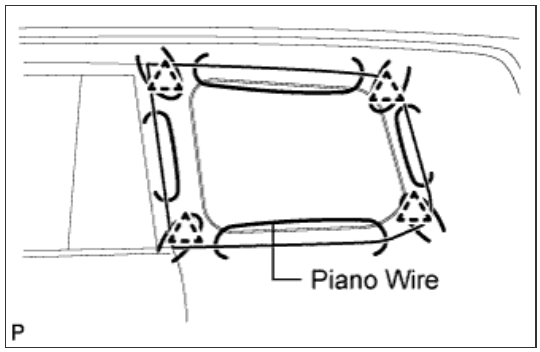
b. Using a knife, cut off the moulding as shown in the illustration.



NOTICE:

Be careful not to damage the vehicle body.

c. From the interior, insert a piano wire between the vehicle body and the quarter window glass as shown in the illustration.



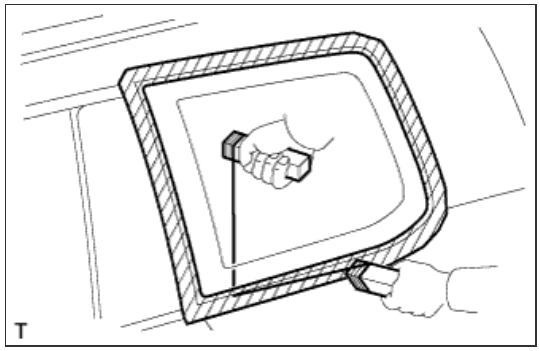
d. Tie objects that can serve as handles (for example, wooden blocks) to both wire ends.

e. Cut through the adhesive by pulling the piano wire around the quarter window glass.

NOTICE:

Leave as much adhesive on the vehicle body as possible when removing the quarter window glass.

f. Using suction cups, remove the quarter window glass.



3. CLEAN VEHICLE BODY

a. Clean and shape the contact surface of the vehicle body.

i. On the contact surface of the vehicle body, use a knife to cut away excess adhesive as shown in the illustration.

HINT:

Leave as much adhesive on the vehicle body as possible.

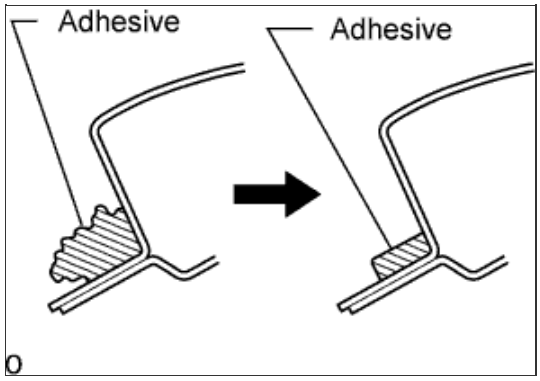
NOTICE:

Be careful not to damage the vehicle body.

ii. Clean the contact surface of the vehicle body with cleaner.

HINT:

Even if all the adhesive has been removed, clean the vehicle body.



for Preparation Click here

HINT:

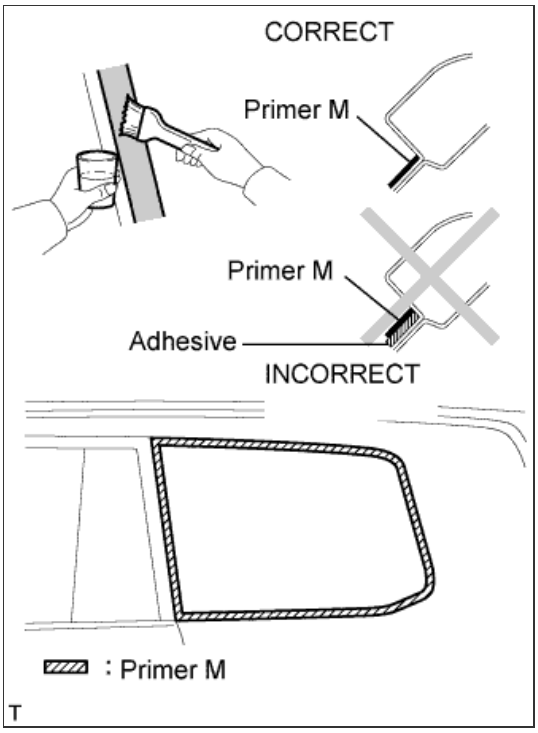
- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**
- **A bolt without a torque specification is shown in the standard bolt chart (Click here).**

1. INSTALL QUARTER WINDOW ASSEMBLY LH

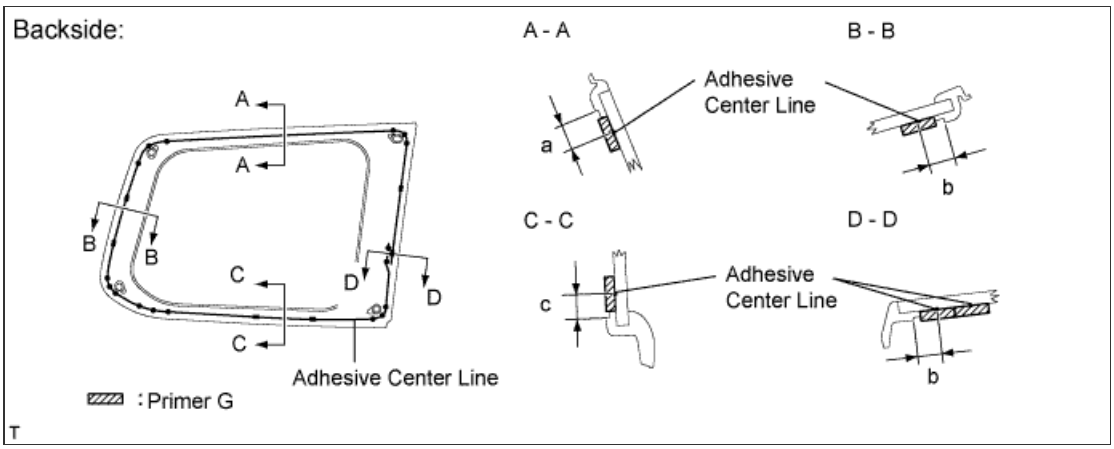
a. Using a brush or sponge, apply primer M to the exposed part of the vehicle body.

NOTICE:

- **Allow the primer coating to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**



b. Using a brush or sponge, apply Primer G to the contact surface of the glass.



Standard:

Area	Specified Condition
a	6.8 mm (0.268 in.)
b	6.5 mm (0.256 in.)
c	6.7 mm (0.264 in.)

HINT:

If primer is applied to an area that is not specified, wipe off the primer with non-residue solvent before it dries.

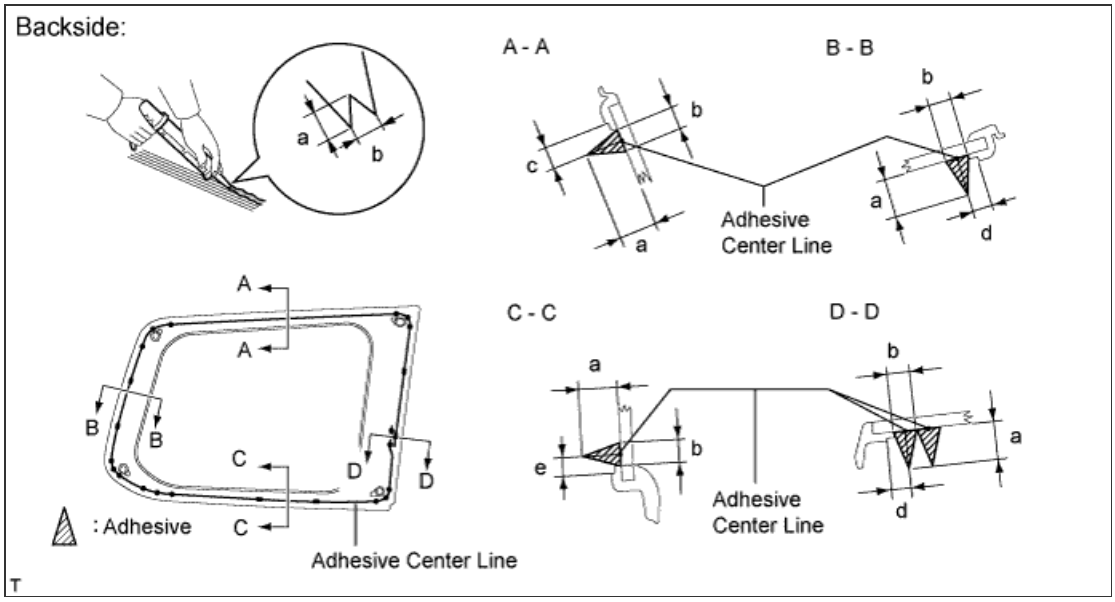
NOTICE:

- **Allow the primer to dry for 3 minutes or more.**
- **Throw away any leftover primer.**
- **Do not apply too much primer.**

c. Apply adhesive to the quarter window glass.

Adhesive:
Toyota Genuine Windshield Glass Adhesive or equivalent

i. Cut off the tip of the cartridge nozzle as shown in the illustration.



Standard:

Area	Specified Condition
a	12.0 mm (0.472 in.)
b	8.0 mm (0.315 in.)
c	6.8 mm (0.268 in.)
d	6.5 mm (0.256 in.)
e	6.7 mm (0.264 in.)

HINT:

After cutting off the tip, use all adhesive within the time written in the table below.

Usage Time Frame:

Temperature	Usage Time Frame
35°C (95°F)	15 minutes
20°C (68°F)	1 hour 40 minutes
5°C (41°F)	8 hours

ii. Load the sealer gun with the cartridge.

iii. Apply adhesive to the quarter window glass as shown in the illustration.

d. Install the quarter window glass to the vehicle body.

d. Install the quarter window glass to the vehicle body.

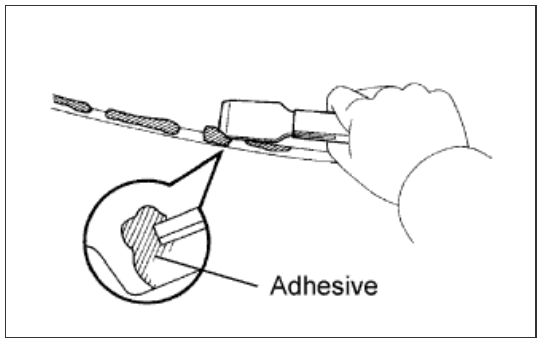
i. Hold the quarter window glass in place securely with protective tape or equivalent until the adhesive hardens.

NOTICE:

- **Allow the primer coating to dry for 3 minutes or more.**
- **Check the clearance between the body and glass.**

ii. Lightly press the front surface of the glass to ensure a close fit.

iii. Using a scraper, remove any excess or protruding adhesive.



HINT:

Apply adhesive onto the glass rim.

NOTICE:

Do not drive the vehicle within the time written in the table below.

Minimum Time:

Temperature	Minimum Time Prior to Driving Vehicle
35°C (95°F)	1 hour 30 minutes
20°C (68°F)	5 hours
5°C (41°F)	24 hours

e. Connect the connector.

2. CHECK FOR LEAK AND REPAIR

a. Conduct a leak test after the adhesive has completely hardened.

b. Seal any leaks with auto glass sealer.

3. INSTALL ROOF HEADLINING ASSEMBLY

a. Install the roof headlining (Click here).

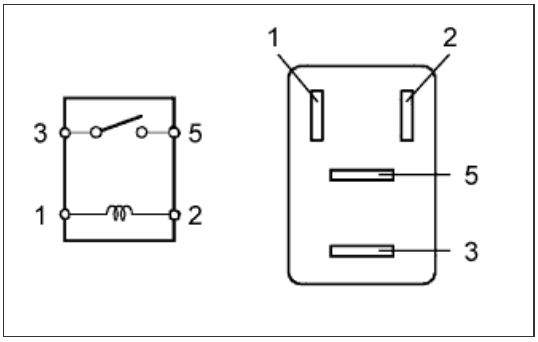
for Preparation Click here

1. REMOVE DEICER RELAY

a. Remove the deicer relay from the engine room relay block.

2. INSPECT DEICER RELAY

a. 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

If the result is not as specified, replace the relay.

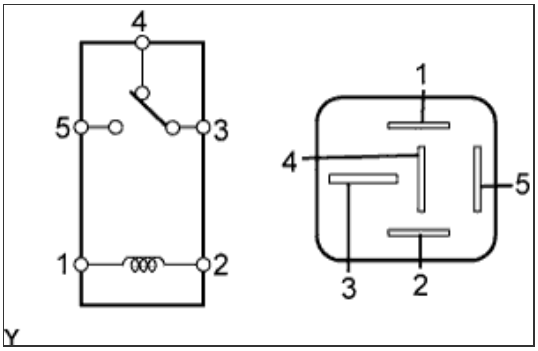
3. INSTALL DEICER RELAY

a. Install the deicer relay to the engine room relay block.

for Preparation Click here

1. REMOVE DEFOGGER RELAY (DEFOG)

a. Remove the defogger relay from the engine room relay block.



2. INSPECT DEFOGGER RELAY

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

Standard Resistance:

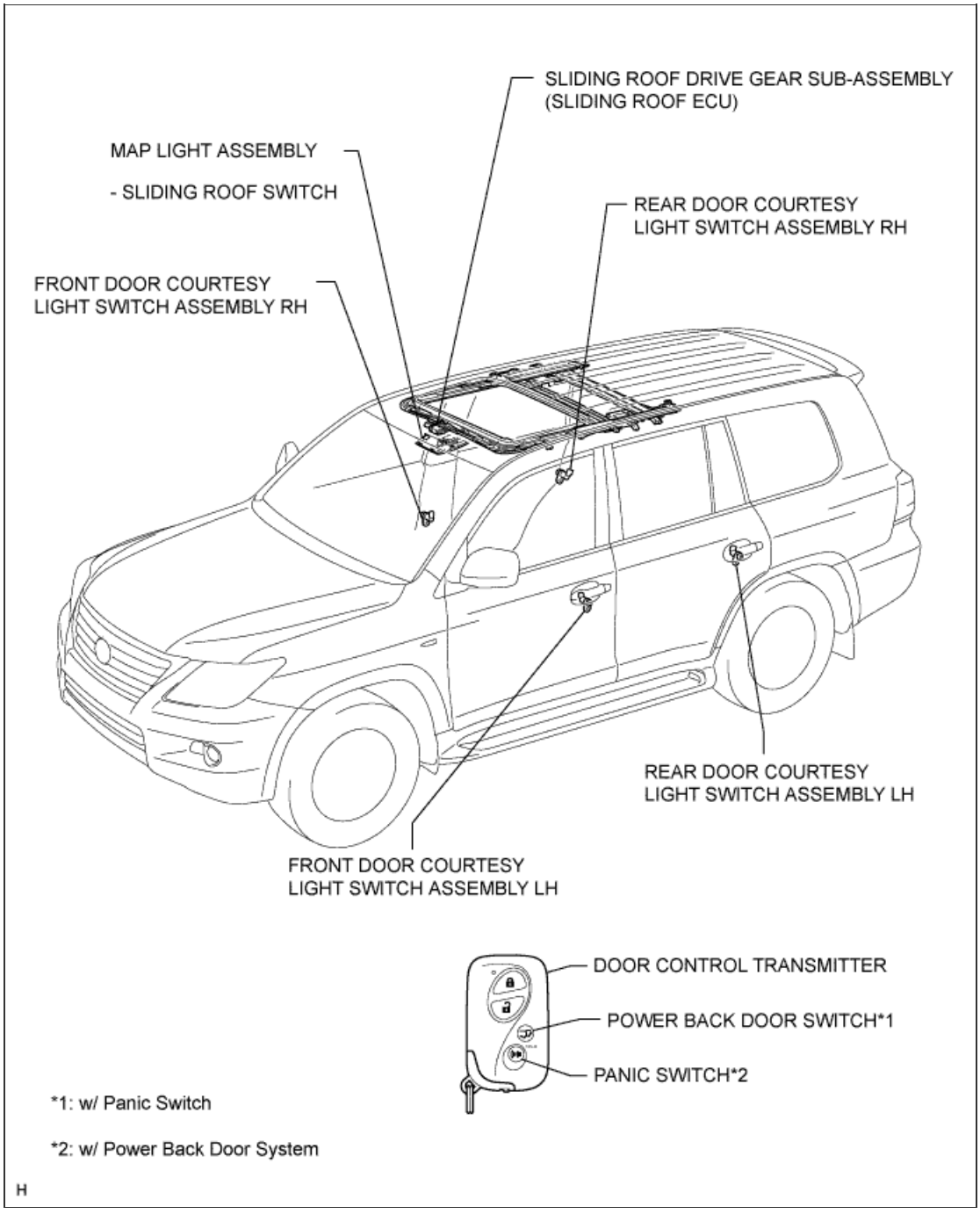
Tester Connection	Condition	Specified Condition
3 - 4	Battery voltage is not applied to terminals 1 and 2	Below 1 Ω
	Battery voltage is applied to terminals 1 and 2	10 kΩ or higher
3 - 5	Battery voltage is not applied to terminals 1 and 2	10 kΩ or higher
	Battery voltage is applied to terminals 1 and 2	Below 1 Ω

If the result is not as specified, replace the relay.

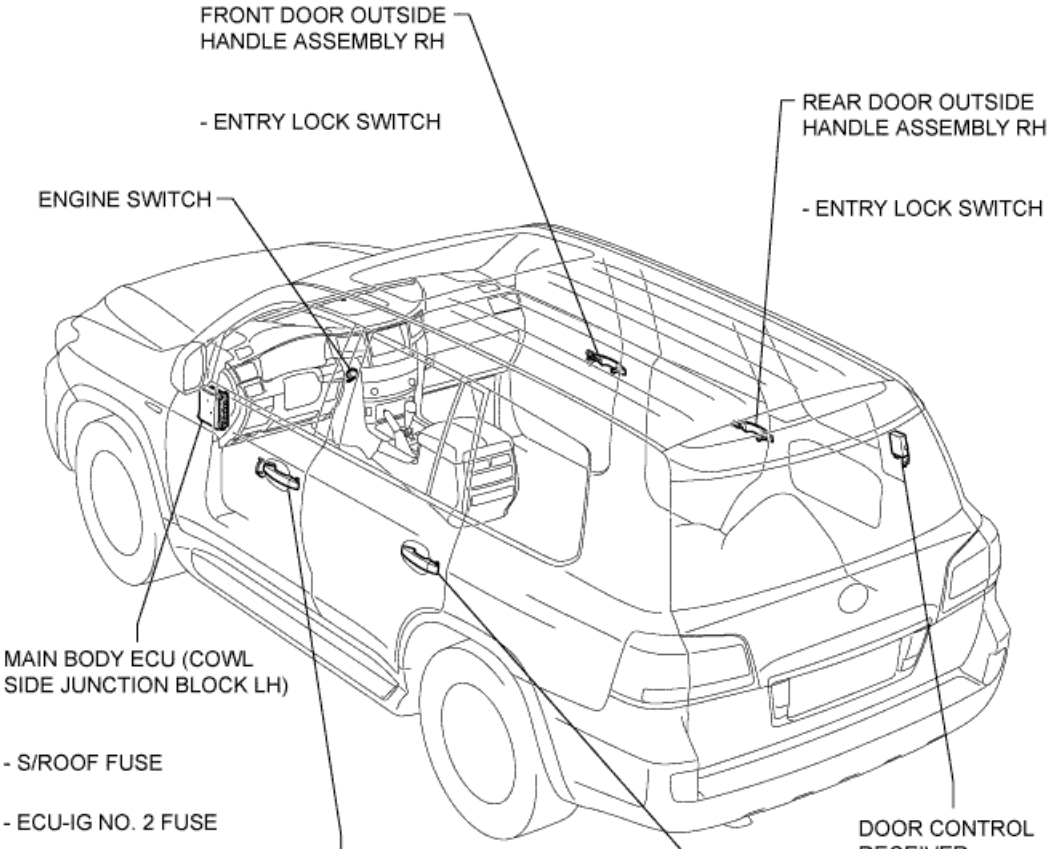
3. INSTALL DEFOGGER RELAY

a. Install the defogger relay to the engine room relay block.

for Preparation Click here



for LHD:

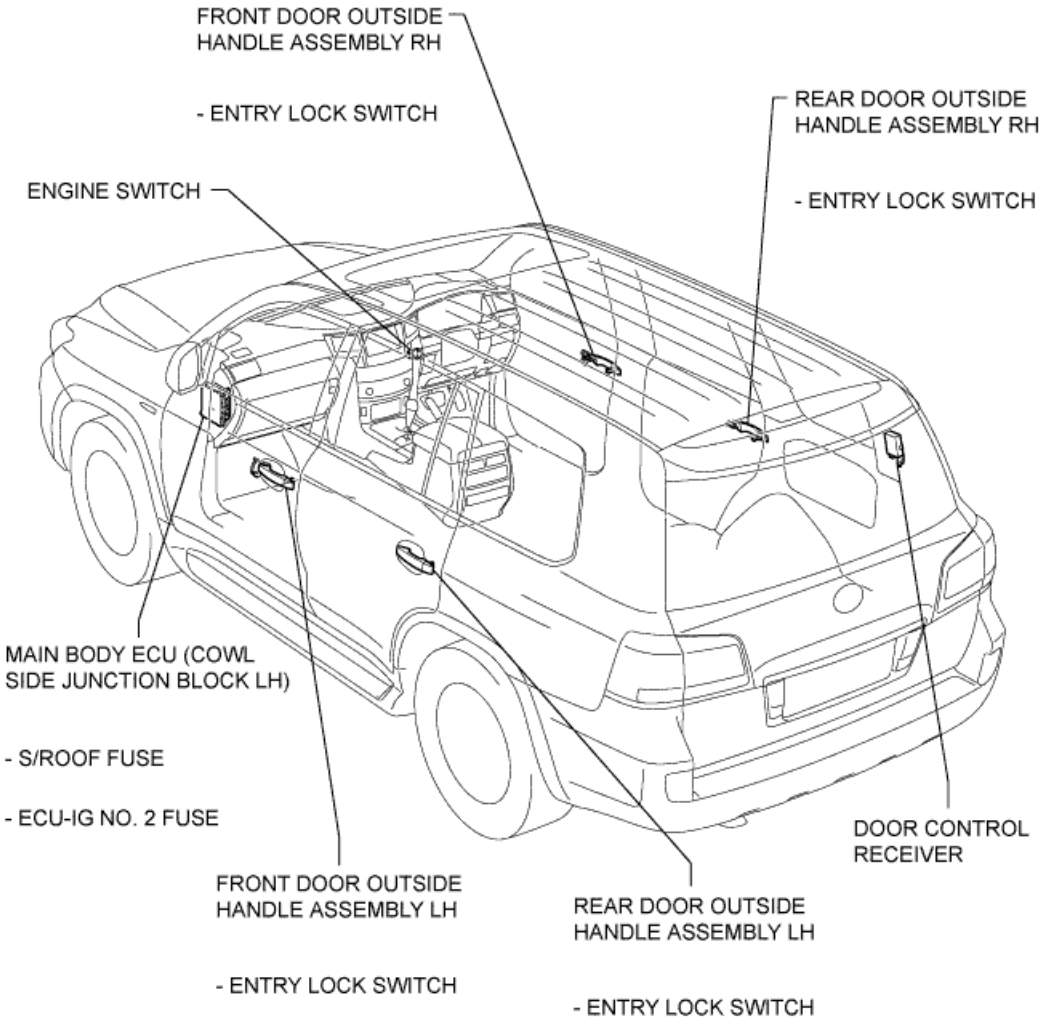



CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

Refer to Service Bulletin for installation position.

H

for RHD:

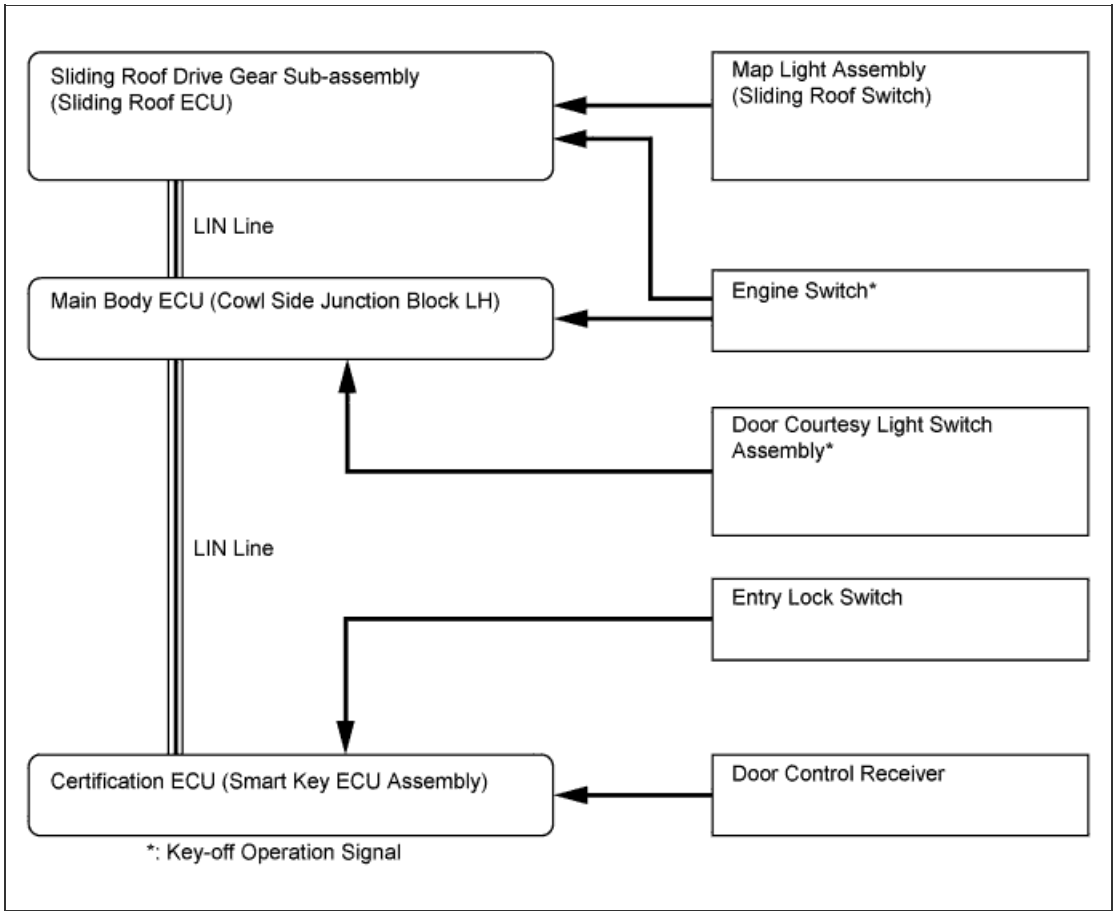



CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

Refer to Service Bulletin for installation position.

H

for Preparation Click here



Communication Table

Sender	Receiver	Signal	Line
Main Body ECU	Sliding Roof ECU	• Key-off operation signal (Engine switch status) • Key-off operation signal (Courtesy switch status) • Key-linked open/close operation	LIN
Certification ECU (Smart Key ECU Assembly)	Sliding Roof ECU	• Transmitter-linked open/close operation signal • Entry lock switch-linked close operation	LIN

for Preparation Click here

GENERAL

This system has the following functions: manual slide open and close; auto slide open and close; manual tilt up and down; auto tilt up and down; and jam protection.

HINT:

If the driver side door is opened with the engine switch off and the sliding roof open, the buzzer sounds and the combination meter indicates that the sliding roof is open.

FUNCTION OF MAIN COMPONENT

Component	Outline
Sliding roof drive gear sub-assembly (Sliding roof ECU)	Sliding roof ECU controls sliding roof motor to rotate forward and backward, which tilts or slides sliding roof glass.
Map light assembly (Sliding roof switch)	Output of operation signals from built-in sliding roof switch to sliding roof ECU are handled by map light.

SYSTEM OPERATION

The sliding roof has the following features.

Function	Outline
Manual slide open and close	This function causes the sliding roof to open (or close) when the OPEN switch (or CLOSE switch) is pressed for less than 0.3 seconds. The sliding roof stops as soon as switch is released.
Auto slide open and close	This function causes the sliding roof to be fully opened (or closed) when the OPEN switch (or CLOSE switch) is pressed for 0.3 seconds or more.
Manual tilt up and down	This function the causes sliding roof to tilt up (or tilt down) when the UP switch (or DOWN switch) is pressed for less than 0.3 seconds.
Auto tilt up and down	This function causes the sliding roof to be fully tilted up (or tilted down) when the UP switch (or DOWN switch) is pressed for 0.3 seconds or more.
Jam protection function	The jam protection function automatically stops the sliding roof, or stops the sliding roof and makes it open halfway (or fully tilts it upward) if a foreign object gets jammed in the sliding roof during close operation (or tilt down operation).
Key-off operation	The key-off operation function makes it possible to operate sliding roof for approximately 45 seconds after the engine switch is turned off if the front doors are not opened.
Transmitter-linked open/close operation	When the main body ECU receives an unlock signal from the transmitter continuously for 3.0 seconds or more, the sliding roof ECU activates the sliding roof motor to open/tilt up the sliding roof. Similarly, when the main body ECU receives a lock signal from the transmitter continuously for 3.0 seconds or more, the sliding roof ECU activates the sliding roof motor to close the sliding roof.
Key-linked open/close operation	When the key is not in the vehicle, the driver side door is locked, and the key inserted into the driver side door key cylinder is turned and maintained in the lock position for 3.0 seconds or more, the sliding roof ECU activates the sliding roof motor to close the sliding roof while the key is turned. Similarly, when the driver side door is unlocked and the key in driver side door is turned and maintained in the unlock position for 3.0 seconds or more, the sliding roof ECU activates the sliding roof motor to open/tilt up the sliding roof.
Entry lock switch-linked close operation	When the certification ECU (smart key ECU assembly) receives a lock signal from the entry lock switch continuously for 3.0 seconds or more, the sliding roof ECU activates the sliding roof motor to close the sliding roof.

for Preparation Click here

HINT:

- **Use these procedures to troubleshoot the sliding roof 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 LIN COMMUNICATION SYSTEM*

a. Using the intelligent tester, check if the LIN communication system is functioning normally.

Result

Result	Proceed to
LIN communication system DTC is not output	A
LIN communication system DTC is output	B

B. → Go to LIN COMMUNICATION SYSTEM (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.ADJUST, REPAIR OR REPLACE

NEXT

7.INITIALIZATION

a. Initialization (Click here).

NEXT

8.CONFIRMATION TEST

NEXT

END

for Preparation Click here

NOTICE:

Perform initialization before performing the operation check.

CHECK AUTO OPERATION

a. Turn the engine switch on (IG).

b. When the roof glass is fully closed, press the OPEN switch for 0.3 seconds or more. Check that the roof glass automatically slides until it is fully opened.

c. When the roof glass is fully open, press the CLOSE switch for 0.3 seconds or more. Check that the roof glass automatically slides until it is fully closed.

d. When the roof glass is fully closed, press the UP switch for 0.3 seconds or more. Check that the roof glass automatically tilts until it is fully tilted up.

e. When the roof glass is fully up, press the DOWN switch for 0.3 seconds or more. Check that the roof glass automatically tilts until it is fully tilted down.

f. When the auto operation is operating, check that pressing any sliding roof switch stops the roof glass operation.

HINT:

When pressing the switch for less than 0.3 seconds, the roof glass moves but auto operation does not operate.

CHECK SLIDING ROOF OPERATION AFTER ENGINE SWITCH IS TURNED OFF

a. Turn the engine switch from on (IG) to off, and check that the sliding roof operates. Then open the driver side door once, and check that the sliding roof does not operate.

b. Turn the engine switch from on (IG) to off and wait for approximately 45 seconds. Check that the sliding roof does not operate.

c. Operate the auto (slide open/close or tilt up/down) operation. While the roof glass is in motion, turn the engine switch from on (IG) to off. Check that the auto operation continues until the roof glass opens or closes fully.

HINT:

When the driver door opens, the sliding roof operation will stop.

CHECK JAM PROTECTION FUNCTION

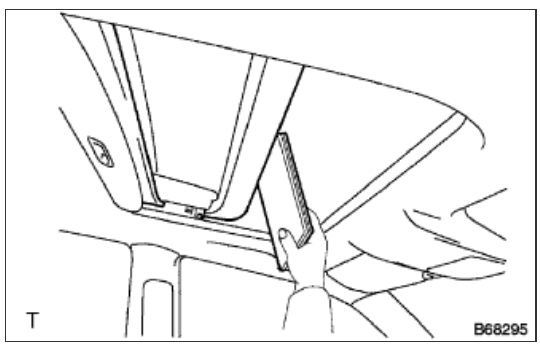
CAUTION:

- **Do not use a part of your body, for example, your hand, to check the jam protection.**
- **Do not allow anything to become caught in the sliding roof by accident in this procedure.**
- **Perform the inspection from the inside of the vehicle.**

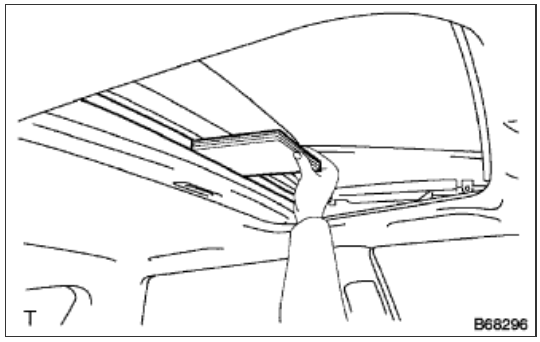
NOTICE:

- **Do not use hard objects, such as a hammer, to avoid damage to the roof.**
- **If the jam protection does not operate, initialize the sliding roof drive gear (motor).**

a. When the sliding roof auto close operation is operating and an object is caught between the vehicle body and glass, check that the roof glass opens a distance of 218 mm (8.58 in.) from the point of contact with the object, or opens fully if an opening distance of 218 mm (8.58 in.) is not available.



b. When the auto tilt down function is operating, and an object is caught between the vehicle body and the roof glass, check that the sliding roof tilts up fully.



CHECK TRANSMITTER-LINKED OPEN/CLOSE OPERATION FUNCTION

a. Close all the doors.

b. Hold down the transmitter unlock switch for approximately 3 seconds or more and check that the slide open/tilt up operation occurs. Also, when the unlock switch is released, check that the roof glass stops moving.

c. Hold down the transmitter lock switch for approximately 3 seconds or more and check that the slide close/tilt down operation occurs. Also, when the lock switch is released, check that the roof glass stops moving.

CHECK KEY-LINKED OPEN/CLOSE OPERATION FUNCTION (DRIVER DOOR ONLY)

a. Insert the key into the driver side door key lock cylinder, and turn the key to the unlock position for approximately 3 seconds or more. Check that the sliding roof starts moving (slide open/tilt up operation). Then release the key and check that the sliding roof stops moving.

b. Insert the key into the driver side door key lock cylinder, and turn the key to the lock position for approximately 3 seconds or more. Check that the sliding roof starts moving (slide close/tilt down operation). Then release the key and check that the sliding roof stops moving.

CHECK ENTRY LOCK SWITCH-LINKED CLOSE OPERATION FUNCTION

a. Close all the doors, open the roof glass and check that the key is not in the vehicle.

b. When the entry lock switch on the door outside handle is pressed for 3 seconds or more, check that the roof glass closes. Also, when the entry lock switch is released, check that the roof glass stops operating.

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 / Slide Roof.

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

Slide Roof

Display	Default	Contents	Setting
Door Key Related Open	ON	The function to manually open the sliding roof linked with the power window if holding the driver side door key for 3 seconds or more to unlock position when the engine switch is off.	ON/OFF
Door Key Related Close	ON	The function to manually close the sliding roof linked with the power window if holding the driver side door key for 3 seconds or more to lock position when the engine switch is off.	ON/OFF
Wireless Key Related Open	ON	The function to manually open the sliding roof linked with the power window if pressing the transmitter unlock switch for 3 seconds or more when the engine switch is off.	ON/OFF
Wireless Key Related Close	ON	The function to manually close the sliding roof linked with the power window if pressing the transmitter lock switch for 3 seconds or more when the engine switch is off.	ON/OFF
Door Handle Lock Button	ON	The function to manually close the sliding roof linked with the power window if pushing the door lock switch for 3 seconds or more when the engine switch is off and the key is outside vehicle.	ON/OFF
Door Key Related Operation	Slide	The function to select tilt up or slide open of manual sliding roof operation linked with the power window activated by holding the driver side door key for 3 seconds or more to unlock position when the engine switch is off.	Tilt/Slide
Wireless Key Related Operation	Slide	The function to select tilt up or slide open of manual sliding roof operation linked with the power window activated by pressing on the transmitter unlock switch for 3 seconds or more when the engine switch is off.	Tilt/Slide

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 / Slide Roof.

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

Slide Roof

Display	Default	Contents	Setting
Door Key Related Open	ON	The function to manually open the sliding roof linked with the power window if holding the driver side door key for 3 seconds or more to unlock position when the engine switch is off.	ON/OFF
Door Key Related Close	ON	The function to manually close the sliding roof linked with the power window if holding the driver side door key for 3 seconds or more to lock position when the engine switch is off.	ON/OFF
Wireless Key Related Open	OFF	The function to manually open the sliding roof linked with the power window if pressing the transmitter unlock switch for 3 seconds or more when the engine switch is off.	ON/OFF
Wireless Key Related Close	OFF	The function to manually close the sliding roof linked with the power window if pressing the transmitter lock switch for 3 seconds or more when the engine switch is off.	ON/OFF
Door Handle Lock Button	ON	The function to manually close the sliding roof linked with the power window if pushing the door lock switch for 3 seconds or more when the engine switch is off and the key is outside vehicle.	ON/OFF
Door Key Related Operation	Slide	The function to select tilt up or slide open of manual sliding roof operation linked with the power window activated by holding the driver side door key for 3 seconds or more to unlock position when the engine switch is off.	Tilt/Slide
Wireless Key Related Operation	Slide	The function to select tilt up or slide open of manual sliding roof operation linked with the power window activated by pressing on the transmitter unlock switch for 3 seconds or more when the engine switch is off.	Tilt/Slide

for Preparation Click here

INITIALIZE SLIDING ROOF DRIVE GEAR

NOTICE:

- **When the sliding roof glass is replaced or removed and installed, or the drive gear assembly is replaced, the sliding roof drive gear requires initialization (pulse sensor initial position setting), as the glass position cannot be determined. If initialization is not performed, the auto slide open and close/tilt up and down function may not operate, or the sliding roof may move in reverse or become misaligned.**
- **During initialization, do not apply a physical shock, such as opening/closing a door or driving the vehicle at 5 km/h (3.10 mph) or more, to the vehicle and do not perform the following electrical operations:**
  1. **Cranking the engine**
  2. **Turning the engine switch from on (IG) to off**
  3. **Operating the power window switches**
  4. **Operating the window defogger switch**
  5. **Operating the blower switch**
  6. **Locking/Unlocking the door**
  7. **Operating the headlight dimmer switch**

HINT:

When the cable is disconnected and reconnected to the negative (-) battery terminal or the drive gear connector is disconnected and reconnected, the sliding roof drive gear (pulse sensor initial position setting) initialization is not necessary.

a. Perform initialization according to the table below.

Condition of Sliding Roof	Proceed to
Auto slide open and close/tilt up and down function does not operate	Procedure A
Sliding roof moves in reverse direction during tilt down operation	Procedure B
Sliding roof moves in reverse direction during slide close operation	Procedure C

i. Procedure A

1. Turn the engine switch on (IG).
2. Open the sliding roof to the fully tilt up position.
3. Press and hold the UP switch to perform the following operations: tilt up → approximately 10 second pause → tilt down → slide open → slide close.

   NOTICE:

   Make sure not to release the switch during the initialization. If the switch is released, perform the initialization again.

4. Continue to hold the switch for 1 second or more after the sliding roof stops in the fully closed position, and then release it.
5. The initialization is completed.

ii. Procedure B

1. Turn the engine switch on (IG).
2. Press the UP switch until the sliding roof stops.

   HINT:

   If the glass becomes misaligned or does not fully tilt up, perform the following operations:

   1. **Operate the CLOSE switch until the sliding roof stops moving.**
   2. **Operate the UP switch until the sliding roof stops moving, then proceed to the next step.**

3. Release the switch.
4. Press and hold the UP switch to perform the following operations: tilt up → approximately 10 second pause → tilt down → slide open → slide close.

   NOTICE:

   Make sure not to release the switch during the initialization. If the switch is released, perform the initialization again.

5. Continue to hold the switch for 1 second or more after the sliding roof stops in the fully closed position, and then release it.
6. The initialization is completed.

iii. Procedure C

1. Turn the engine switch on (IG).
2. Press and hold the CLOSE switch to perform the following operations: slide close → move in reverse direction → 10 second pause → slide close → tilt up → tilt down → slide open → slide close.

   NOTICE:

   Make sure not to release the switch during the initialization. If the switch is released, perform the initialization again.

3. Continue to hold the switch for 1 second or more after the sliding roof stops in the fully closed position, and then release it.
4. Check if the auto function is operative.

for Preparation Click here

HINT:

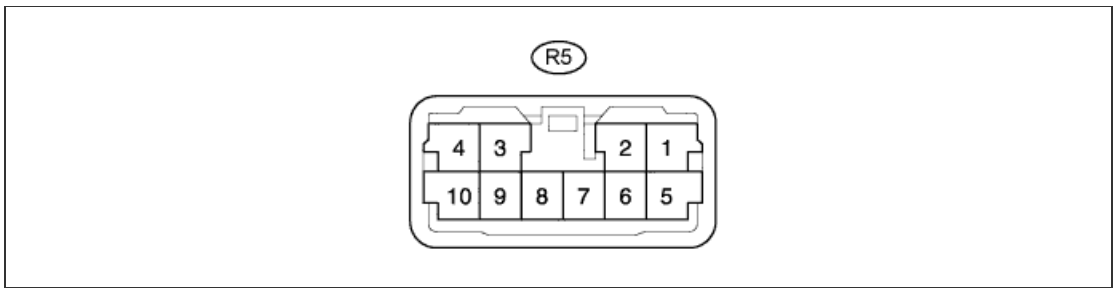
Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed.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

Sliding Roof System

Symptom	Suspected Area	See page
Sliding function and tilt function do not operate	Sliding roof ECU power source circuit	Click here
Either sliding function or tilt function does not operate	Sliding roof control switch circuit	Click here
Key-off operation does not operate	Front door courtesy light switch (driver door)	Click here
	Main body ECU	-
	Sliding roof drive gear	-
Transmitter-linked open/close operation does not operate	Wireless door lock control system	Click here
	Sliding roof drive gear	-
Key-linked open/close operation does not operate	Power door lock control system	Click here
	Sliding roof drive gear	-
Entry lock switch-linked close operation does not operate	Entry and start system (for Entry Function)	Click here
	Sliding roof drive gear	-

for Preparation Click here

CHECK SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU)



a. Disconnect the R5 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
R5-1 (B) - R5-2 (E)	L - W-B	+B power supply	Always	11 to 14 V
R5-5 (IG) - R5-2 (E)	G - W-B	Power supply	Engine switch off	Below 1 V
R5-5 (IG) - R5-2 (E)	G - W-B	Power supply	Engine switch on (IG)	11 to 14 V
R5-7 (OPN) - R5-2 (E)	P - W-B	Sliding roof motor open	OPEN switch off	10 kΩ or higher
R5-7 (OPN) - R5-2 (E)	P - W-B	Sliding roof motor open	OPEN switch on	Below 1 Ω
R5-9 (CLS) - R5-2 (E)	G - W-B	Sliding roof motor close	CLOSE switch off	10 kΩ or higher
R5-9 (CLS) - R5-2 (E)	G - W-B	Sliding roof motor close	CLOSE switch on	Below 1 Ω
R5-10 (UP) - R5-2 (E)	R - W-B	Sliding roof motor up	UP switch off	10 kΩ or higher
R5-10 (UP) - R5-2 (E)	R - W-B	Sliding roof motor up	UP switch on	Below 1 Ω
R5-8 (DWN) - R5-2 (E)	R - W-B	Sliding roof motor down	DOWN switch off	10 kΩ or higher
R5-8 (DWN) - R5-2 (E)	R - W-B	Sliding roof motor down	DOWN switch on	Below 1 Ω
R5-2 (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.

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 / Sliding Roof / DTC.

e. Check 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 / Sliding Roof / 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 / Sliding Roof / Data List.

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

Sliding Roof

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Open Switch	Sliding roof switch open signal/ON or OFF	ON: OPEN switch is pressed OFF: OPEN switch is not pressed	-
Close Switch	Sliding roof switch close signal/ON or OFF	ON: CLOSE switch is pressed OFF: CLOSE switch is not pressed	-
Up Switch	Sliding roof switch tilt up signal/ON or OFF	ON: UP switch is pressed OFF: UP switch is not pressed	-
Down Switch	Sliding roof switch tilt down signal/ON or OFF	ON: DOWN switch is pressed OFF: DOWN switch is not pressed	-
Hall IC1 Pulse	Sliding roof operation signal/Lo or Hi	Lo: Sliding roof motor is not operating Hi: Sliding roof motor is operating	-
Hall IC1 Status	Sliding roof operation signal/Normal or Lock	Normal: Sliding roof motor is operating Lock: Sliding roof motor is not operating	-
Hall IC2 Pulse	Sliding roof operation signal/Lo or Hi	Lo: Sliding roof motor is not operating Hi: Sliding roof motor is operating	-
Hall IC2 Status	Sliding roof operation signal/Normal or Lock	Normal: Sliding roof motor is operating Lock: Sliding roof motor is not operating	-
Ignition (Direct Signal)	Engine switch signal/ON or OFF	ON: Engine switch on (IG) OFF: Engine switch off	-
Ignition (MPX)	Engine switch signal (MPX signal)/ON or OFF	ON: Engine switch on (IG) OFF: Engine switch off	-
Door Courtesy	Driver door courtesy light switch signal/ON or OFF	ON: Driver door is open OFF: Driver door is closed	-
Door Handle Lock Button	Entry lock switch/ON or OFF	ON: Entry lock switch is pressed OFF: Entry lock switch is not pressed	-
Door Key Close Operation	Key-linked sliding roof close signal/ON or OFF	ON: Driver door key cylinder is turned to lock position using key OFF: Driver door key cylinder is not turned	-
Door Key Open Operation	Key-linked sliding roof open signal/ON or OFF	ON: Driver door key cylinder is turned to unlock position using key OFF: Driver door key cylinder is not turned	-
Wireless Open Operation	Wireless sliding roof open signal/ON or OFF	ON: Transmitter unlock switch is pressed OFF: Transmitter unlock switch is not pressed	-
Wireless Close Operation	Wireless sliding roof close signal/ON or OFF	ON: Transmitter lock switch is pressed OFF: Transmitter lock switch is not pressed	-
Key Off Permission	Key-off operation permit signal/ON or OFF	ON: Driver door is not closed within 45 sec. after engine switch is turned off OFF: Any status except "ON" status	-

Door Key Related (Open)	Key-linked sliding roof open operation status/Avail or Not Avail	Avail: Key-linked sliding roof open operation is available Not Avail: Key-linked sliding roof open operation is not available	-
Door Key Related (Close)	Key-linked sliding roof close operation status/Avail or Not Avail	Avail: Key-linked sliding roof close operation is available Not Avail: Key-linked sliding roof close operation is not available	-
Wireless Key Rel (Open)	Transmitter-linked sliding roof open operation status/Avail or Not Avail	Avail: Transmitter-linked sliding roof open operation is available Not Avail: Transmitter-linked sliding roof open operation is not available	-
Wireless Key Rel (Close)	Transmitter-linked sliding roof close operation status/Avail or Not Avail	Avail: Transmitter-linked sliding roof close operation is available Not Avail: Transmitter-linked sliding roof close operation is not available	-
Door Handle Button Close	Entry lock switch-linked sliding roof close operation status/Avail or Not Avail	Avail: Entry lock switch-linked sliding roof close operation is available Not Avail: Entry lock switch-linked sliding roof close operation is not available	-
Door Key Related Operation	Direction for key-linked operation/Tilt or Slide	Tilt: Key-linked sliding roof operation operates tilt up or down Slide: Key-linked sliding roof operation operates slide open or close	-
Wireless Key Rel Operation	Direction for Transmitter-linked operation/Tilt or Slide	Tilt: Transmitter-linked sliding roof operation operates tilt up Slide: Key-linked sliding roof operation operates slide open	-
Open Switch Failure(Past)	OPEN switch failure signal (Past)/ON or OFF	ON: OPEN switch failure signal (Past) OFF: No OPEN switch failure signal (Past)	-
Close Switch Failure(Past)	CLOSE switch failure signal (Past)/ON or OFF	ON: CLOSE switch failure signal (Past) OFF: No CLOSE switch failure signal (Past)	-
Up Switch Failure(Past)	UP switch failure signal (Past)/ON or OFF	ON: UP switch failure signal (Past) OFF: No UP switch failure signal (Past)	-
Down Switch Failure(Past)	DOWN switch failure signal (Past)/ON or OFF	ON: DOWN switch failure signal (Past) OFF: No DOWN switch failure signal (Past)	-
Open Switch Failure(Current)	OPEN switch failure signal (Current)/ON or OFF	ON: OPEN switch failure signal (Current) OFF: No OPEN switch failure signal (Current)	-
Close Switch Failure(Current)	CLOSE switch failure signal (Current)/ON or OFF	ON: CLOSE switch failure signal (Current) OFF: No CLOSE switch failure signal (Current)	-
Up Switch Failure(Current)	UP switch failure signal (Current)/ON or OFF	ON: UP switch failure signal (Current) OFF: No UP switch failure signal (Current)	-
Down Switch Failure(Current)	DOWN switch failure signal (Current)/ON or OFF	ON: DOWN switch failure signal (Current) OFF: No DOWN switch failure signal (Current)	-
Number of Trouble Codes	Number of trouble codes / Min.: 0, Max.: 255	Number of DTCs will be displayed	-

ACTIVE TEST

HINT:

Using the intelligent tester to perform Active Tests 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 / Sliding Roof / Active Test.

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

Sliding Roof

Tester Display	Test Part	Control Range	Diagnostic Note
Slide Roof	Slide close/tilt up operation	Clos/Up: Sliding roof slide close or tilt up operation occurs	Be careful to avoid injuries as this test causes vehicle parts to move.

		OFF: Sliding roof is not operating	
Slide Roof	Slide open/tilt down operation	Open/Dwn: Sliding roof slide open or tilt down operation occurs OFF: Sliding roof is not operating	Be careful to avoid injuries as this test causes vehicle parts to move.

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.

Sliding Roof System

DTC Code	Detection Item	Trouble Area	See page
B2341	Sensor (Motor) Failure	- Sliding roof drive gear sub-assembly (Sliding roof ECU)	Click here
B2342	Switch Failure	- Sliding roof drive gear sub-assembly (Sliding roof ECU) - Map light assembly (Sliding roof switch) - Harness or connector	Click here
B2343	Position Initialization Incomplete	- Sliding roof drive gear sub-assembly (Sliding roof ECU) - Map light assembly (Sliding roof switch) - Harness or connector	Click here
B2344	Position Failure	- Sliding roof drive gear sub-assembly (Sliding roof ECU)	Click here

DTC B2341 Sensor (Motor) Failure

DTC B2344 Position Failure

for Preparation Click here

DESCRIPTION

When the sliding roof drive gear (sliding roof ECU) detects a motor malfunction and the sliding roof operation is stopped, DTC B2341 is stored. When the sliding roof drive gear (sliding roof ECU) detects a gear malfunction and the sliding roof operation is stopped, DTC B2344 is stored.

DTC Code	DTC Detection Condition	Trouble Area
B2341	There is a sensor (motor) failure.	Sliding roof drive gear sub-assembly (Sliding roof ECU)
B2344	There is a position failure.	Sliding roof drive gear sub-assembly (Sliding roof ECU)

INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

Result

Result	Proceed to
DTC B2341 or B2344 is output	A
DTC B2343 is output	B
No DTC is output	C

B → GO TO B2343 (Click here)

C → USE SIMULATION METHOD TO CHECK (Click here)

A

REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU) (Click here)

DTC B2342 Switch Failure

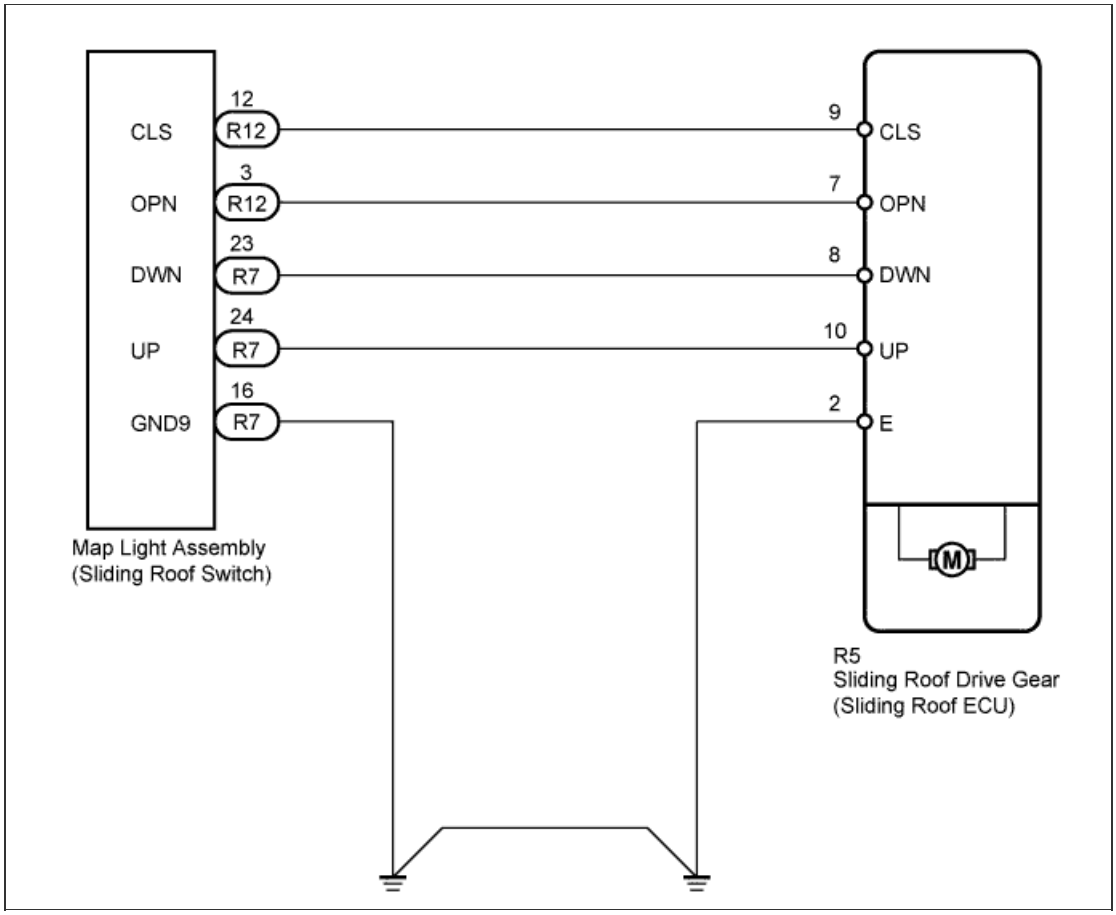
for Preparation Click here

DESCRIPTION

This DTC is stored when the sliding roof drive gear (sliding roof ECU) detects that the sliding roof switch in the map light is stuck for 30 seconds or more.

DTC Code	DTC Detection Condition	Trouble Area
B2342	The sliding roof drive gear (sliding roof ECU) detects that the sliding roof switch in the map light is stuck for 30 seconds or more.	• Sliding roof drive gear sub-assembly (Sliding roof ECU) • Map light assembly (Sliding roof switch) • Harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check the DTCs (Click here).

Result

Result	Proceed to
DTC B2342 is output	A
No DTC is output	B

B → USE SIMULATION METHOD TO CHECK (Click here)

A

2.READ VALUE USING INTELLIGENT TESTER (SWITCH STATUS)

a. Use the Data List to check if the sliding roof switch is functioning properly (Click here).

Sliding Roof

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Open Switch Failure(Past)	OPEN switch failure signal (Past)/ON or OFF	ON: OPEN switch failure signal (Past) OFF: No OPEN switch failure signal (Past)	-
Close Switch Failure(Past)	CLOSE switch failure signal (Past)/ON or OFF	ON: CLOSE switch failure signal (Past) OFF: No CLOSE switch failure signal (Past)	-
Up Switch Failure(Past)	UP switch failure signal (Past)/ON or OFF	ON: UP switch failure signal (Past) OFF: No UP switch failure signal (Past)	-
Down Switch Failure(Past)	DOWN switch failure signal (Past)/ON or OFF	ON: DOWN switch failure signal (Past) OFF: No DOWN switch failure signal (Past)	-
Open Switch Failure(Current)	OPEN switch failure signal (Current)/ON or OFF	ON: OPEN switch failure signal (Current) OFF: No OPEN switch failure signal (Current)	-
Close Switch Failure(Current)	CLOSE switch failure signal (Current)/ON or OFF	ON: CLOSE switch failure signal (Current) OFF: No CLOSE switch failure signal (Current)	-
Up Switch Failure(Current)	UP switch failure signal (Current)/ON or OFF	ON: UP switch failure signal (Current) OFF: No UP switch failure signal (Current)	-
Down Switch Failure(Current)	DOWN switch failure signal (Current)/ON or OFF	ON: DOWN switch failure signal (Current) OFF: No DOWN switch failure signal (Current)	-

OK:
"OFF" appears on screen.

NG → **Go to step 3**

OK

REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU) (Click here)

3.INSPECT MAP LIGHT ASSEMBLY (SLIDING ROOF SWITCH)

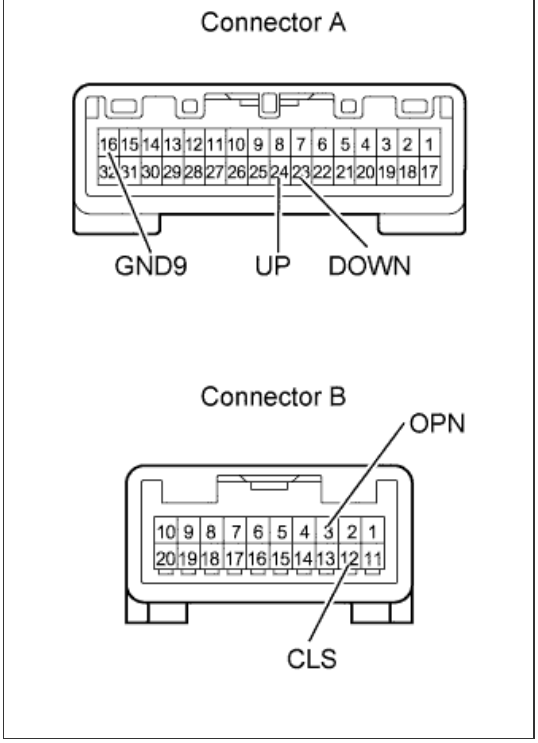
a. Remove the map light (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
A-24 (UP) - A-16 (GND9)	UP switch is pressed	Below 1 Ω
A-24 (UP) - A-16 (GND9)	UP switch is not pressed	10 kΩ or higher
A-23 (DWN) - A-16 (GND9)	DOWN switch is pressed	Below 1 Ω
A-23 (DWN) - A-16 (GND9)	DOWN switch is not pressed	10 kΩ or higher
B-3 (OPN) - A-16 (GND9)	OPEN switch is pressed	Below 1 Ω
B-3 (OPN) - A-16 (GND9)	OPEN switch is not pressed	10 kΩ or higher
B-12 (CLS) - A-16 (GND9)	CLOSE switch is pressed	Below 1 Ω
B-12 (CLS) - A-16 (GND9)	CLOSE switch is not pressed	10 kΩ or higher

Component without harness connected:
(Sliding Roof Switch)



NG → REPLACE MAP LIGHT ASSEMBLY (SLIDING ROOF SWITCH) (Click here)

OK

4.CHECK HARNESS AND CONNECTOR (SLIDING ROOF DRIVE GEAR - MAP LIGHT)

a. Disconnect the R5 drive gear connector.

b. Disconnect the R7 and R12 map light connectors.

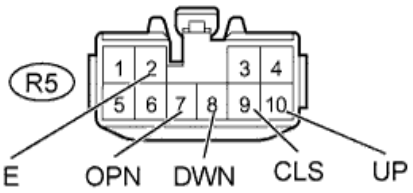
c. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

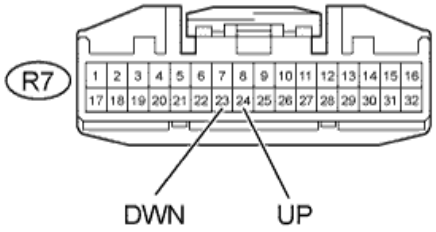
Tester Connection	Condition	Specified Condition
R5-10 (UP) - R7-24 (UP)	Always	Below 1 Ω
R5-8 (DWN) - R7-23 (DWN)	Always	Below 1 Ω
R5-7 (OPN) - R12-3 (OPN)	Always	Below 1 Ω
R5-9 (CLS) - R12-12 (CLS)	Always	Below 1 Ω
R7-16 (GND9) - Body ground	Always	Below 1 Ω
R5-2 (E) - Body ground	Always	Below 1 Ω
R5-10 (UP) or R7-24 (UP) - Body ground	Always	10 kΩ or higher
R5-8 (DWN) or R7-23 (DWN) - Body ground	Always	10 kΩ or higher
R5-7 (OPN) or R12-3 (OPN) - Body ground	Always	10 kΩ or higher

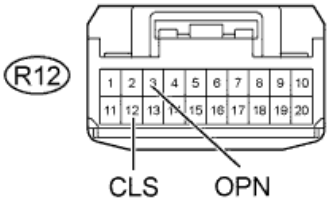
R5-9 (CLS) or R12-12 (CLS) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Sliding Roof Drive Gear)



Front view of wire harness connector:
(to Map Light Assembly)





NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU) (Click here)

DTC B2341 Sensor (Motor) Failure

DTC B2344 Position Failure

for Preparation Click here

DESCRIPTION

When the sliding roof drive gear (sliding roof ECU) detects a motor malfunction and the sliding roof operation is stopped, DTC B2341 is stored. When the sliding roof drive gear (sliding roof ECU) detects a gear malfunction and the sliding roof operation is stopped, DTC B2344 is stored.

DTC Code	DTC Detection Condition	Trouble Area
B2341	There is a sensor (motor) failure.	Sliding roof drive gear sub-assembly (Sliding roof ECU)
B2344	There is a position failure.	Sliding roof drive gear sub-assembly (Sliding roof ECU)

INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

Result

Result	Proceed to
DTC B2341 or B2344 is output	A
DTC B2343 is output	B
No DTC is output	C

B → GO TO B2343 (Click here)

C → USE SIMULATION METHOD TO CHECK (Click here)

A

REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU) (Click here)

DTC B2343 Position Initialization Incomplete

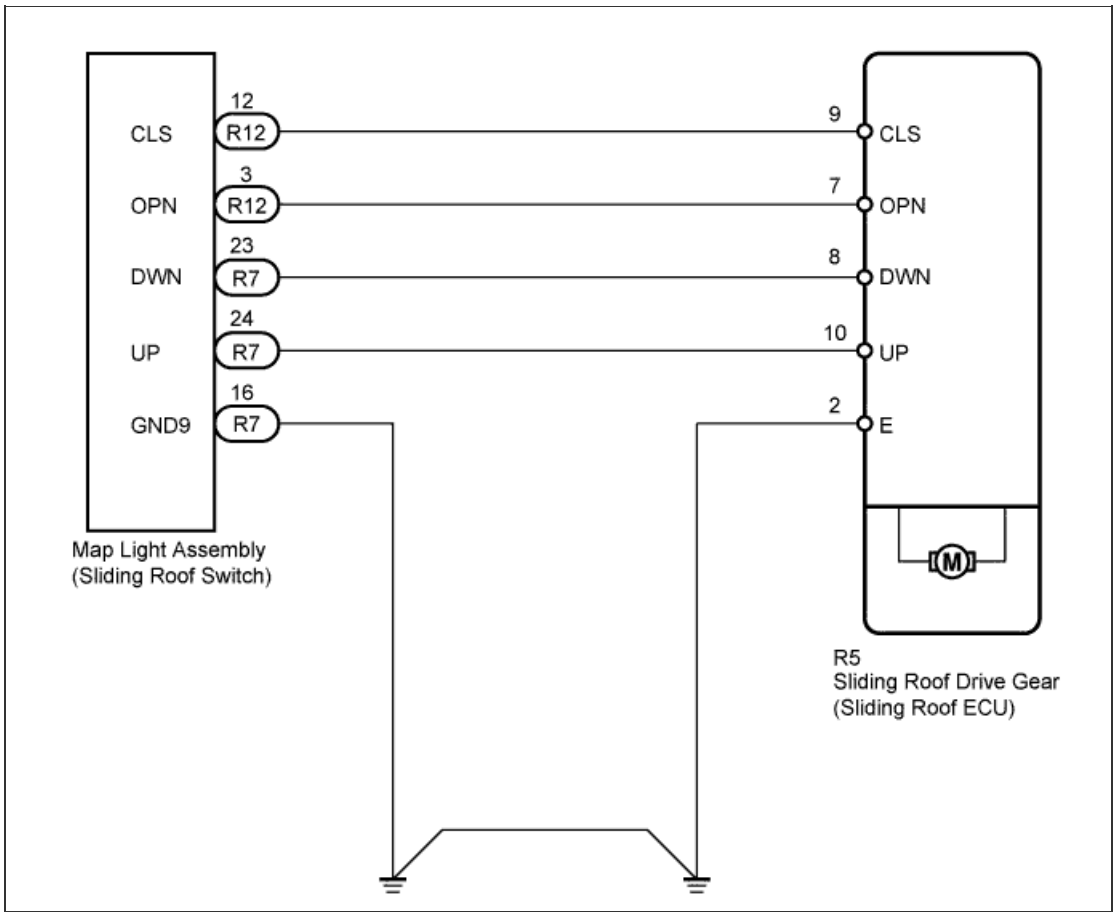
for Preparation Click here

DESCRIPTION

This DTC is output when the sliding roof drive gear (sliding roof ECU) has not been initialized.

DTC Code	DTC Detection Condition	Trouble Area
B2343	The sliding roof drive gear (sliding roof ECU) has not been initialized.	• Sliding roof drive gear sub-assembly (Sliding roof ECU) • Map light assembly (Sliding roof switch) • Harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

1.INITIALIZE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU)

a. Check that the sliding roof drive gear can be initialized (Click here).

OK:

Sliding roof drive gear can be initialized.

NG → **Go to step 3**

OK

2.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check the DTCs (Click here).

Result

Result	Proceed to
No DTC is output	A
DTC B2343 is output	B

B → REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU) (Click here)

A → END

3.CHECK HARNESS AND CONNECTOR (SLIDING ROOF DRIVE GEAR - MAP LIGHT)

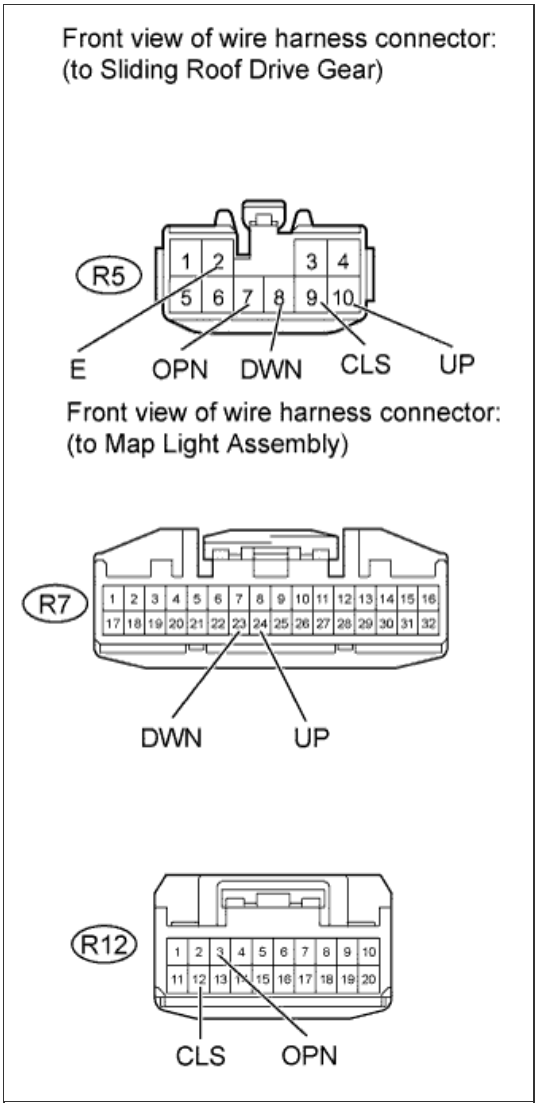
a. Disconnect the R5 drive gear connector.

b. Disconnect the R7 and R12 map light connectors.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
R5-10 (UP) - R7-24 (UP)	Always	Below 1 Ω
R5-8 (DWN) - R7-23 (DWN)	Always	Below 1 Ω
R5-7 (OPN) - R12-3 (OPN)	Always	Below 1 Ω
R5-9 (CLS) - R12-12 (CLS)	Always	Below 1 Ω
R7-16 (GND9) - Body ground	Always	Below 1 Ω
R5-2 (E) - Body ground	Always	Below 1 Ω
R5-10 (UP) or R7-24 (UP) - Body ground	Always	10 kΩ or higher
R5-8 (DWN) or R7-23 (DWN) - Body ground	Always	10 kΩ or higher
R5-7 (OPN) or R12-3 (OPN) - Body ground	Always	10 kΩ or higher
R5-9 (CLS) or R12-12 (CLS) - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

4.INSPECT MAP LIGHT ASSEMBLY (SLIDING ROOF SWITCH)

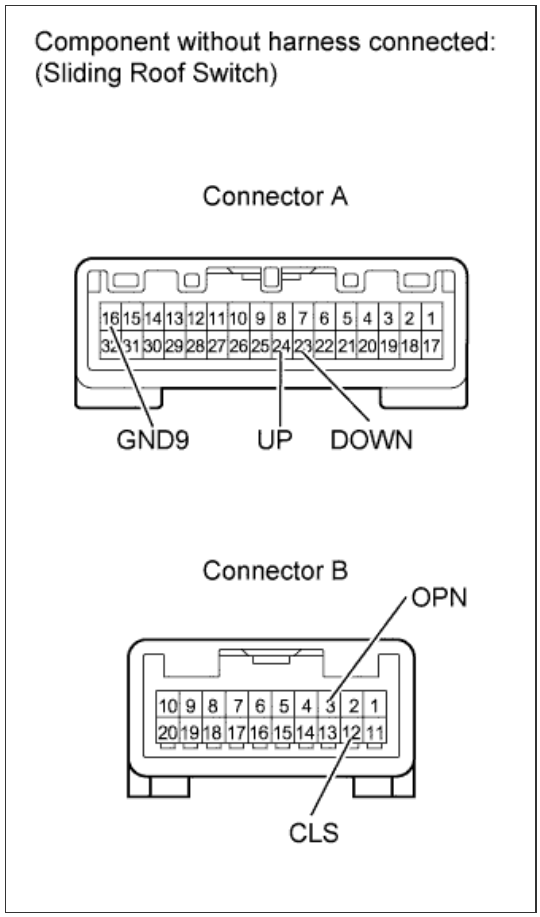
a. Remove the map light (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
A-24 (UP) - A-16	UP switch is	

(GND9)	pressed	Below 1 Ω
A-24 (UP) - A-16 (GND9)	UP switch is not pressed	10 kΩ or higher
A-23 (DWN) - A-16 (GND9)	DOWN switch is pressed	Below 1 Ω
A-23 (DWN) - A-16 (GND9)	DOWN switch is not pressed	10 kΩ or higher
B-3 (OPN) - A-16 (GND9)	OPEN switch is pressed	Below 1 Ω
B-3 (OPN) - A-16 (GND9)	OPEN switch is not pressed	10 kΩ or higher
B-12 (CLS) - A-16 (GND9)	CLOSE switch is pressed	Below 1 Ω
B-12 (CLS) - A-16 (GND9)	CLOSE switch is not pressed	10 kΩ or higher



NG → REPLACE MAP LIGHT ASSEMBLY (SLIDING ROOF SWITCH) (Click here)

OK

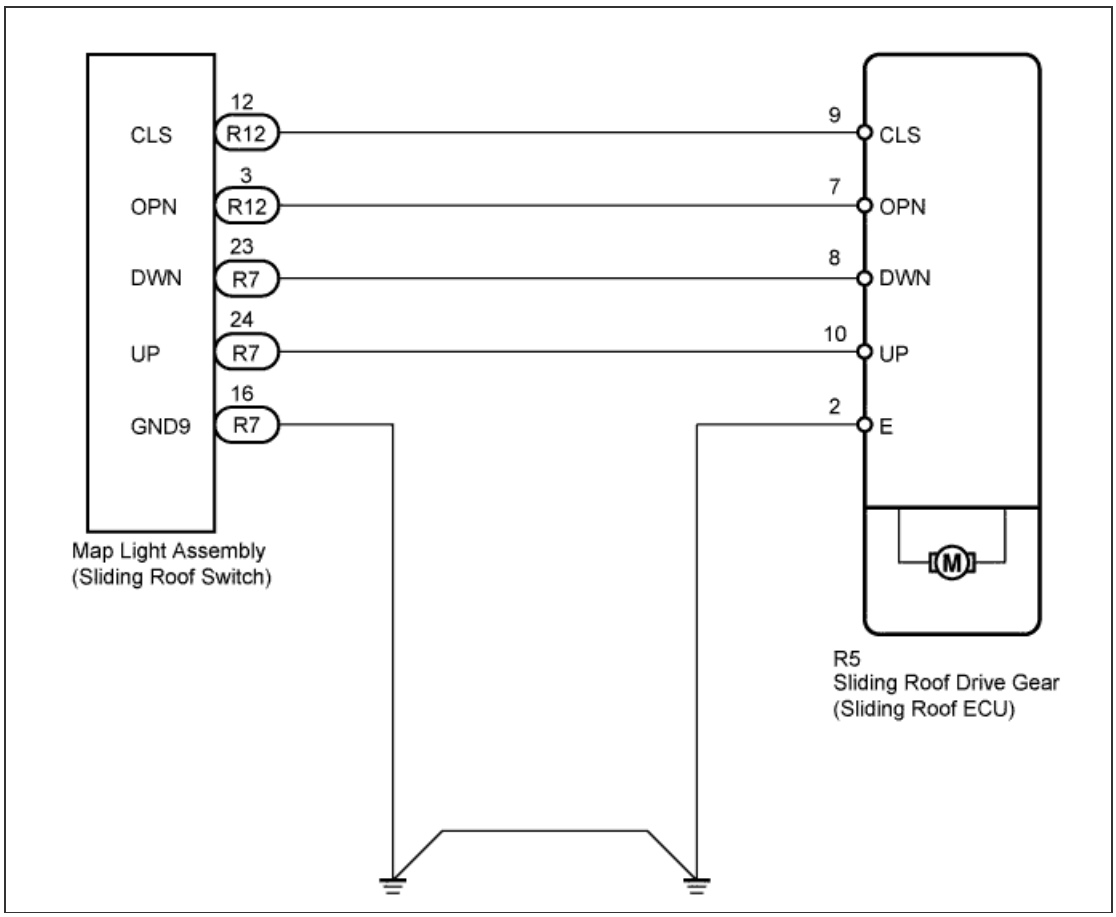
REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU) (Click here)

for Preparation Click here

DESCRIPTION

The sliding roof drive gear (sliding roof ECU) receives sliding roof switch signals and drives its built-in motor.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (SLIDING ROOF OPERATION)

a. Select the Active Test, use the intelligent tester to generate a control command, and then check that the sliding roof slides open/closed and tilts up/down (Click here).

Sliding Roof

Tester Display	Test Part	Control Range	Diagnostic Note
Slide Roof	Slide close/tilt up operation	Clos/Up: Sliding roof slide close or tilt up operation occurs OFF: Sliding roof is not operating	Be careful to avoid injuries as this test causes vehicle parts to move.
Slide Roof	Slide open/tilt down operation	Open/Dwn: Sliding roof slide open or tilt down operation occurs OFF: Sliding roof is not operating	Be careful to avoid injuries as this test causes vehicle parts to move.

OK:
Sliding roof operates normally.

NG → REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU) (Click here)

OK

2.READ VALUE USING INTELLIGENT TESTER (SLIDING ROOF SWITCH)

a. Use the Data List to check if the sliding roof switch is functioning properly (Click here).

Sliding Roof

Item	Measurement Item/Range	Normal Condition	Diagnostic Note
Open Switch	Sliding roof switch open signal/ON or OFF	ON: OPEN switch is pressed OFF: OPEN switch is not pressed	-
Close Switch	Sliding roof switch close signal/ON or OFF	ON: CLOSE switch is pressed OFF: CLOSE switch is not pressed	-
Up Switch	Sliding roof switch tilt up signal/ON or OFF	ON: UP switch is pressed OFF: UP switch is not pressed	-
Down Switch	Sliding roof switch tilt down signal/ON or OFF	ON: DOWN switch is pressed OFF: DOWN switch is not pressed	-

OK:
When the switch is operating, the intelligent tester should display as shown in the table.

NG → Go to step 3

OK →

REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU) (Click here)

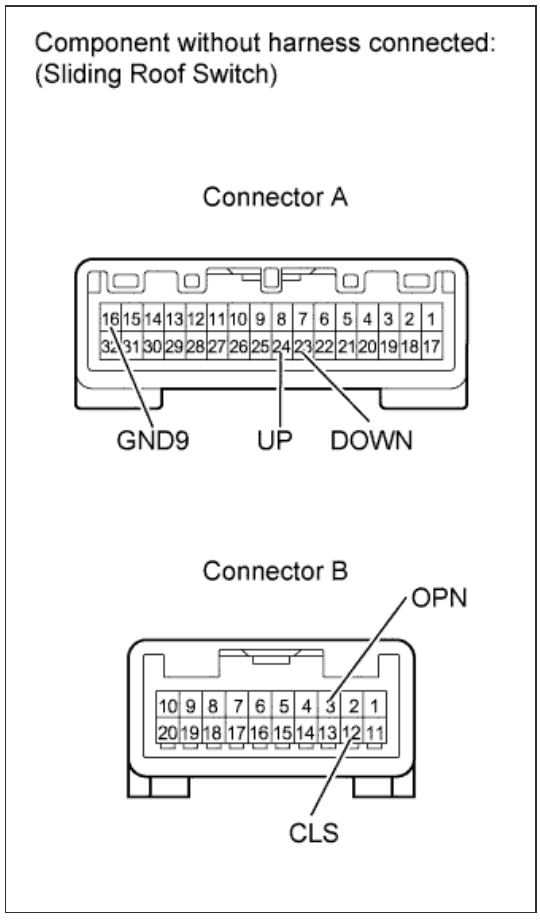
3.INSPECT MAP LIGHT ASSEMBLY (SLIDING ROOF SWITCH)

a. Remove the map light (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
A-24 (UP) - A-16 (GND9)	UP switch is pressed	Below 1 Ω
A-24 (UP) - A-16 (GND9)	UP switch is not pressed	10 kΩ or higher
A-23 (DWN) - A-16 (GND9)	DOWN switch is pressed	Below 1 Ω
A-23 (DWN) - A-16 (GND9)	DOWN switch is not pressed	10 kΩ or higher
B-3 (OPN) - A-16 (GND9)	OPEN switch is pressed	Below 1 Ω
B-3 (OPN) - A-16 (GND9)	OPEN switch is not pressed	10 kΩ or higher
B-12 (CLS) - A-16 (GND9)	CLOSE switch is pressed	Below 1 Ω
B-12 (CLS) - A-16 (GND9)	CLOSE switch is not pressed	10 kΩ or higher



NG → REPLACE MAP LIGHT ASSEMBLY (SLIDING ROOF SWITCH) (Click here)

OK →

4.CHECK HARNESS AND CONNECTOR (SLIDING ROOF DRIVE GEAR - MAP LIGHT)

a. Disconnect the R5 drive gear connector.

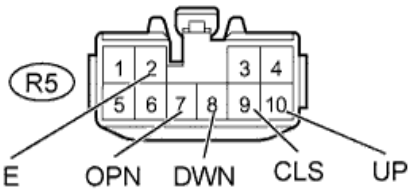
b. Disconnect the R7 and R12 map light connectors.

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

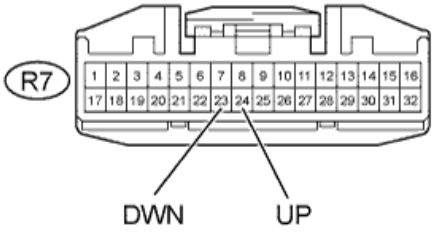
Standard Resistance:

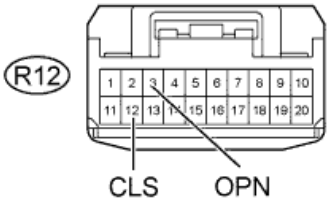
Tester Connection	Condition	Specified Condition
R5-10 (UP) - R7-24 (UP)	Always	Below 1 Ω
R5-8 (DWN) - R7-23 (DWN)	Always	Below 1 Ω
R5-7 (OPN) - R12-3 (OPN)	Always	Below 1 Ω
R5-9 (CLS) - R12-12 (CLS)	Always	Below 1 Ω
R7-16 (GND9) - Body ground	Always	Below 1 Ω
R5-2 (E) - Body ground	Always	Below 1 Ω
R5-10 (UP) or R7-24 (UP) - Body ground	Always	10 kΩ or higher
R5-8 (DWN) or R7-23 (DWN) - Body ground	Always	10 kΩ or higher
R5-7 (OPN) or R12-3 (OPN) - Body ground	Always	10 kΩ or higher
R5-9 (CLS) or R12-12 (CLS) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Sliding Roof Drive Gear)



Front view of wire harness connector:
(to Map Light Assembly)





NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

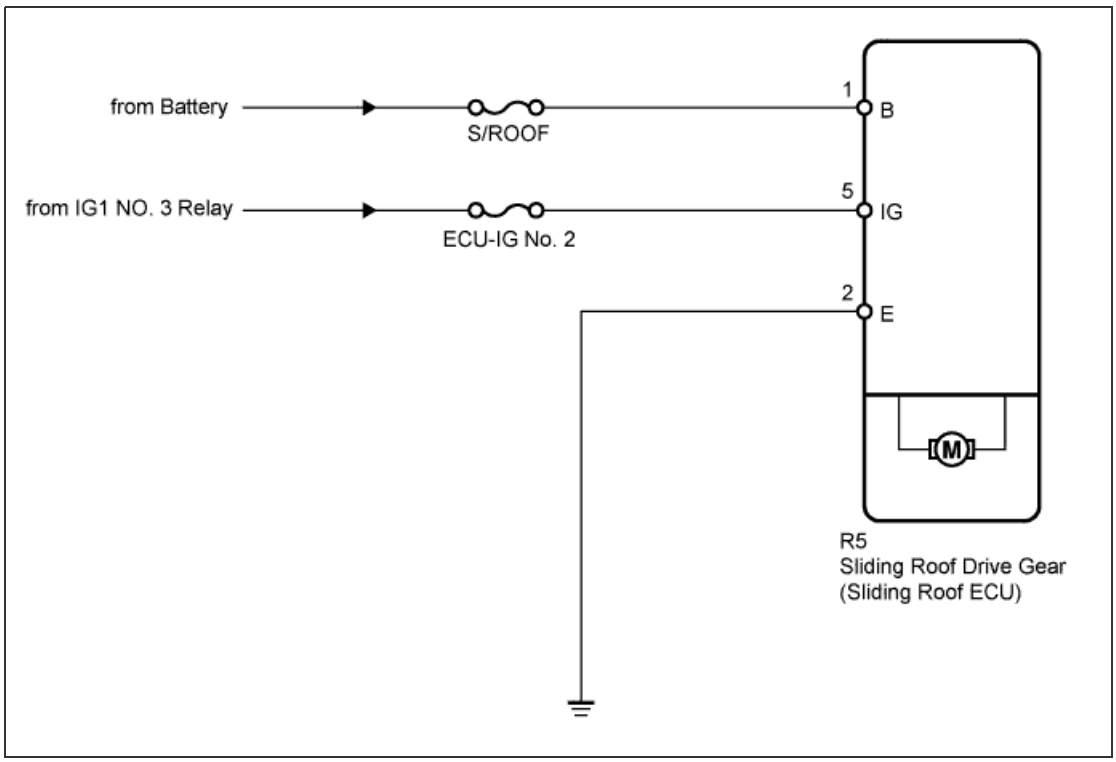
REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU) (Click here)

for Preparation Click here

DESCRIPTION

If the sliding function and tilt function do not operate, there may be a malfunction in the sliding roof ECU power source circuit.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (ENGINE SWITCH SIGNAL)

a. Use the Data List to check if the engine switch signal is functioning properly (Click here).

Sliding Roof

Tester Display	Test Part	Control Range	Diagnostic Note
Ignition (Direct Signal)	Engine switch signal/ON or OFF	ON: Engine switch on (IG) OFF: Engine switch off	-
Ignition (MPX)	Engine switch signal (MPX signal)/ON or OFF	ON: Engine switch on (IG) OFF: Engine switch off	-

OK:

The intelligent tester displays as shown in the table according to the operation of each switch.

NG → Go to step 2

OK →

REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU) (Click here)

2.INSPECT FUSE (S/ROOF, ECU-IG NO. 2)

a. Remove the S/ROOF and ECU-IG No. 2 fuses from the main body ECU.

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

Standard Resistance:

		Specified

Tester Connection	Condition	Condition
S/ROOF fuse	Always	Below 1 Ω
ECU-IG No. 2 fuse	Always	Below 1 Ω

NG → REPLACE FUSE

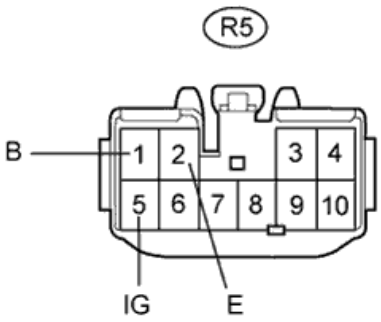
OK

3.CHECK HARNESS AND CONNECTOR (SLIDING ROOF DRIVE GEAR - BATTERY AND BODY GROUND)

a. Disconnect the R5 drive gear connector.

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

Front view of wire harness connector:
(to Sliding Roof Drive Gear)



Standard Resistance:

Tester Connection	Condition	Specified Condition
R5-2 (E) - Body ground	Always	Below 1 Ω

Standard Voltage:

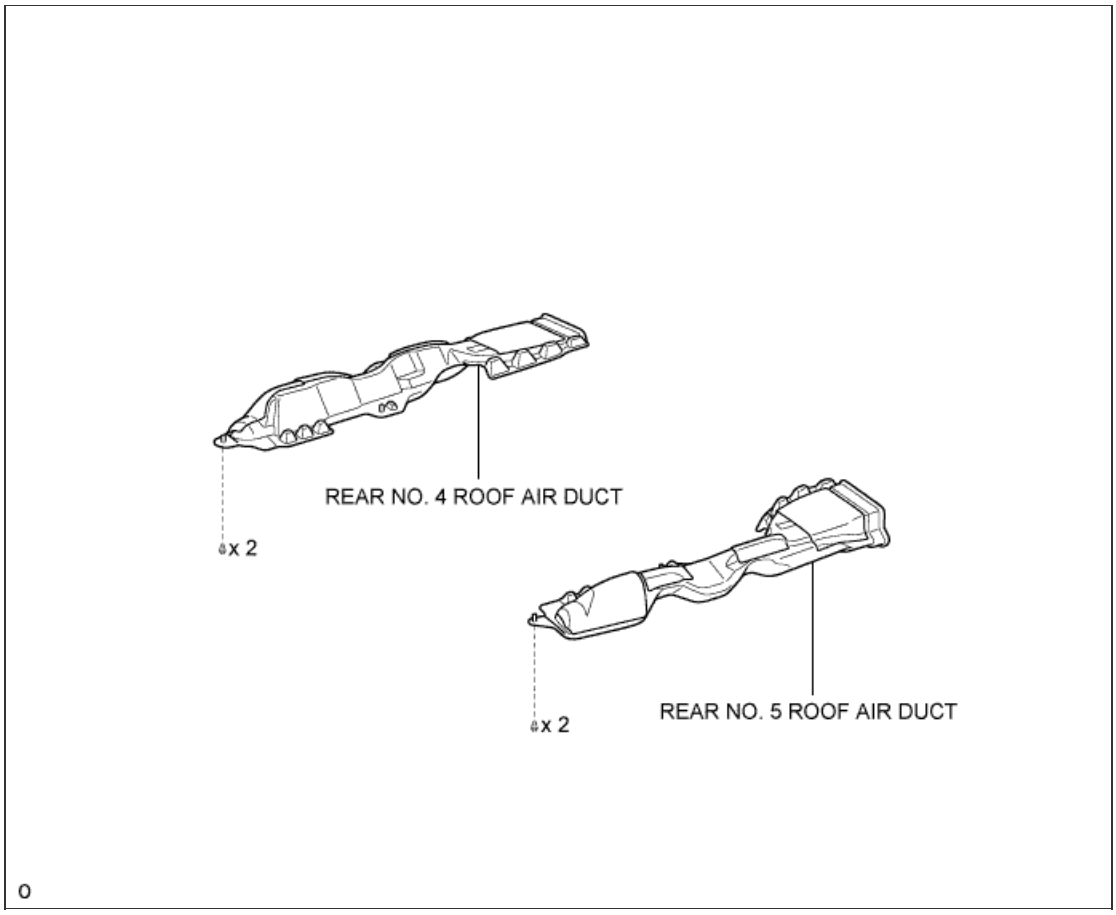
Tester Connection	Switch Condition	Specified Condition
R5-1 (B) - Body ground	Always	11 to 14 V
R5-5 (IG) - Body ground	Engine switch off	Below 1 V
R5-5 (IG) - Body ground	Engine switch on (IG)	11 to 14 V

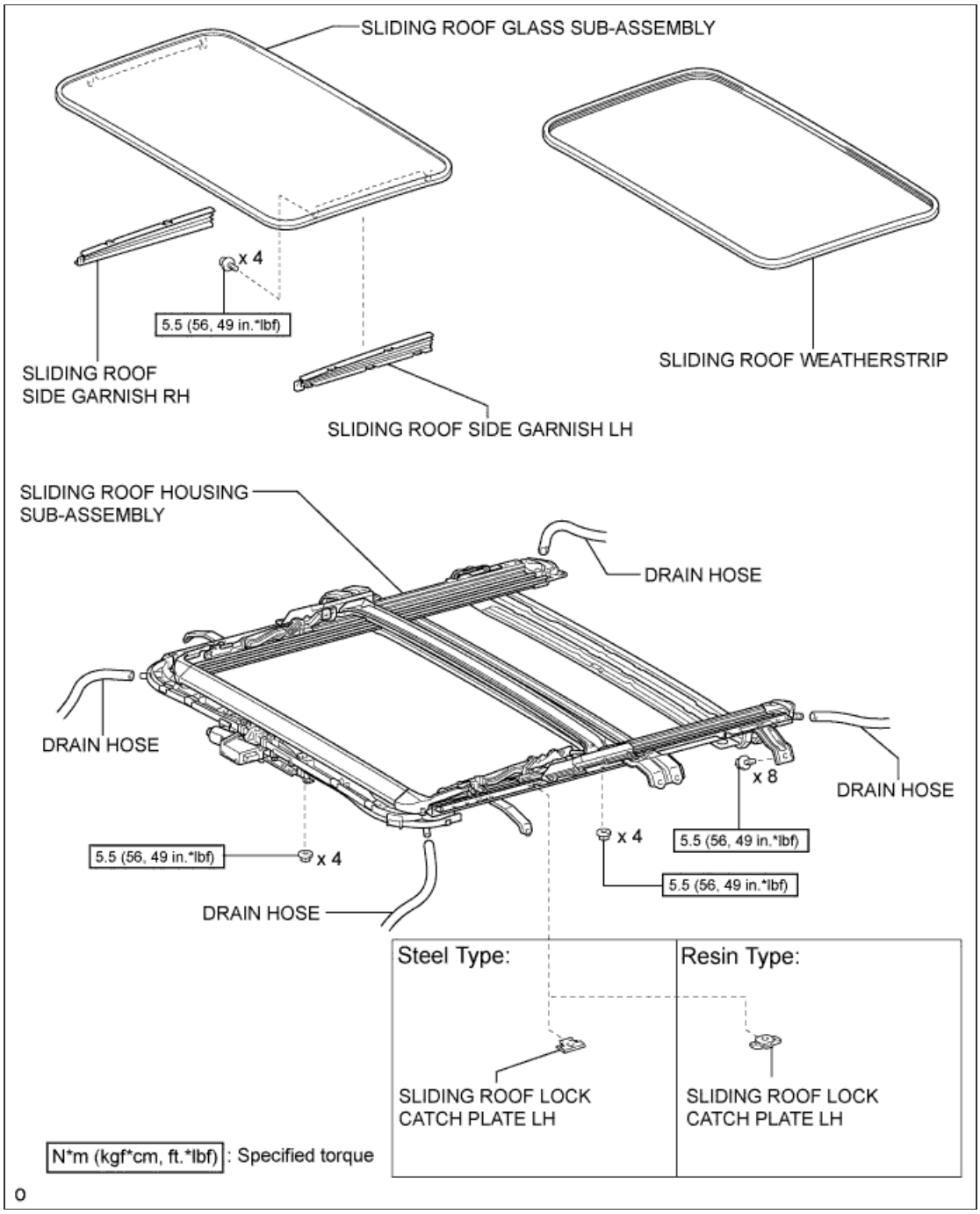
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

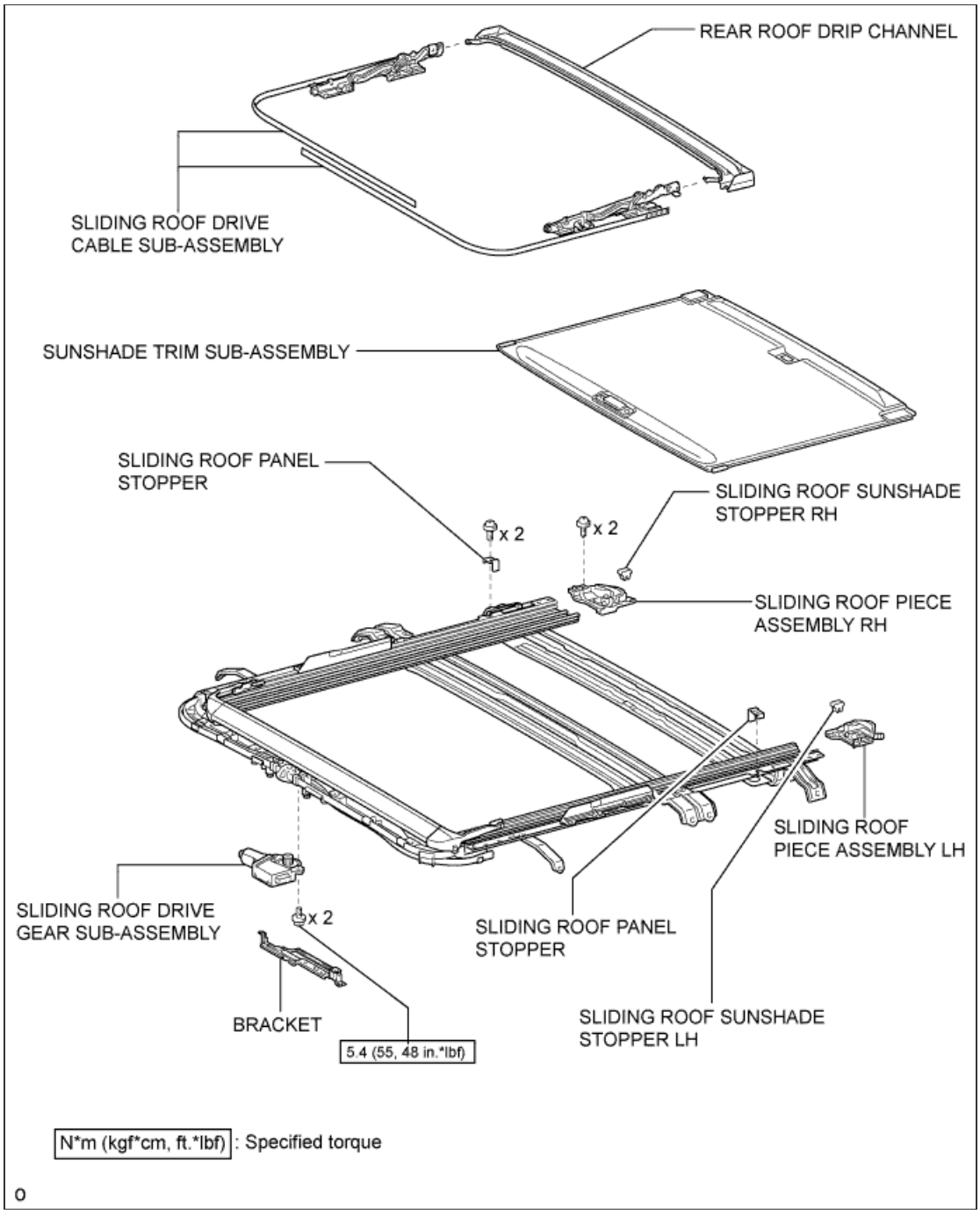
OK

REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY (SLIDING ROOF ECU) (Click here)

for Preparation Click here



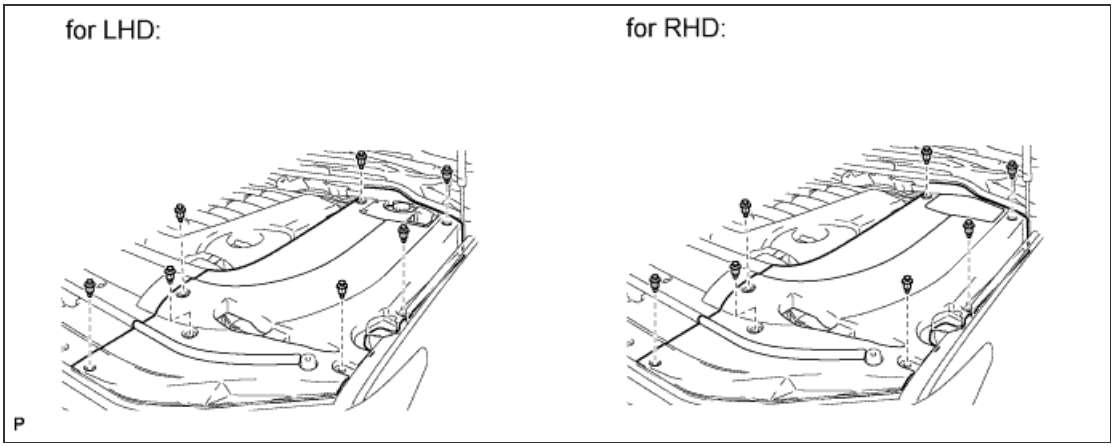

SLIDING ROOF GLASS SUB-ASSEMBLY
x 4
5.5 (56, 49 in.*lbf)
SLIDING ROOF WEATHERSTRIP
SLIDING ROOF
SIDE GARNISH RH
SLIDING ROOF SIDE GARNISH LH
SLIDING ROOF HOUSING
SUB-ASSEMBLY
DRAIN HOSE
DRAIN HOSE
DRAIN HOSE
x 8
5.5 (56, 49 in.*lbf)
x 4
5.5 (56, 49 in.*lbf)
x 4
5.5 (56, 49 in.*lbf)
DRAIN HOSE
Steel Type:
Resin Type:
SLIDING ROOF LOCK
CATCH PLATE LH
SLIDING ROOF LOCK
CATCH PLATE LH
N*m (kgf*cm, ft.*lbf) : Specified torque
o


REAR ROOF DRIP CHANNEL
SLIDING ROOF DRIVE CABLE SUB-ASSEMBLY
SUNSHADE TRIM SUB-ASSEMBLY
SLIDING ROOF PANEL STOPPER
x 2
x 2
SLIDING ROOF SUNSHADE STOPPER RH
SLIDING ROOF PIECE ASSEMBLY RH
SLIDING ROOF PIECE ASSEMBLY LH
SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY
x 2
SLIDING ROOF PANEL STOPPER
BRACKET
5.4 (55, 48 in.*lbf)
SLIDING ROOF SUNSHADE STOPPER LH
N*m (kgf*cm, ft.*lbf) : Specified torque
o

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



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).**
- **w/ Navigation System:**
  After the engine switch is turned off, the HDD navigation system requires approximately 6 minutes to record various types of memory and settings. As a result, after turning the engine switch off, wait 6 minutes or more before disconnecting the cable from the negative (-) battery terminal.

3. REMOVE ROOF HEADLINING ASSEMBLY

a. Remove the roof headlining (Click here).

4. REMOVE CURTAIN SHIELD AIRBAG ASSEMBLY LH

a. Remove the airbag (Click here).

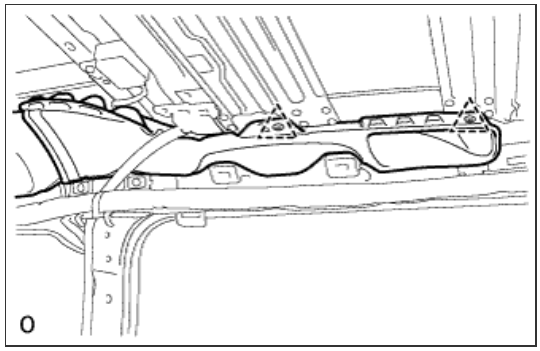
5. REMOVE CURTAIN SHIELD AIRBAG ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

6. REMOVE REAR NO. 5 ROOF AIR DUCT

a. Detach the 2 clips and remove the air duct.



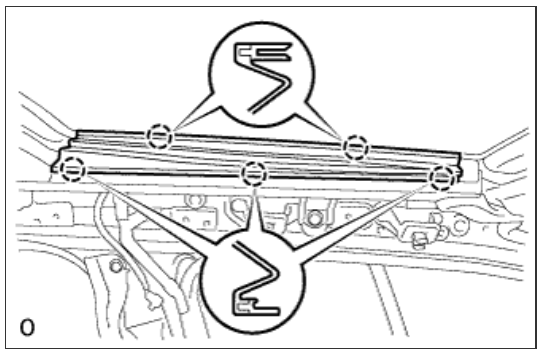
7. REMOVE REAR NO. 4 ROOF AIR DUCT

HINT:

Use the same procedures described for the No. 5 roof air duct.

8. REMOVE SLIDING ROOF SIDE GARNISH LH

a. Detach the 5 claws and remove the side garnish.



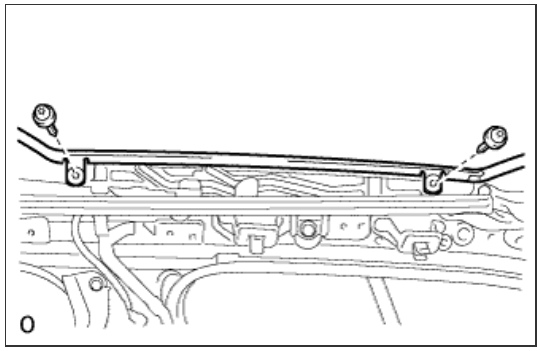
9. REMOVE SLIDING ROOF SIDE GARNISH RH

HINT:

Use the same procedures described for the LH side.

10. REMOVE SLIDING ROOF GLASS SUB-ASSEMBLY

a. Using a T25 "TORX" driver, remove the 4 screws and glass.



11. REMOVE SLIDING ROOF WEATHERSTRIP

a. Remove the sliding roof weatherstrip.

12. REMOVE SLIDING ROOF HOUSING SUB-ASSEMBLY

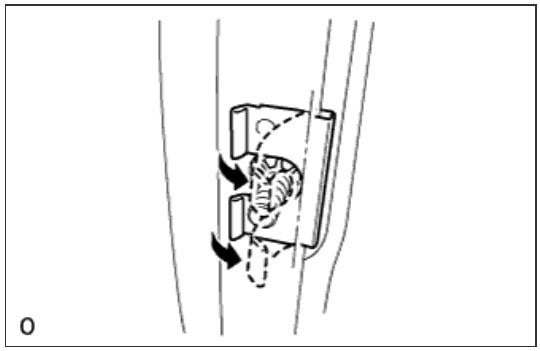
a. w/ Sliding Roof Lock Catch Plate LH, for Steel Type:

i. Disconnect the 4 sliding roof drain hoses.

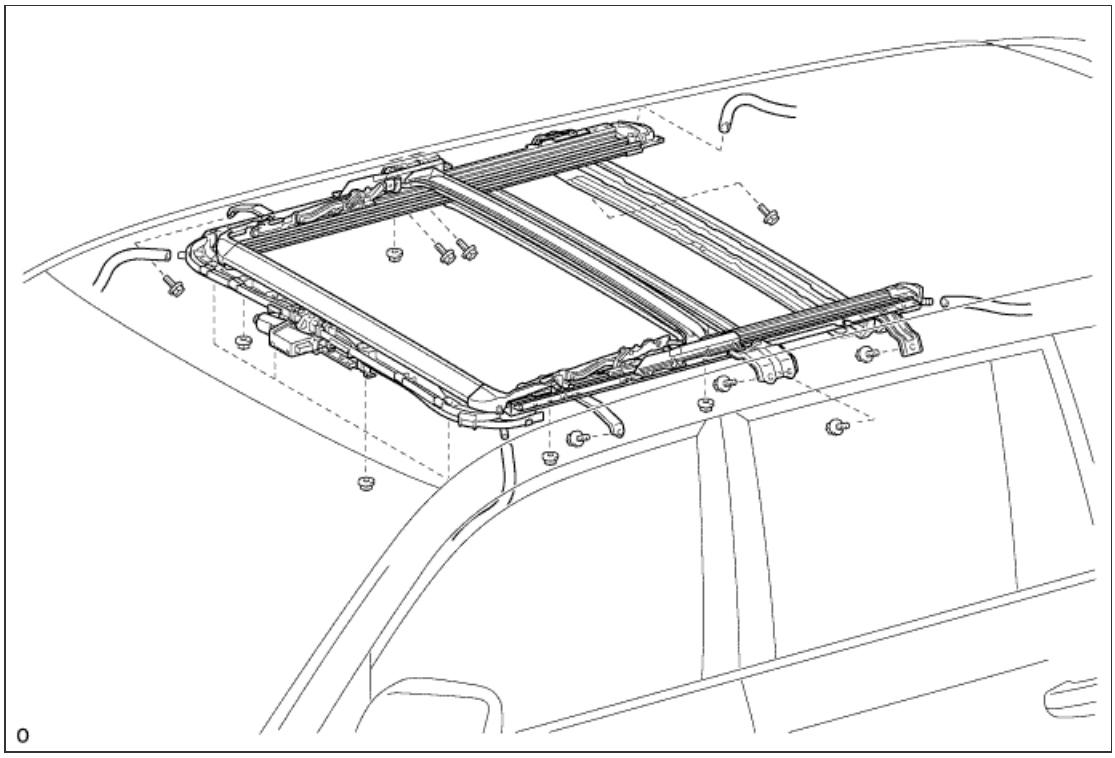
ii. Break off the sliding roof lock catch plate LH as shown in the illustration.

NOTICE:

Do not damage the sliding roof housing or vehicle body.



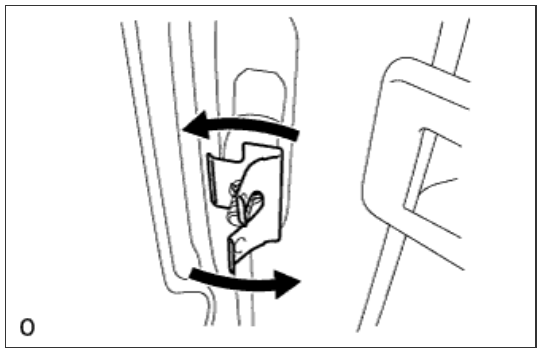
iii. Remove the 8 bolts, 8 nuts and housing.



iv. Rotate the sliding roof lock catch plate LH as shown in the illustration and remove it.

HINT:

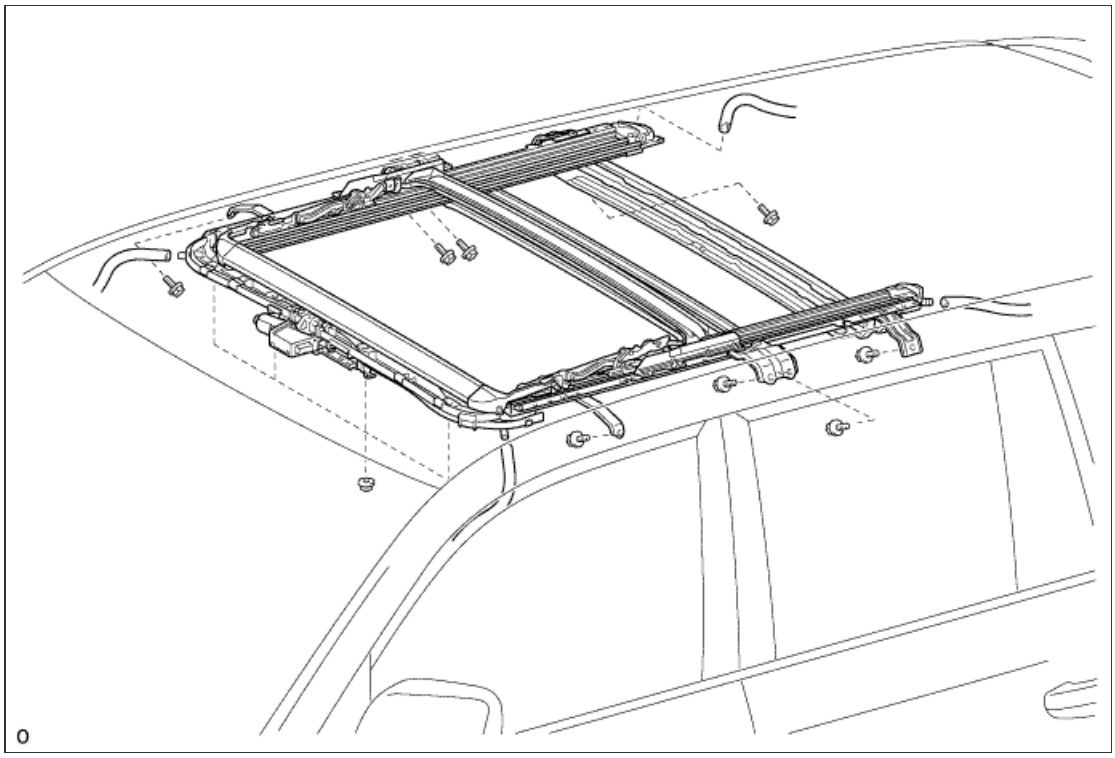
This part is used when the vehicle is assembled at the factory and is not needed for the reinstallation.



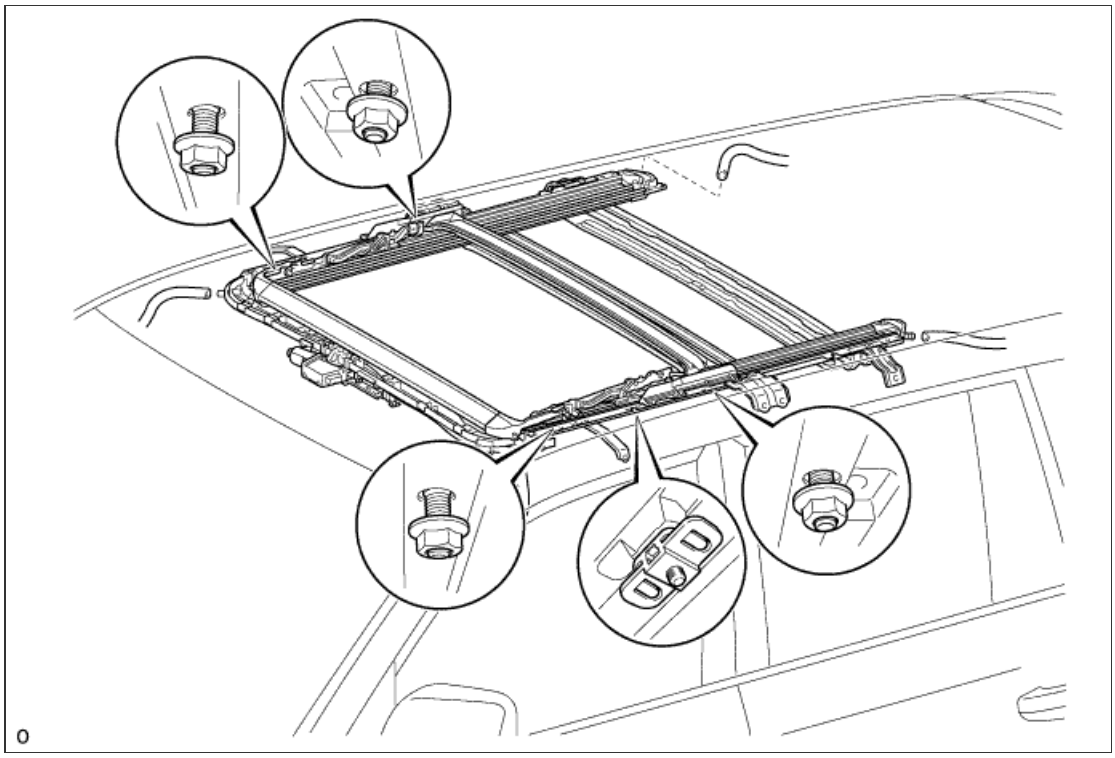
b. w/ Sliding Roof Lock Catch Plate LH, for Resin Type:

i. Disconnect the 4 sliding roof drain hoses.

ii. Remove the 4 bolts and 4 nuts.



iii. Loosen the 4 nuts as shown in the illustration.



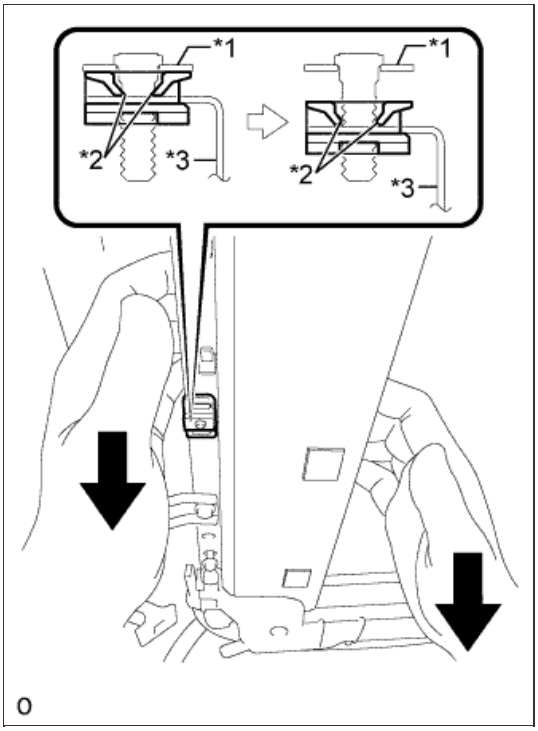
NOTICE:

Be sure that the nuts are fully threaded onto the bolts.

iv. Pull the sliding roof housing sub-assembly downward and detach the 2 claws of the sliding roof lock catch plate LH form the stud bolt as shown in the illustration.

Text in Illustration

*1	Bracket (Roof Panel)
*2	Sliding Roof Lock Catch Plate LH Claw
*3	Sliding Roof Housing Sub-assembly



NOTICE:

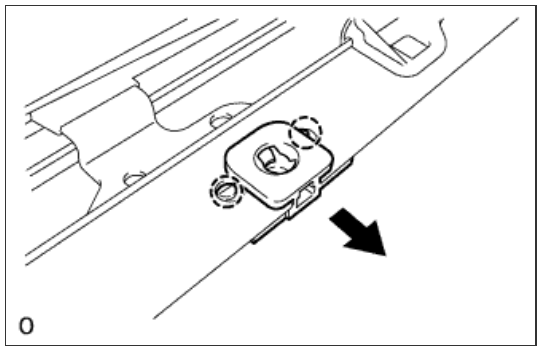
Performing this procedure breaks the claws of the sliding roof lock catch plate LH so that the sliding roof housing sub-assembly can be removed. However, do not use excessive force.

v. Remove the 4 nuts and sliding roof housing subassembly.

vi. Detach the 2 claws and remove the sliding roof lock catch plate LH from the sliding roof housing subassembly.

HINT:

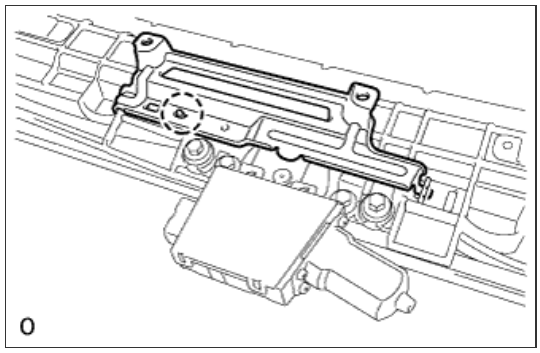
The sliding roof lock catch plate LH is used when the vehicle is assembled at the factory and is not needed for reinstallation.


0

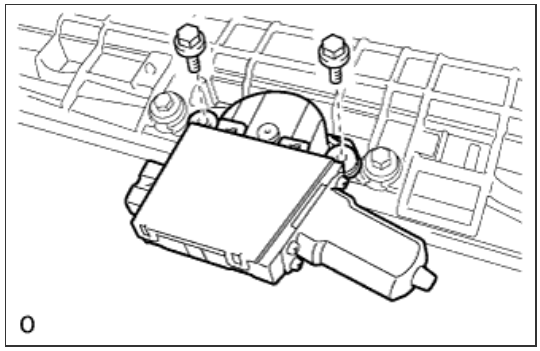
for Preparation Click here

1. REMOVE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY

a. Detach the bracket claw and remove the bracket.



b. Remove the 2 bolts, room light bracket and drive gear.

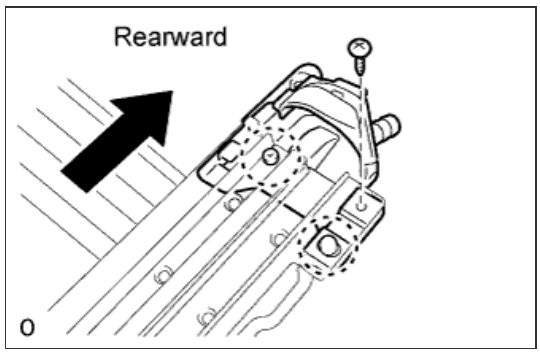


2. REMOVE SUNSHADE TRIM SUB-ASSEMBLY

a. Remove the 2 screws.

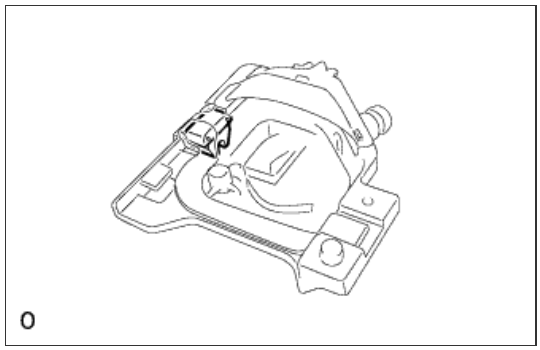
b. Detach the 4 claws and remove the sliding roof piece LH and RH.

c. Slide and remove the trim.



3. REMOVE SLIDING ROOF SUNSHADE STOPPER LH

a. Remove the stopper.



4. REMOVE SLIDING ROOF SUNSHADE STOPPER RH

HINT:

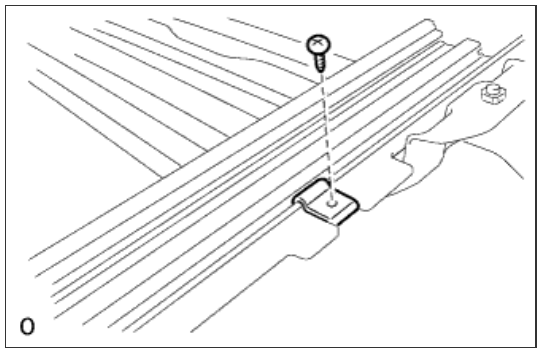
Use the same procedures described for the LH side.

5. REMOVE SLIDING ROOF DRIVE CABLE SUB-ASSEMBLY

NOTICE:

Do not disassemble the sliding roof drive cable sub-assembly except when replacing it.

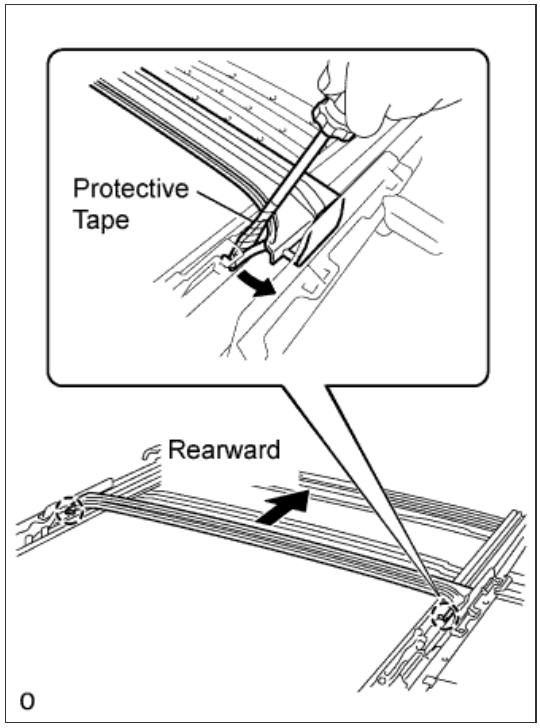
a. Remove the 2 screws and 2 stoppers.



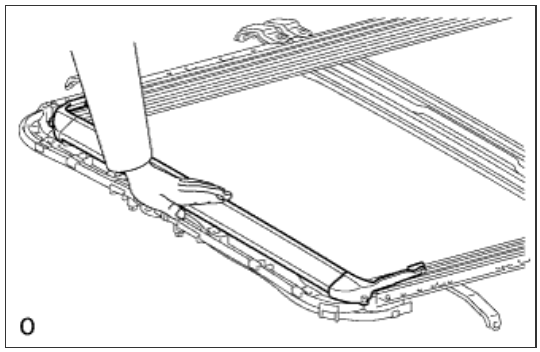
b. Using a screwdriver, detach the 2 claws and slide the rear roof drip channel rearward to remove it.

HINT:

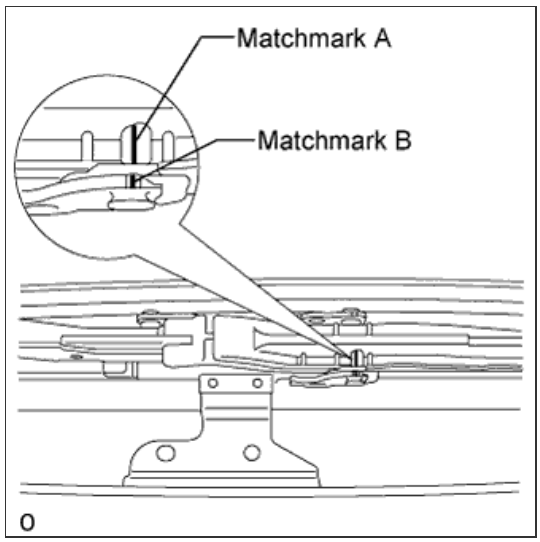
Tape the screwdriver tip before use.



c. Hold down the window deflector.



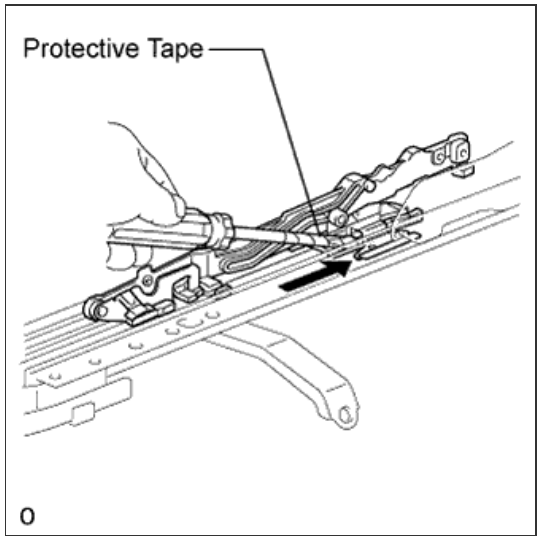
d. Place matchmarks on the sliding roof drive cable sub-assembly at locations A and B as shown in the illustration.



e. Using a screwdriver, slide the sliding roof drive cable sub-assembly in the direction indicated by the arrow in the illustration to remove it.

HINT:

Tape the screwdriver tip before use.



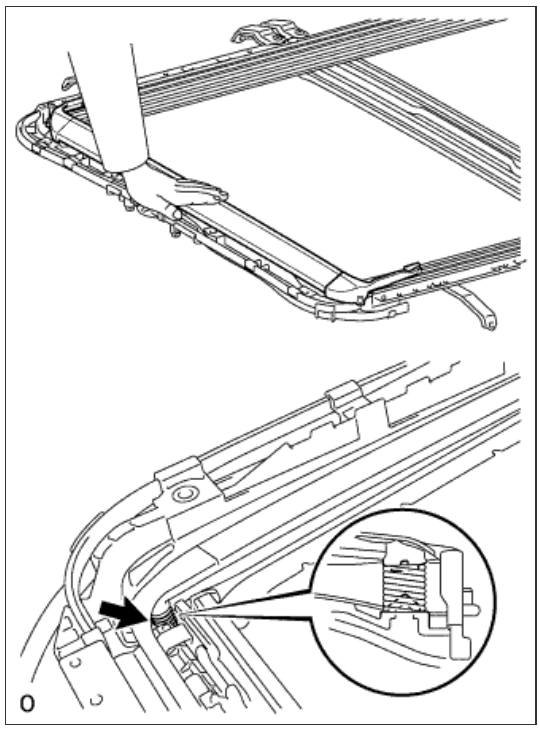
for Preparation Click here

1. INSTALL SLIDING ROOF DRIVE CABLE SUB-ASSEMBLY

a. Hold down the window deflector.

NOTICE:

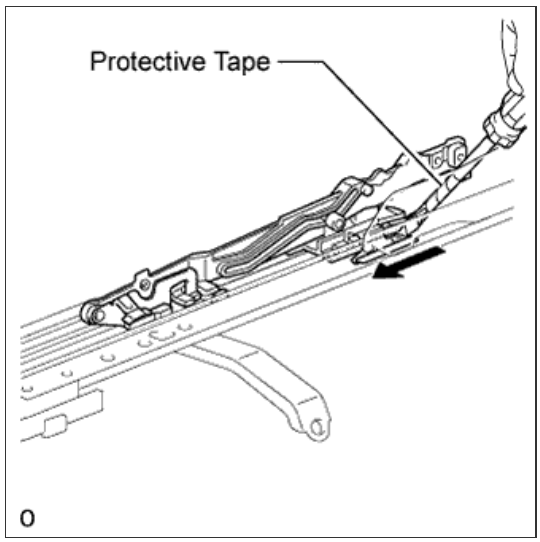
Make sure that the spring indicated by the arrow in the illustration is securely installed.



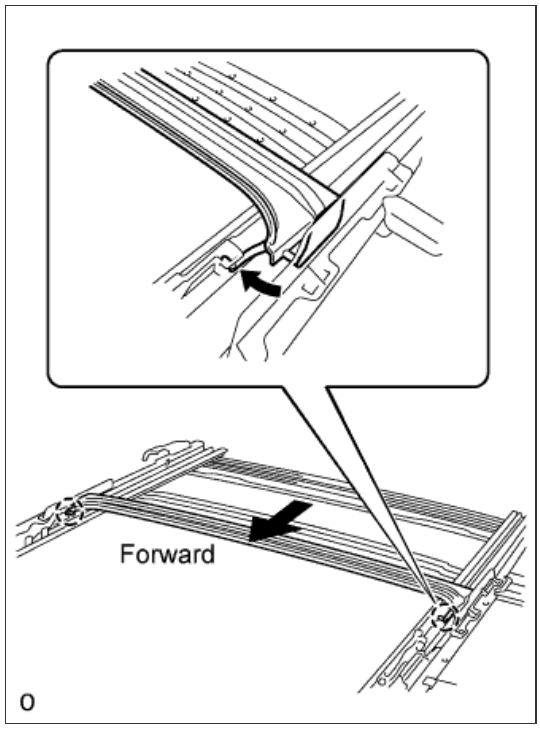
b. Using a screwdriver, slide the drive cable in the direction indicated by the arrow in the illustration to install it.

HINT:

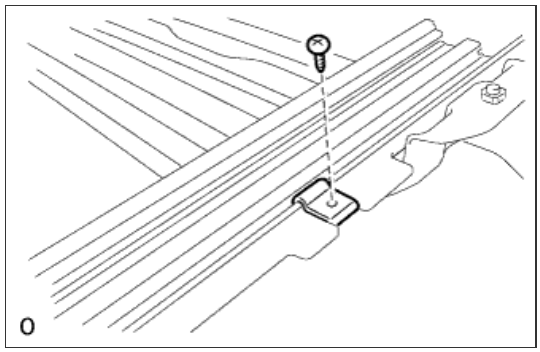
Tape the screwdriver tip before use.



c. Slide the rear roof drip channel forward and attach the 2 claws to install it.



d. Install the 2 stoppers with the 2 screws.

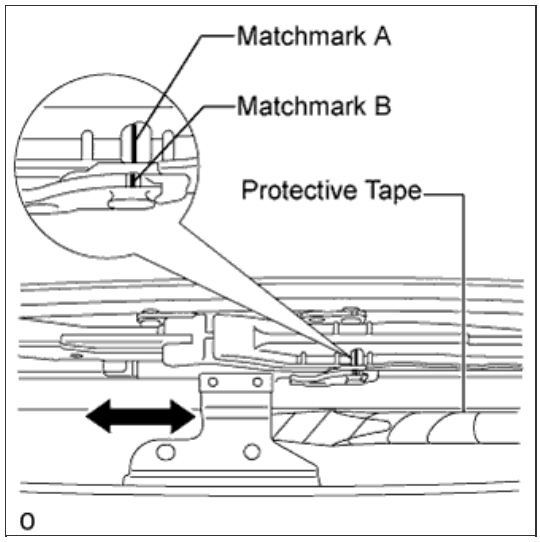


2. ADJUST SLIDING ROOF DRIVE CABLE SUB-ASSEMBLY

a. Using a screwdriver, align the matchmarks by sliding the drive cable in the directions indicated by the arrow in the illustration.

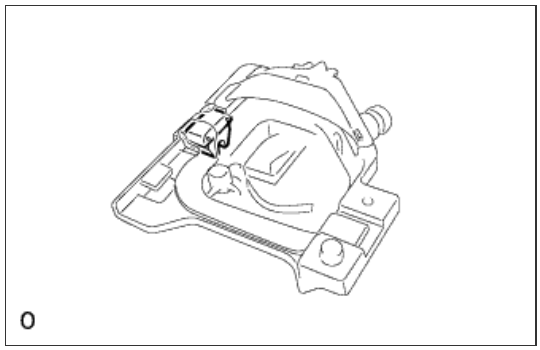
HINT:

Tape the screwdriver tip before use.



3. INSTALL SLIDING ROOF SUNSHADE STOPPER LH

a. Install the stopper.



4. INSTALL SLIDING ROOF SUNSHADE STOPPER RH

HINT:

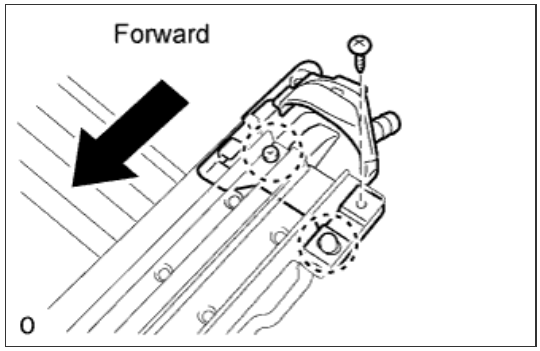
Use the same procedures described for the LH side.

5. INSTALL SUNSHADE TRIM SUB-ASSEMBLY

a. Insert the sunshade trim into the sliding roof housing.

b. Attach the 4 claws to install the sliding roof piece LH and RH.

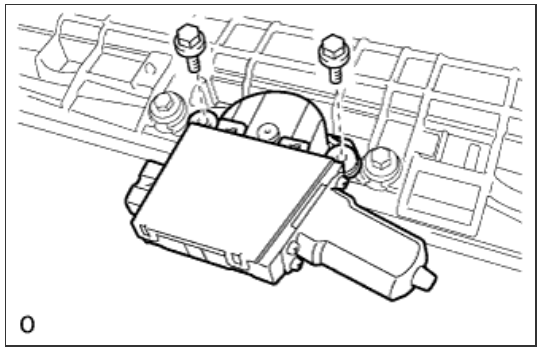
c. Install the 2 screws.



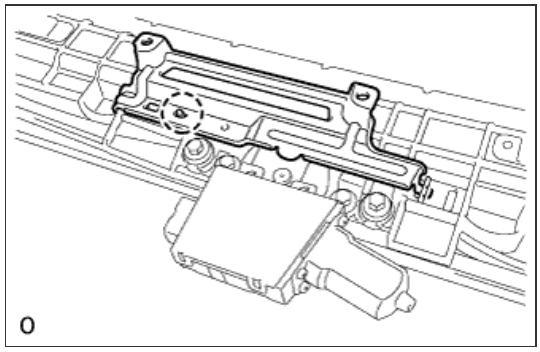
6. INSTALL SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY

a. Install the drive gear and room light bracket with the 2 bolts.

Torque:
5.4 N*m{ 55 kgf*cm , 48 in.*lbf }



b. Attach the bracket claw to install the bracket.



for Preparation Click here

1. INSTALL SLIDING ROOF HOUSING SUB-ASSEMBLY

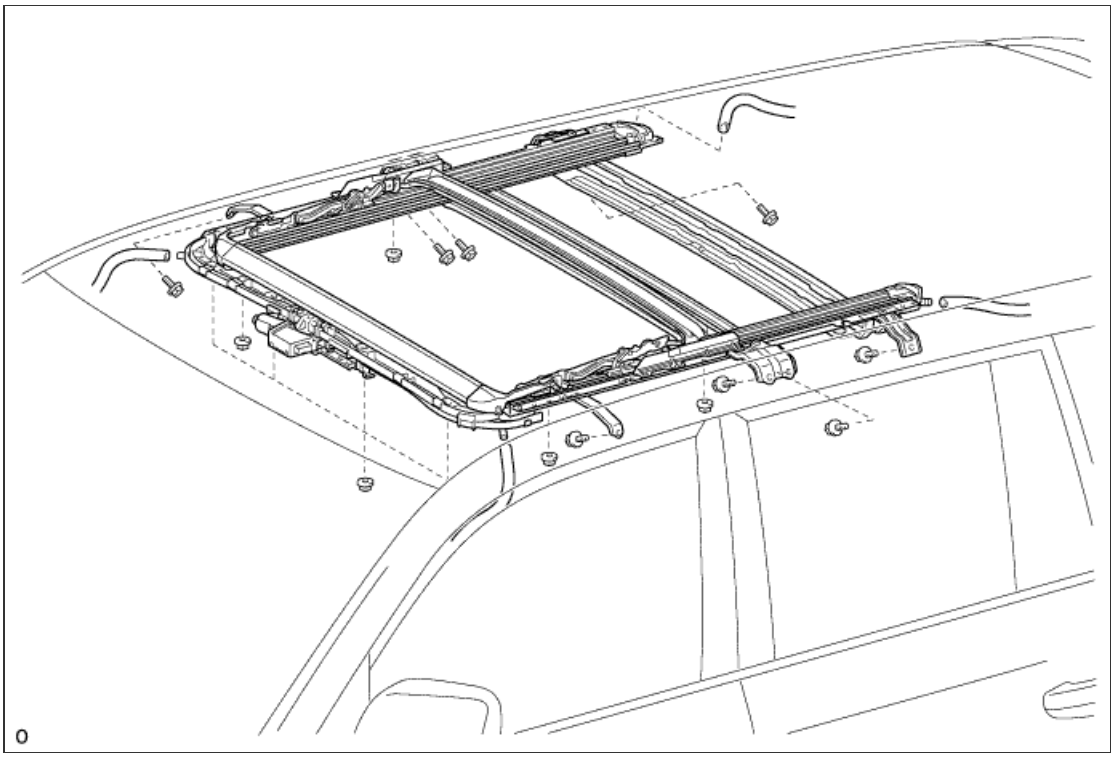
a. Temporarily install the housing with the 8 bolts (vehicle body side) and 8 nuts.

b. Tighten the 8 nuts.

Torque:
5.5 N*m{ 56 kgf*cm , 49 in.*lbf }

c. Tighten the 8 bolts.

Torque:
5.5 N*m{ 56 kgf*cm , 49 in.*lbf }



d. Connect the 4 sliding roof drain hoses.

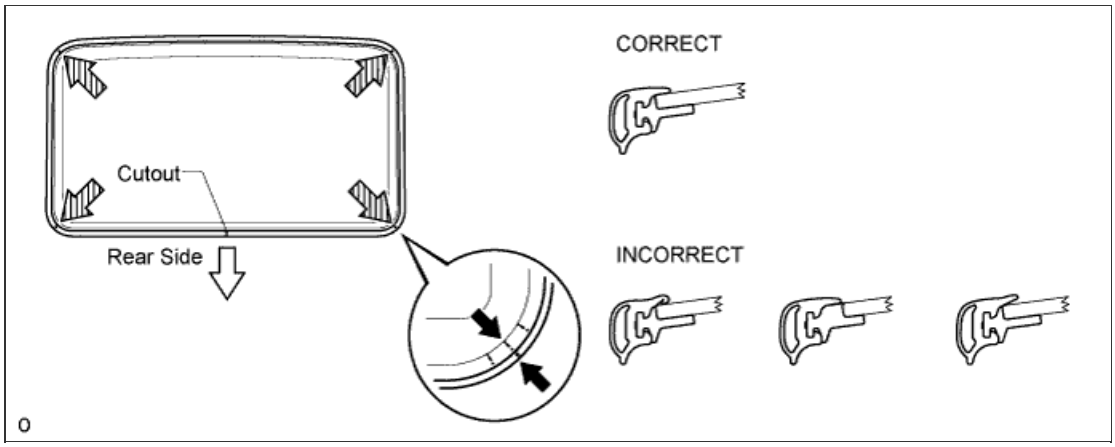
2. INSTALL SLIDING ROOF WEATHERSTRIP

a. Install the sliding roof weatherstrip as described below.

i. Attach each corner of the weatherstrip so that each weatherstrip mark is aligned with the sliding roof glass center mark. After attaching the entire weatherstrip, check that all weatherstrip marks are within the sliding roof glass end marks.

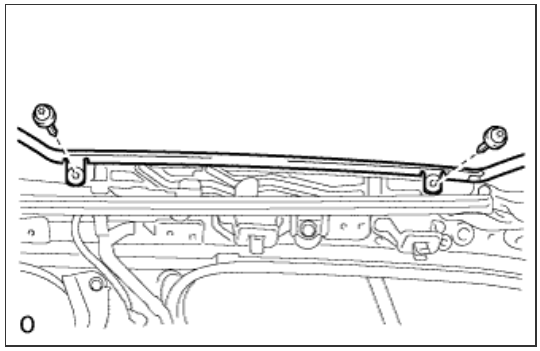
ii. Make sure the weatherstrip cutout is toward the rear side of the vehicle and centered.

iii. Make sure the weatherstrip is securely installed as shown in the illustration.



3. INSTALL SLIDING ROOF GLASS SUB-ASSEMBLY

a. Using a T25 "TORX" driver, temporarily install the glass with the 4 screws.



b. Perform a level check.

i. Check the difference in the level between the roof panel and the upper surface of the weatherstrip labeled "a" when the sliding roof glass is fully closed.

Standard:

Area	Specified Condition
A - A	0 +/-1.5 mm (0 +/-0.0591 in.)
B - B	
C - C	
D - D	

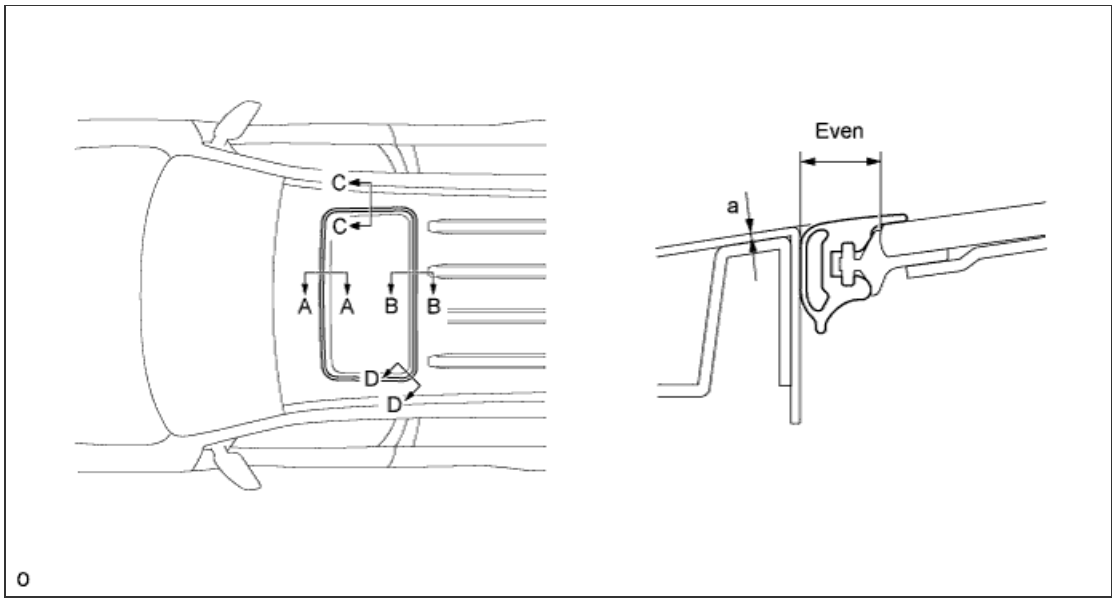
HINT:

"+" represents the condition that the glass is above the panel level. "-" represents the condition that the glass is below the panel level.

ii. Perform a gap check.
Check the gap between the roof panel and roof glass.

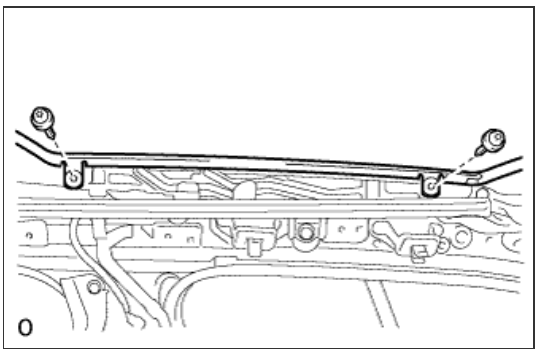
NOTICE:

The gap must be even all around.



c. Tighten the 4 screws.

Torque:
5.5 N*m{ 56 kgf*cm , 49 in.*lbf }

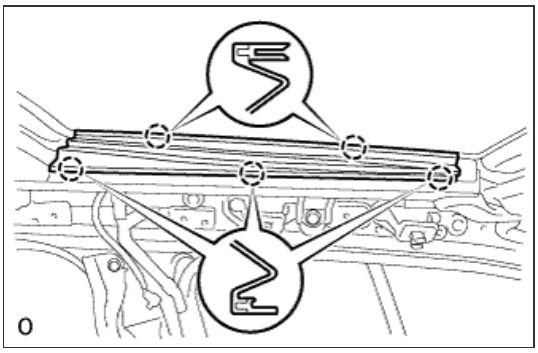


4. CHECK FOR WATER LEAK

a. After adjusting the sliding roof glass sub-assembly, check for water leaks.
If there are any leaks, readjust the sliding roof glass sub-assembly.

5. INSTALL SLIDING ROOF SIDE GARNISH LH

a. Attach the 5 claws to install the sliding roof side garnish.



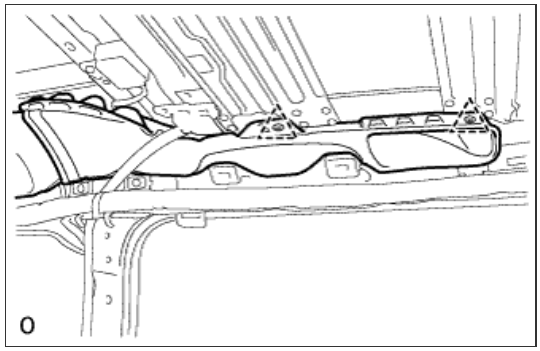
6. INSTALL SLIDING ROOF SIDE GARNISH RH

HINT:

Use the same procedures described for the LH side.

7. INSTALL REAR NO. 5 ROOF AIR DUCT

a. Attach the 2 clips to install the duct.



8. INSTALL REAR NO. 4 ROOF AIR DUCT

HINT:

Use the same procedures described for the No. 5 roof air duct.

9. INSTALL CURTAIN SHIELD AIRBAG ASSEMBLY LH

a. Install the curtain shield airbag (Click here).

10. INSTALL CURTAIN SHIELD AIRBAG ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

11. INSTALL ROOF HEADLINING ASSEMBLY

a. Install the roof headlining (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).

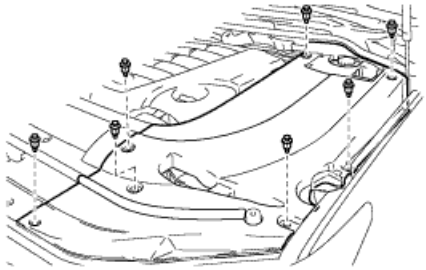
13. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

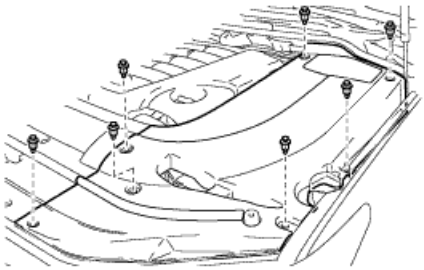
14. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

for LHD:

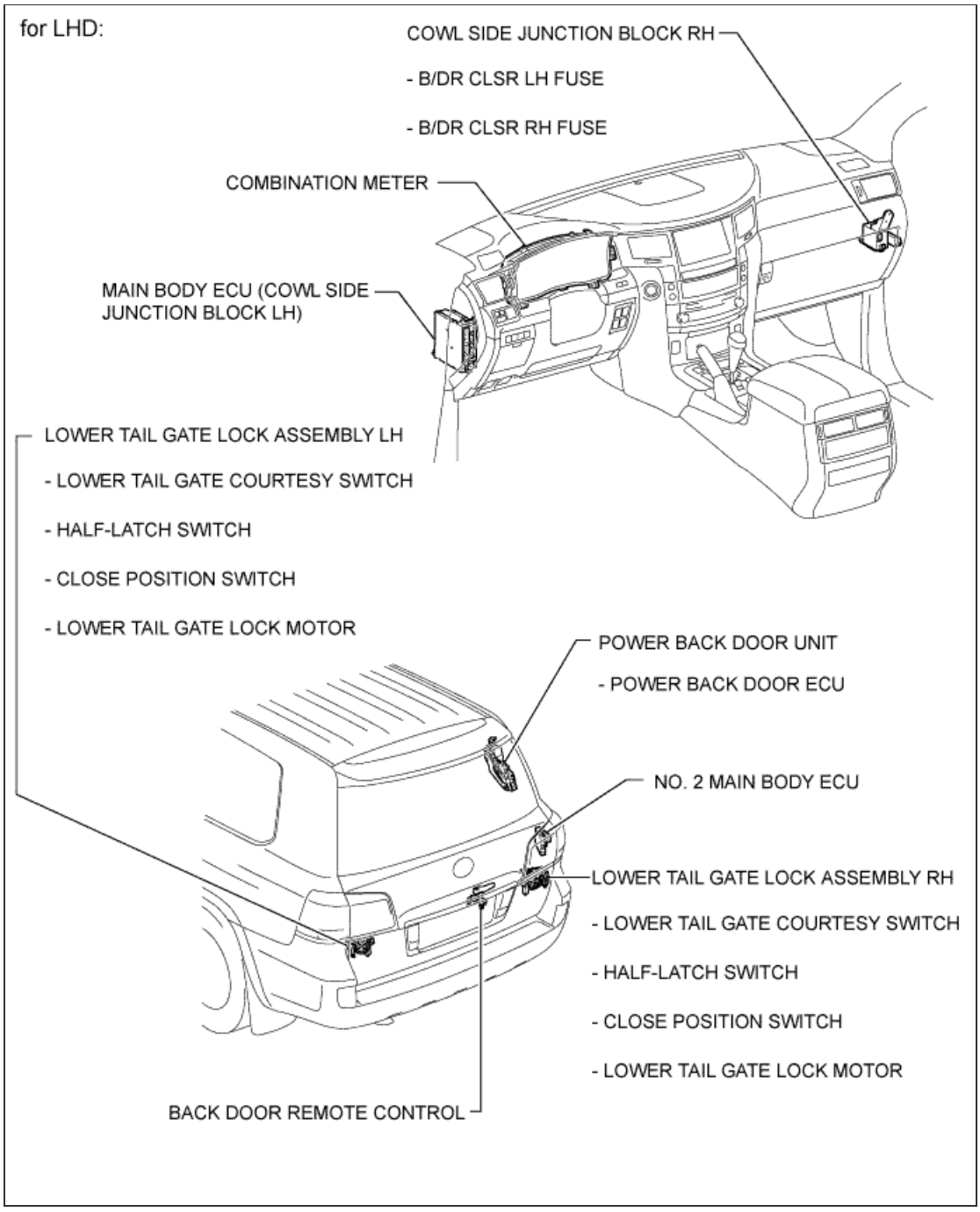


for RHD:

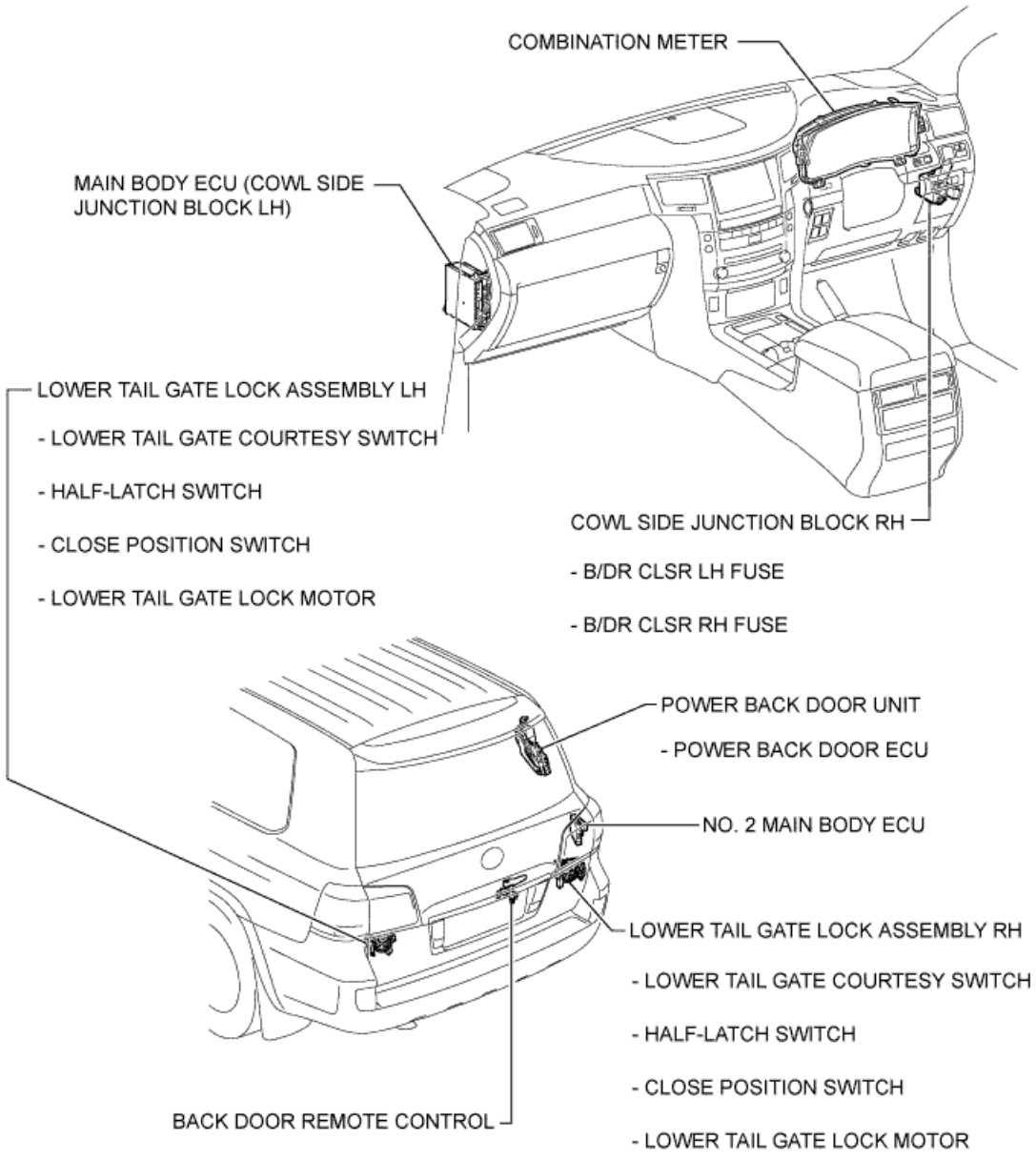


P

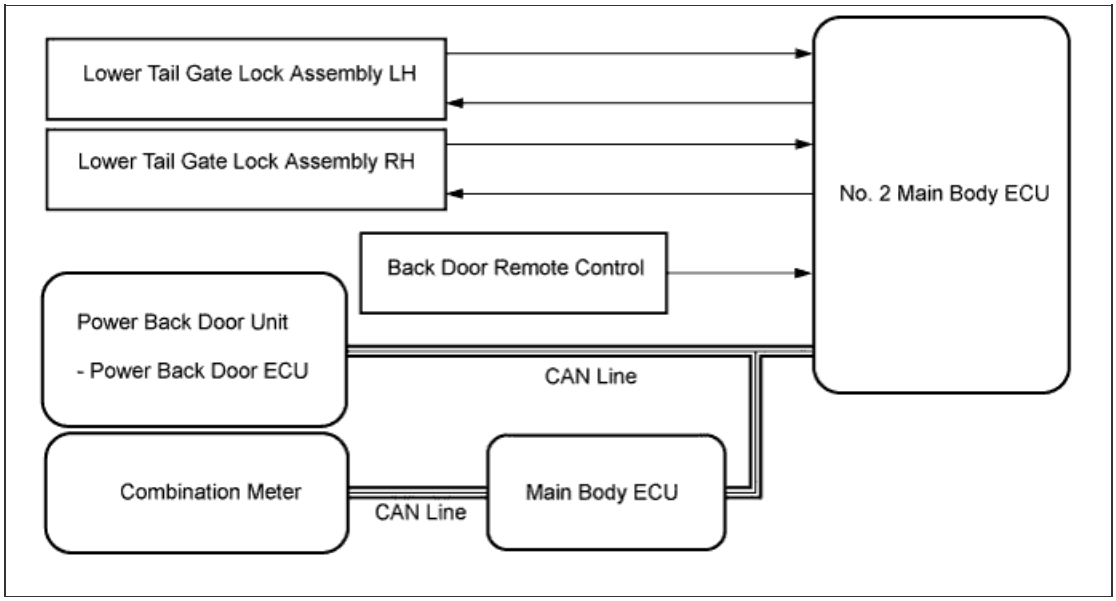
for Preparation Click here



for RHD:


COMBINATION METER
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
LOWER TAIL GATE LOCK ASSEMBLY LH
- LOWER TAIL GATE COURTESY SWITCH
- HALF-LATCH SWITCH
- CLOSE POSITION SWITCH
- LOWER TAIL GATE LOCK MOTOR
COWL SIDE JUNCTION BLOCK RH
- B/DR CLSR LH FUSE
- B/DR CLSR RH FUSE
POWER BACK DOOR UNIT
- POWER BACK DOOR ECU
NO. 2 MAIN BODY ECU
LOWER TAIL GATE LOCK ASSEMBLY RH
- LOWER TAIL GATE COURTESY SWITCH
- HALF-LATCH SWITCH
- CLOSE POSITION SWITCH
- LOWER TAIL GATE LOCK MOTOR
BACK DOOR REMOTE CONTROL

for Preparation Click here



Communication Table

Sender ECU	Receiver ECU	Signal	Line
Power Back Door ECU	No. 2 Main Body ECU	Back door information signal	CAN
Combination Meter	No. 2 Main Body ECU	Vehicle speed signal	CAN

for Preparation Click here

TAIL GATE CLOSER SYSTEM DESCRIPTION

a. The lower tail gate lock, built into the lower tail gate, sends an open/close condition signal to the No. 2 main body ECU and an open/close operation is performed by operating the lower tail gate lock motor LH and RH.

b. The latch is opened by the back door remote control so that the lower tail gate can be opened.

c. 4 switches are built into the lower tail gate lock, and the No. 2 main body ECU monitors the status of each switch. The ECU controls latch "release/close" operations in response to the inputs from each switch.

Switch	Function
Lower tail gate courtesy switch	Detects whether lower tail gate is open or closed. This switch turns on when lower tail gate is open or ajar and turns off when it is fully closed.
Half-latch switch	Detects ajar position of latch. This switch turns on when latch is in open-latch position.
Pawl switch	Detects the tail gate position.
Close position switch	Detects fully closed position of latch. This switch turns on when latch is in over-latch position.

FUNCTION OF MAIN COMPONENTS

Component	Function
Back door remote control	When the back door remote control is operated and a back door remote control signal is sent, the No. 2 main body ECU performs the lower tail gate open operation.
Lower tail gate lock	Receives an operation signal from the No. 2 main body ECU to open/close the lower tail gate. Also detects the lower tail gate position signal through the built-in close position switch, half-latch switch and lower tail gate courtesy switch.
Combination meter	Sends the vehicle speed signal to the No. 2 main body ECU via CAN communication.

for Preparation Click here

HINT:

- **Use these following procedures to troubleshoot the tail gate closer 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 DTC OUTPUT*

a. Starting with the lower tail gate closed, open and close the lower tail gate 6 times.

b. Check for DTCs (Click here).

c. Clear the DTCs (Click here).

d. Starting with the lower tail gate closed, open and close the lower tail gate 6 times.

e. Recheck for DTCs (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

5.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 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.REPAIR OR REPLACE

NEXT

8.CONFIRMATION TEST

NEXT

END

for Preparation Click here

HINT:

- **Use these following procedures to troubleshoot the tail gate closer 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 DTC OUTPUT*

a. Starting with the lower tail gate closed, open and close the lower tail gate 6 times.

b. Check for DTCs (Click here).

c. Clear the DTCs (Click here).

d. Starting with the lower tail gate closed, open and close the lower tail gate 6 times.

e. Recheck for DTCs (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

5.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 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.REPAIR OR REPLACE

NEXT

8.CONFIRMATION TEST

NEXT

END

for Preparation Click here

BASIC OPERATION CHECK

a. Tail gate closer system operation conditions

- The back door is open.
- Vehicle speed is 5 km/h (3 mph) or less.

b. Tail gate closer system operation check

i. Check that the lower tail gate lock performs the close operation and the lower tail gate becomes fully closed when the lower tail gate is partially latched.

ii. Check that the lower tail gate moves to the half-latch position or opens when the back door remote control is operated.

iii. Partially latch the lower tail gate and check that the closer motor performs the release operation and the lower tail gate opens when the back door remote control is operated during the close operation.

for Preparation Click here

HINT:

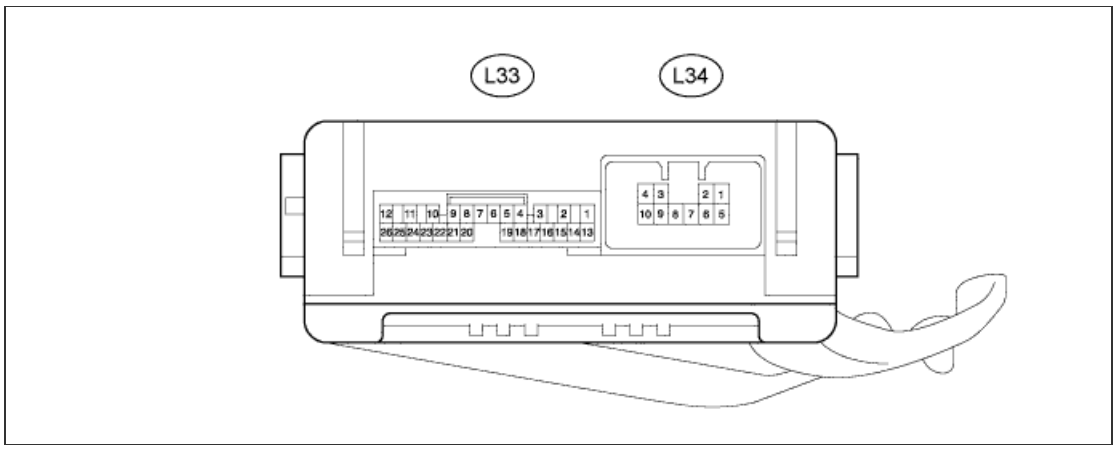
Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed.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

Tail Gate Closer System

Symptom	Suspected Area	See page
Tail Gate Closer System does not Operate	B/DR CLSR LH fuse	Click here
	B/DR CLSR RH fuse	Click here
	Lower Tail Gate Lock LH	Click here
	Lower Tail Gate Lock RH	Click here
	Harness or Connector	Click here
	No. 2 Main Body ECU	Click here
Tail Gate does not Open with Back Door Remote Control	Back Door Remote Control	Click here
	Lower Tail Gate Lock LH	Click here
	Lower Tail Gate Lock RH	Click here
	Harness or Connector	Click here
	No. 2 Main Body ECU	Click here

for Preparation Click here

CHECK NO. 2 MAIN BODY ECU



a. Disconnect the L33 and L34 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
L33-14 (BECU) - Body ground	R - Body ground	BECU power supply	Always	11 to 14 V
L33-13 (SIG) - Body ground	G - Body ground	SIG power supply	Engine switch on (IG)	11 to 14 V
L33-13 (SIG) - Body ground	G - Body ground	SIG power supply	Engine switch off	Below 1 V
L34-5 (B) - Body ground	B - Body ground	Lower tail gate lock motor RH power supply	Always	11 to 14 V
L34-6 (B) - Body ground	W - Body ground	Lower tail gate lock motor LH power supply	Always	11 to 14 V
L33-7 (GND) - Body ground	W-B - Body ground	Body ground	Always	Below 1 Ω
L34-7 (GND) - Body ground	W-B - Body ground	Body ground	Always	Below 1 Ω
L33-19 (BDSU) - Body ground	V - Body ground	Back door remote control signal circuit	Back door remote control pulled (on)	Below 1 Ω
L33-19 (BDSU) - Body ground	V - Body ground	Back door remote control signal circuit	Back door remote control free (off)	10 kΩ or higher

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

c. Reconnect the L33 and L34 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
L34-3 (DC+) - L34-7 (GND)	R - W-B	Lower tail gate lock motor LH circuit	Lower tail gate lock motor LH operating (close)	11 to 14 V
L34-3 (DC+) - L34-7 (GND)	R - W-B	Lower tail gate lock motor LH circuit	Lower tail gate lock motor LH stopped	Below 1 V
L34-8 (DC-) - L34-7 (GND)	B - W-B	Lower tail gate lock motor LH circuit	Lower tail gate lock motor LH operating (open)	11 to 14 V
L34-8 (DC-) - L34-7 (GND)	B - W-B	Lower tail gate lock motor LH circuit	Lower tail gate lock motor LH stopped	Below 1 V
L34-2 (DC+) - L34-7 (GND)	G - W-B	Lower tail gate lock motor RH circuit	Lower tail gate lock motor RH operating (close)	11 to 14 V

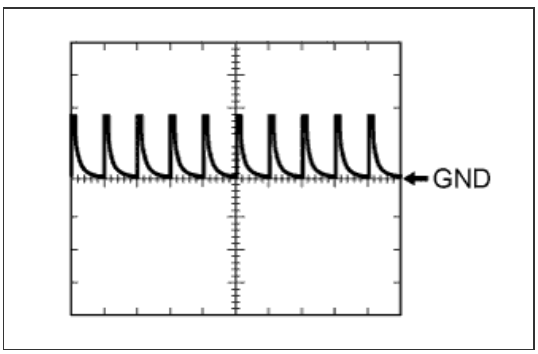
L34-2 (DC+) - L34-7 (GND)	G - W-B	Lower tail gate lock motor RH circuit	Lower tail gate lock motor RH stopped	Below 1 V
L34-1 (DC-) - L34-7 (GND)	W - W-B	Lower tail gate lock motor RH circuit	Lower tail gate lock motor RH operating (open)	11 to 14 V
L34-1 (DC-) - L34-7 (GND)	W - W-B	Lower tail gate lock motor RH circuit	Lower tail gate lock motor RH stopped	Below 1 V
L34-9 (HAF) - L34-7 (GND)	GR - W-B	Half-latch switch LH signal circuit	Lower tail gate open	Below 1 V
L34-9 (HAF) - L34-7 (GND)	GR - W-B	Half-latch switch LH signal circuit	Lower tail gate closed	Pulse generation (see waveform 1)
L33-8 (HAF) - L34-7 (GND)	B - W-B	Half-latch switch RH signal circuit	Lower tail gate open	Below 1 V
L33-8 (HAF) - L34-7 (GND)	B - W-B	Half-latch switch RH signal circuit	Lower tail gate closed	Pulse generation (see waveform 1)
L34-4 (FUL) - L34-7 (GND)	G - W-B	Lower tail gate courtesy switch LH signal circuit	Lower tail gate open	Below 1 V
L34-4 (FUL) - L34-7 (GND)	G - W-B	Lower tail gate courtesy switch LH signal circuit	Lower tail gate closed	Pulse generation (see waveform 1)
L33-22 (FUL) - L34-7 (GND)	Y - W-B	Lower tail gate courtesy switch RH signal circuit	Lower tail gate open	Below 1 V
L33-22 (FUL) - L34-7 (GND)	Y - W-B	Lower tail gate courtesy switch RH signal circuit	Lower tail gate closed	Pulse generation (see waveform 1)
L34-10 (LMT) - L34-7 (GND)	Y - W-B	Close position switch LH signal circuit	Lower tail gate closed	Below 1 V
L34-10 (LMT) - L34-7 (GND)	Y - W-B	Close position switch LH signal circuit	Lower tail gate open	Pulse generation (see waveform 2)
L33-17 (LMT) - L34-7 (GND)	L - W-B	Close position switch RH signal circuit	Lower tail gate closed	Below 1 V
L33-17 (LMT) - L34-7 (GND)	L - W-B	Close position switch RH signal circuit	Lower tail gate open	Pulse generation (see waveform 2)
L33-15 (POL) - L34-7 (GND)	L - W-B	Pawl switch LH signal circuit	Lower tail gate lock motor LH is operating	Below 1 V
L33-15 (POL) - L34-7 (GND)	L - W-B	Pawl switch LH signal circuit	Lower tail gate open	Pulse generation (see waveform 2)
L33-16 (POL) - L34-7 (GND)	R - W-B	Pawl switch RH signal circuit	Lower tail gate lock motor RH is operating	Below 1 V
L33-16 (POL) - L34-7 (GND)	R - W-B	Pawl switch RH signal circuit	Lower tail gate open	Pulse generation (see waveform 2)
L33-19 (BDSU) - L34-7 (GND)	V - W-B	Back door remote control signal circuit	Back door remote control pulled (on)	Below 1 V
L33-19 (BDSU) - L34-7 (GND)	V - W-B	Back door remote control signal circuit	Back door remote control free (off)	Pulse generation (see waveform 3)

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 (Symbol)	• L34-9 (HAF) - L34-7 (GND) • L33-8 (HAF) - L34-7 (GND) • L34-4 (FUL) - L34-7 (GND) • L33-22 (FUL) - L34-7 (GND)
Tool Setting	5 V/DIV., 5 ms/DIV
Condition	Lower tail gate closed

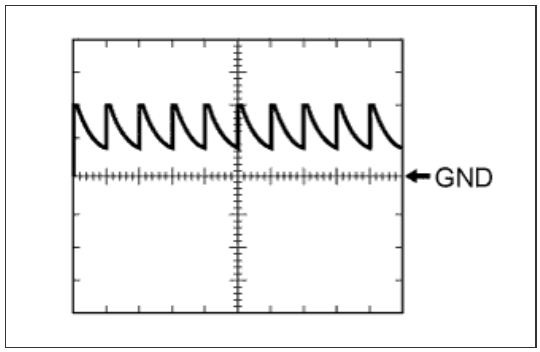


f. Using an oscilloscope, check waveform 2.

Waveform 2 (Reference)

Item	Content
Terminal (Symbol)	• L34-10 (LMT) - L34-7 (GND) • L33-17 (LMT) - L34-7 (GND)

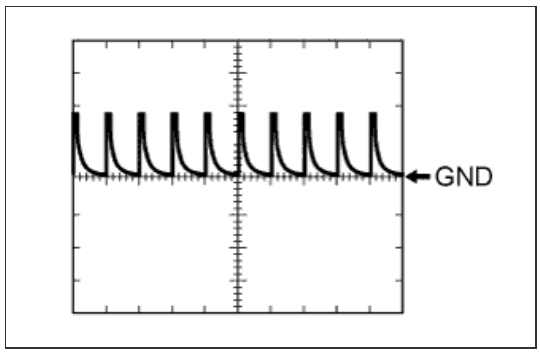
	• L34-15 (POS) - L34-7 (GND) • L33-16 (POS) - L34-7 (GND)
Tool Setting	5 V/DIV., 5 ms/DIV
Condition	Lower tail gate open



g. Using an oscilloscope, check waveform 3.

Waveform 3 (Reference)

Item	Content
Terminal (Symbol)	L33-19 (BDSU) - L34-7 (GND)
Tool Setting	5 V/DIV., 5 ms/DIV
Condition	Back door remote control free (off)



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 / Body No. 4 / 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 / Body No. 4 / 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 / Body No. 4 / Data List.

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

Body No. 4

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Handle Switch of tail gate panel	Back door remote control signal/ON or OFF	ON: Back door remote control pulled OFF: Back door remote control free	-
Half Latch Switch RH	Half-latch switch RH signal/ON or OFF	ON: Lower tail gate open OFF: Lower tail gate closed	-
Half Latch Switch LH	Half-latch switch LH signal/ON or OFF	ON: Lower tail gate open OFF: Lower tail gate closed	-
Courtesy Switch RH	Lower tail gate courtesy switch RH signal/ON or OFF	ON: Lower tail gate open OFF: Lower tail gate closed	-
Courtesy Switch LH	Lower tail gate courtesy switch LH signal/ON or OFF	ON: Lower tail gate open OFF: Lower tail gate closed	-
Position Switch RH	Close position switch RH signal/ON or OFF	ON: Lower tail gate closed OFF: Lower tail gate open	-
Position Switch LH	Close position switch LH signal/ON or OFF	ON: Lower tail gate closed OFF: Lower tail gate open	-
Luggage Pawl Switch	Pawl switch signal/ON or OFF	ON: Lower tail gate lock motor operating OFF: Lower tail gate open or close	-
Fail Count RH	Number of malfunctions detected in lower tail gate lock RH/0 to 5	Number of detected malfunctions displayed	-
Fail Count LH	Number of malfunctions detected in lower tail gate lock LH/0 to 5	Number of detected malfunctions displayed	-
# Codes	Number of stored trouble codes/min.: 0, max.: 255	Number of DTCs displayed	-

ACTIVE TEST

HINT:

Using the intelligent tester to perform the 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 / Body No. 4 / Active Test.

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

Body No. 4

Tester Display	Test Part	Control Range	Diagnostic Note
Tail Gate Panel Open	Lower tail gate lock	ON or OFF	The back door must be open.

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.

Tail Gate Closer System

DTC Code	Detection Item	Trouble Area	See page
B225A	Tail Gate Panel Position Switch RH	- Lower tail gate lock RH - Harness or connector - No. 2 main body ECU	Click here
B225B	Tail Gate Panel Half Switch or Courtesy Switch RH	- Lower tail gate lock RH - Harness or connector - No. 2 main body ECU	Click here
B225C	Tail Gate Panel Position Switch LH	- Lower tail gate lock LH - Harness or connector - No. 2 main body ECU	Click here
B225D	Tail Gate Panel Half Switch or Courtesy Switch LH	- Lower tail gate lock LH - Harness or connector - No. 2 main body ECU	Click here

DTC B225A Tail Gate Panel Position Switch RH

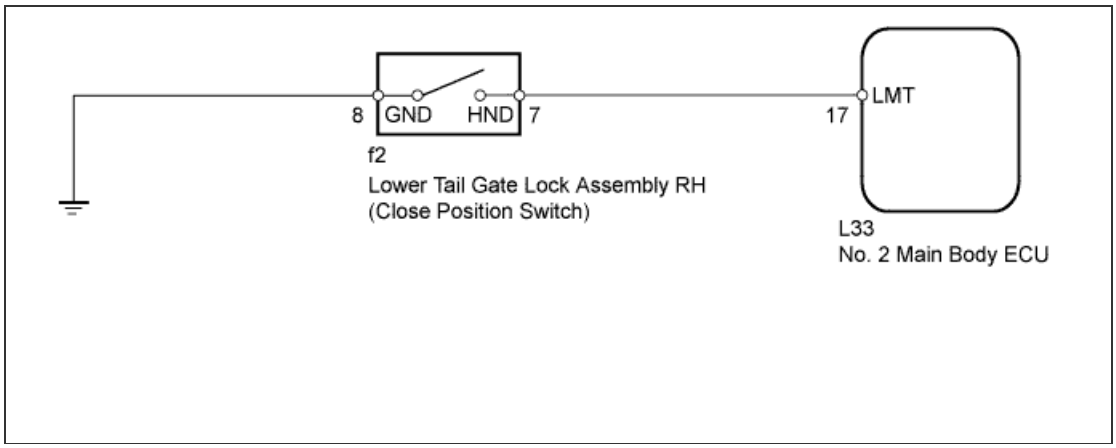
for Preparation Click here

DESCRIPTION

The No. 2 main body ECU receives the close position switch signal from the lower tail gate lock RH and detects the open/closed status of the lower tail gate. DTC B225A is stored when the ECU receives a close position switch malfunction signal from the lower tail gate lock RH.

DTC Code	DTC Detection Condition	Trouble Area
B225A	A close position switch malfunction (open or short circuit) signal is received from the lower tail gate lock.	• Lower tail gate lock RH • Harness or connector • No. 2 main body ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (CLOSE POSITION SWITCH)

a. Check the Data List for proper functioning of the close position switch.

Body No. 4

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Position Switch RH	Close position switch RH signal/ON or OFF	ON: Lower tail gate closed OFF: Lower tail gate open	-

OK:
The display is as specified in the normal condition.

NG → Go to step 3

OK

2.CHECK DTC OUTPUT

a. Starting with the lower tail gate closed, open and close the lower tail gate 6 times.

b. Check for DTCs (Click here).

c. Clear the DTCs (Click here).

d. Starting with the lower tail gate closed, open and close the lower tail gate 6 times.

e. Recheck for DTCs (Click here).

OK:
DTC B225A is not output.

NG → REPLACE NO. 2 MAIN BODY ECU (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

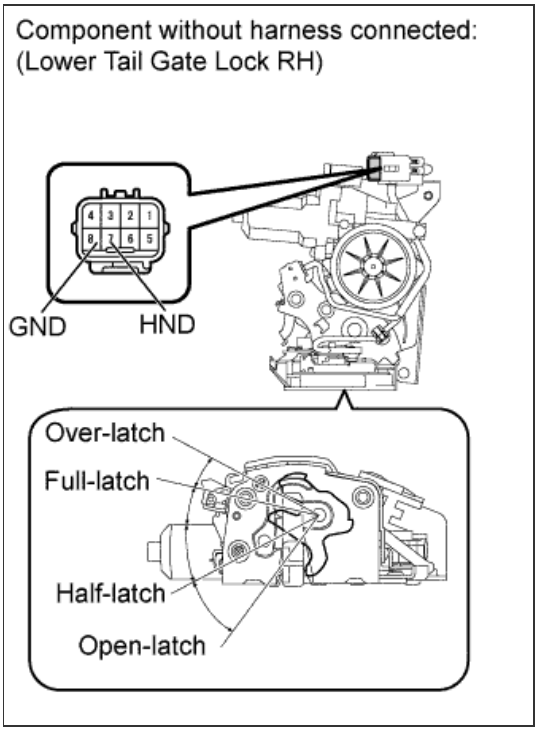
3.INSPECT LOWER TAIL GATE LOCK ASSEMBLY RH

a. Remove the lower tail gate lock RH (Click here).

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
7 (HND) - 8 (GND)	Over-latch	Below 1 Ω
7 (HND) - 8 (GND)	Full-latch	10 kΩ or higher
7 (HND) - 8 (GND)	Half-latch	10 kΩ or higher
7 (HND) - 8 (GND)	Open-latch	10 kΩ or higher



NG → REPLACE LOWER TAIL GATE LOCK ASSEMBLY RH (Click here)

OK

4.CHECK HARNESS AND CONNECTOR (LOCK - ECU AND BODY GROUND)

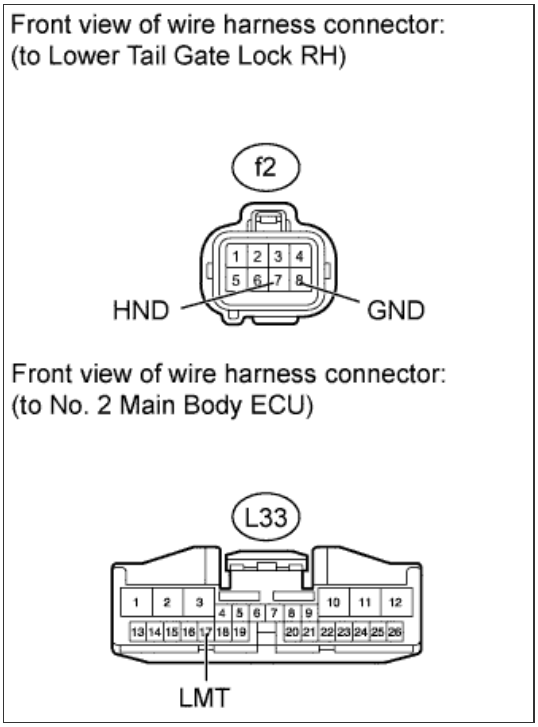
a. Disconnect the f2 lock connector.

b. Disconnect the L33 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
f2-7 (HND) - L33-17 (LMT)	Always	Below 1 Ω
f2-8 (GND) - Body ground	Always	Below 1 Ω
f2-7(HND) - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

DTC B225C Tail Gate Panel Position Switch LH

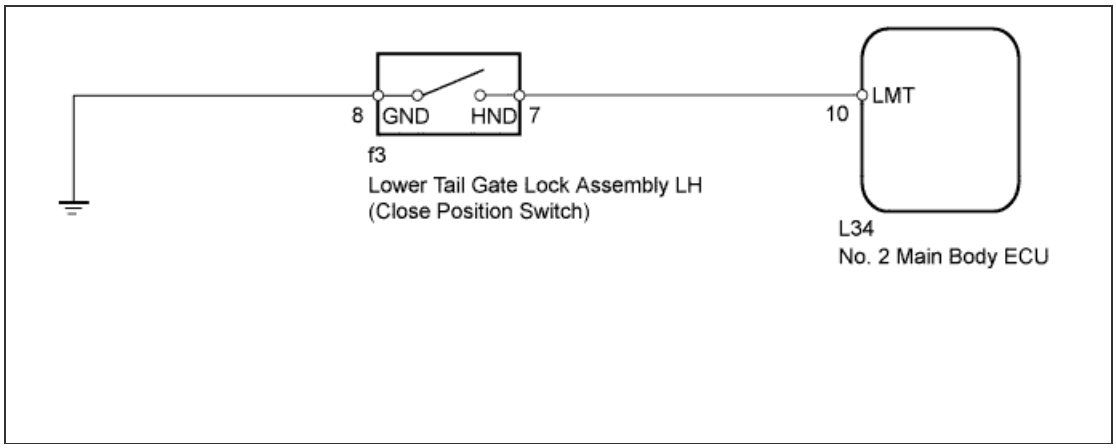
for Preparation Click here

DESCRIPTION

The No. 2 main body ECU receives the close position switch signal from the lower tail gate lock LH and detects the open/closed status of the lower tail gate. DTC B225C is stored when the ECU receives a close position switch malfunction signal from the lower tail gate lock LH.

DTC Code	DTC Detection Condition	Trouble Area
B225C	A close position switch malfunction (open or short circuit) signal from the lower tail gate lock LH is received.	• Lower tail gate lock LH • Harness or connector • No. 2 main body ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (CLOSE POSITION SWITCH)

a. Check the Data List for proper functioning of the close position switch.

Body No. 4

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Position Switch LH	Close position switch LH signal/ON or OFF	ON: Lower tail gate closed OFF: Lower tail gate open	-

OK:
The display is as specified in the normal condition.

NG → Go to step 3

OK

2.CHECK DTC OUTPUT

a. Starting with the lower tail gate closed, open and close the lower tail gate 6 times.

b. Check for DTCs (Click here).

c. Clear the DTCs (Click here).

d. Starting with the lower tail gate closed, open and close the lower tail gate 6 times.

e. Recheck for DTCs (Click here).

OK:
DTC B225C is not output.

NG

REPLACE NO. 2 MAIN BODY ECU (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

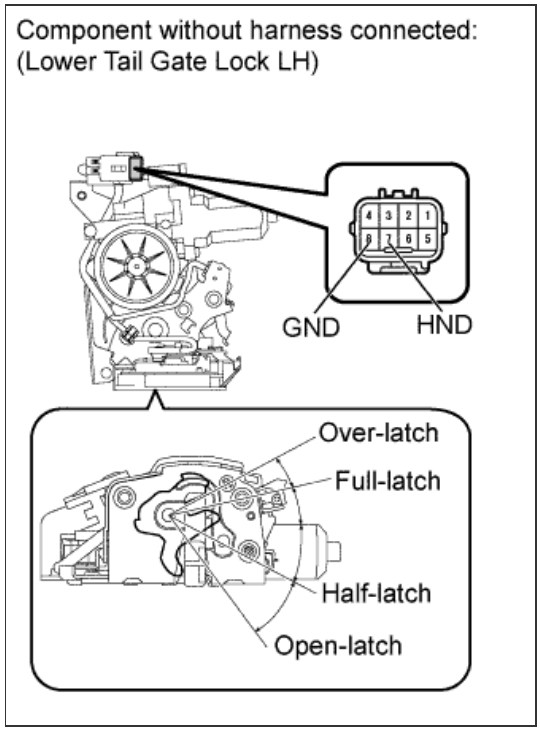
3.INSPECT LOWER TAIL GATE LOCK ASSEMBLY LH

a. Remove the lower tail gate lock LH (Click here).

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
7 (HND) - 8 (GND)	Over-latch	Below 1 Ω
7 (HND) - 8 (GND)	Full-latch	10 kΩ or higher
7 (HND) - 8 (GND)	Half-latch	10 kΩ or higher
7 (HND) - 8 (GND)	Open-latch	10 kΩ or higher



NG

REPLACE LOWER TAIL GATE LOCK ASSEMBLY LH (Click here)

OK

4.CHECK HARNESS AND CONNECTOR (LOCK - ECU AND BODY GROUND)

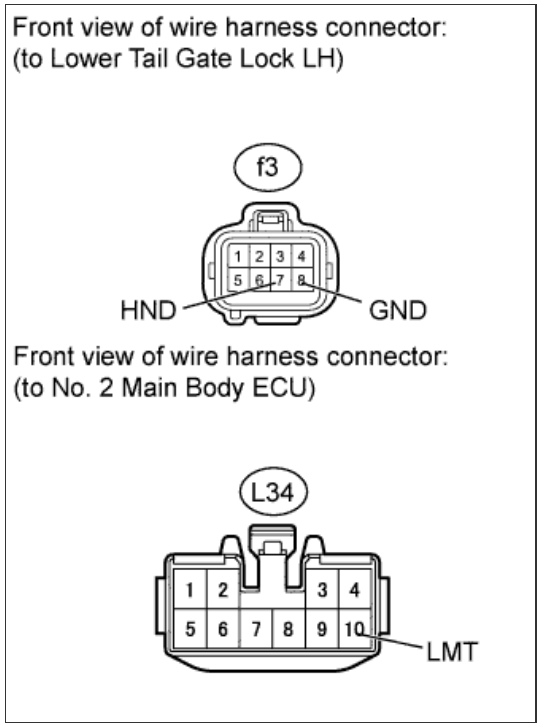
a. Disconnect the f3 lock connector.

b. Disconnect the L34 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
f3-7 (HND) - L34-10 (LMT)	Always	Below 1 Ω
f3-8 (GND) - Body ground	Always	Below 1 Ω
f3-7 (HND) - Body ground	Always	10 kΩ or higher



NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

DTC B225B Tail Gate Panel Half Switch or Courtesy Switch RH

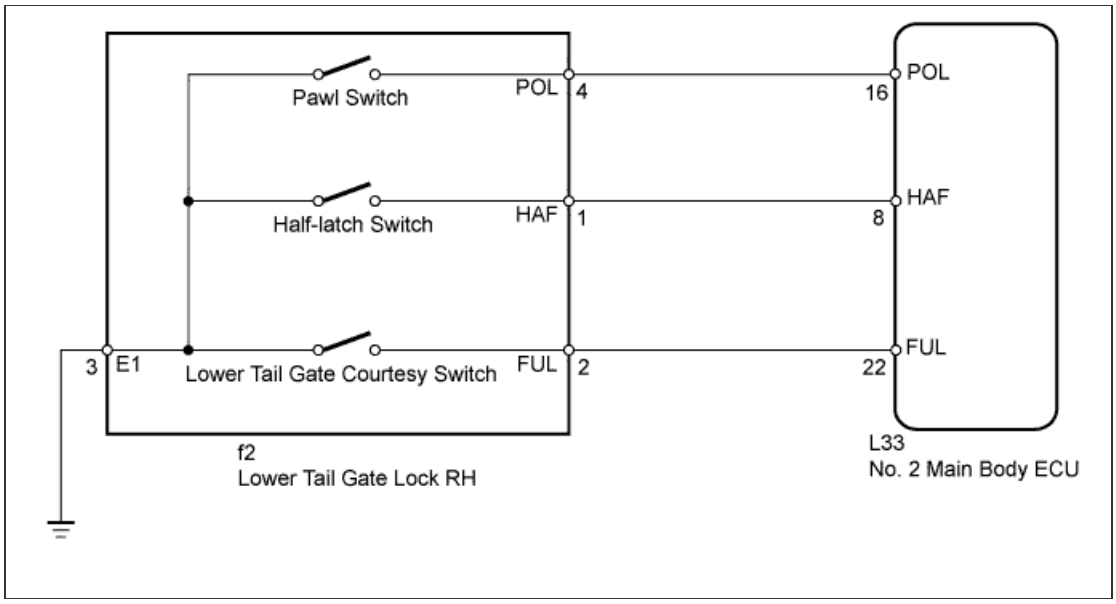
for Preparation Click here

DESCRIPTION

The No. 2 main body ECU receives the half-latch switch, pawl switch and lower tail gate courtesy switch signals from the lower tail gate lock RH and detects the open/closed status of the lower tail gate. DTC B225B is stored when the ECU receives a half-latch switch, pawl switch or lower tail gate courtesy switch malfunction signal from the lower tail gate lock RH.

DTC Code	DTC Detection Condition	Trouble Area
B225B	A half-latch switch, pawl switch or lower tail gate courtesy switch malfunction (open or short circuit) signal from the lower tail gate lock RH is received.	• Lower tail gate lock RH • Harness or connector • No. 2 main body ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (HALF-LATCH SWITCH, POLE SWITCH AND COURTESY SWITCH)

a. Check the Data List for proper functioning of the half-latch switch, pawl switch and lower tail gate courtesy switch.

Body No.4

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Half Latch Switch RH	Half-latch switch signal/ON or OFF	ON: Lower tail gate open OFF: Lower tail gate closed	-
Courtesy Switch RH	Lower tail gate courtesy switch RH signal/ON or OFF	ON: Lower tail gate open OFF: Lower tail gate closed	-
Luggage Pawl Switch	Pawl switch signal/ON or OFF	ON: Lower tail gate lock motor operating OFF: Lower tail gate open or close	-

OK:
The display is as specified in the normal condition.

NG → Go to step 3

OK

2.CHECK DTC OUTPUT

a. Starting with the lower tail gate closed, open and close the lower tail gate 6 times.

b. Check for DTCs (Click here).

c. Clear the DTCs (Click here).

d. Starting with the lower tail gate closed, open and close the lower tail gate 6 times.

e. Recheck for DTCs (Click here).

OK:
DTC B225B is not output.

NG → REPLACE NO. 2 MAIN BODY ECU (**Click here**)

OK

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

3.INSPECT LOWER TAIL GATE LOCK ASSEMBLY RH

a. Remove the lower tail gate lock RH (Click here).

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

Standard Resistance:

Lower Tail Gate Courtesy Switch

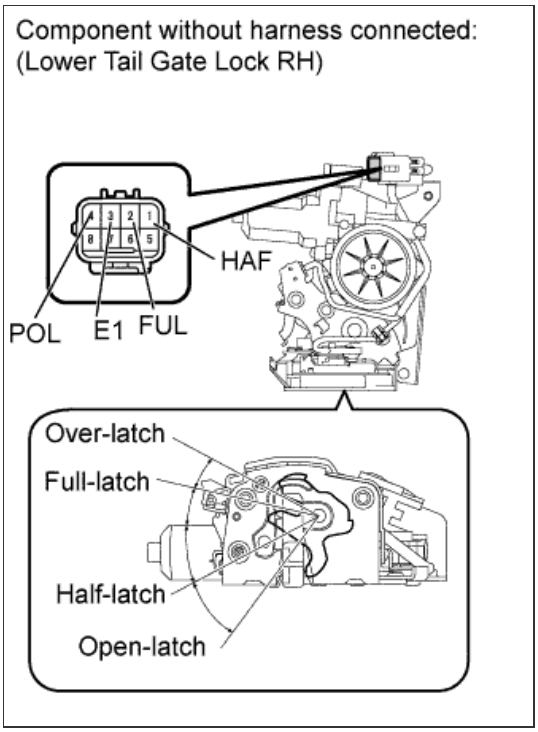
Tester Connection	Condition	Specified Condition
2 (FUL) - 3 (E1)	Over-latch	10 kΩ or higher
2 (FUL) - 3 (E1)	Full-latch	10 kΩ or higher
2 (FUL) - 3 (E1)	Half-latch	Below 1 Ω
2 (FUL) - 3 (E1)	Open-latch	Below 1 Ω

Half-latch Switch:

Tester Connection	Condition	Specified Condition
1 (HAF) - 3 (E1)	Over-latch	10 kΩ or higher
1 (HAF) - 3 (E1)	Full-latch	Below 1 Ω
1 (HAF) - 3 (E1)	Half-latch	10 kΩ or higher
1 (HAF) - 3 (E1)	Open-latch	Below 1 Ω

Pawl Switch:

Tester Connection	Condition	Specified Condition
4 (POL) - 3 (E1)	Over-latch	10 kΩ or higher
4 (POL) - 3 (E1)	Full-latch	Below 1 Ω
4 (POL) - 3 (E1)	Half-latch	Below 1 Ω
4 (POL) - 3 (E1)	Open-latch	10 kΩ or higher



NG → REPLACE LOWER TAIL GATE LOCK ASSEMBLY RH (**Click here**)

OK

4.CHECK HARNESS AND CONNECTOR (LOCK - ECU AND BODY GROUND)

a. Disconnect the f2 lock connector.

b. Disconnect the L33 ECU connector.

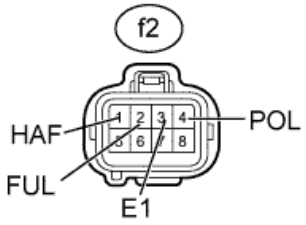
c. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

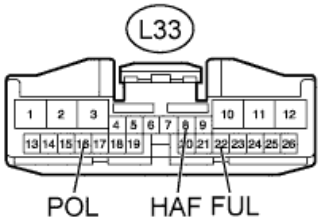
Tester Connection	Condition	Specified Condition
f2-1 (HAF) - L33-8 (HAF)	Always	Below 1 Ω
f2-2 (FUL) - L33-		

22 (FUL)	Always	Below 1 Ω
f2-4 (POL) - L33-16 (POL)	Always	Below 1 Ω
f2-3 (E1) - Body ground	Always	Below 1 Ω
f2-1 (HAF) - Body ground	Always	10 kΩ or higher
f2-2 (FUL) - Body ground	Always	10 kΩ or higher
f2-4 (POL) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Lower Tail Gate Lock RH)



Front view of wire harness connector:
(to No. 2 Main Body ECU)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

DTC B225D Tail Gate Panel Half Switch or Courtesy Switch LH

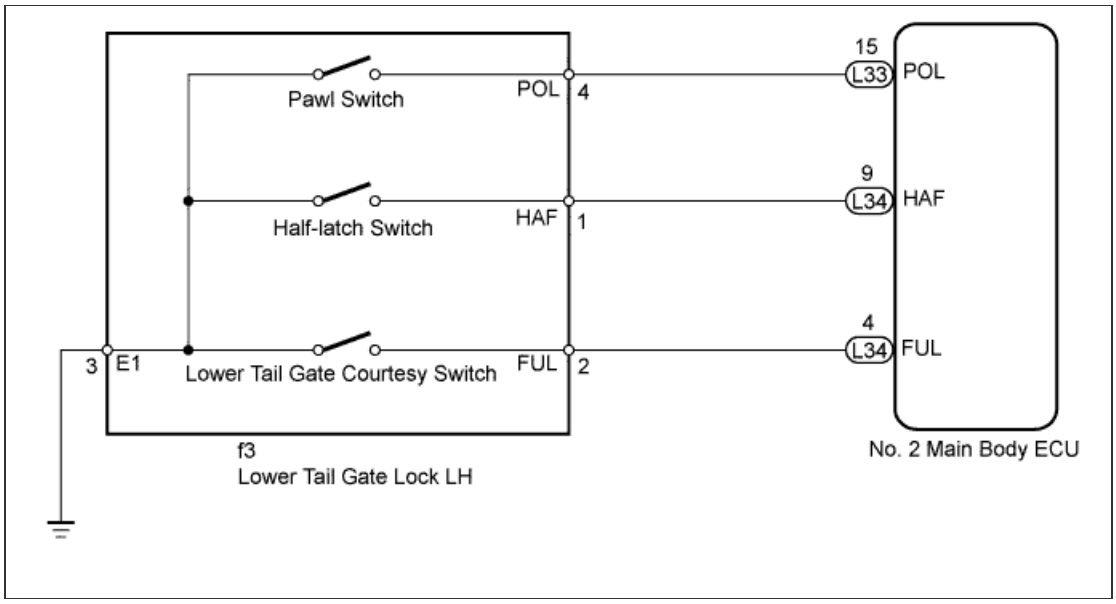
for Preparation Click here

DESCRIPTION

The No. 2 main body ECU receives the half-latch switch, pawl switch and lower tail gate courtesy switch signals from the lower tail gate lock LH and detects the open/closed status of the lower tail gate. DTC B225D is stored when the ECU receives a half-latch switch, pawl switch or lower tail gate courtesy switch malfunction signal from the lower tail gate lock LH.

DTC Code	DTC Detection Condition	Trouble Area
B225D	A half-latch switch, pawl switch or lower tail gate courtesy switch malfunction (open or short circuit) signal from the lower tail gate lock LH is received.	• Lower tail gate lock LH • Harness or connector • No. 2 main body ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (HALF-LATCH SWITCH, POLE SWITCH AND COURTESY SWITCH)

a. Check the Data List for proper functioning of the half-latch switch, pawl switch and lower tail gate courtesy switch.

Body No.4

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Half Latch Switch LH	Half-latch switch signal/ON or OFF	ON: Lower tail gate open OFF: Lower tail gate closed	-
Courtesy Switch LH	Lower tail gate courtesy switch LH signal/ON or OFF	ON: Lower tail gate open OFF: Lower tail gate closed	-
Luggage Pawl switch	Pawl switch signal/ON or OFF	ON: Lower tail gate lock motor operating OFF: Lower tail gate open or close	-

OK:
The display is as specified in the normal condition.

NG → Go to step 3

OK

2.CHECK DTC OUTPUT

a. Starting with the lower tail gate closed, open and close the lower tail gate 6 times.

b. Check for DTCs (Click here).

c. Clear the DTCs (Click here).

d. Starting with the lower tail gate closed, open and close the lower tail gate 6 times.

e. Recheck for DTCs (Click here).

OK:
DTC B225D is not output.

NG → REPLACE NO. 2 MAIN BODY ECU (**Click here**)

OK

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

3.INSPECT LOWER TAIL GATE LOCK ASSEMBLY LH

a. Remove the lower tail gate lock LH (Click here).

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

Standard Resistance:

Lower Tail Gate Courtesy Switch

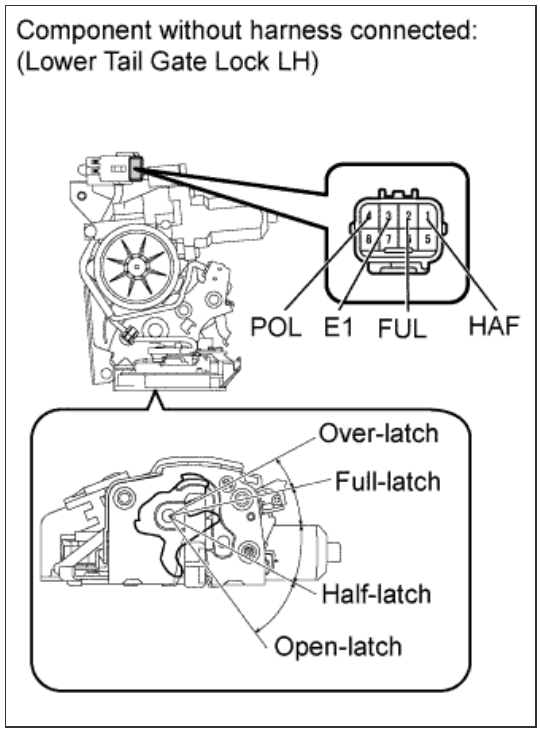
Tester Connection	Condition	Specified Condition
2 (FUL) - 3 (E1)	Over-latch	10 kΩ or higher
2 (FUL) - 3 (E1)	Full-latch	10 kΩ or higher
2 (FUL) - 3 (E1)	Half-latch	Below 1 Ω
2 (FUL) - 3 (E1)	Open-latch	Below 1 Ω

Half-latch Switch:

Tester Connection	Condition	Specified Condition
1 (HAF) - 3 (E1)	Over-latch	10 kΩ or higher
1 (HAF) - 3 (E1)	Full-latch	Below 1 Ω
1 (HAF) - 3 (E1)	Half-latch	10 kΩ or higher
1 (HAF) - 3 (E1)	Open-latch	Below 1 Ω

Pawl switch:

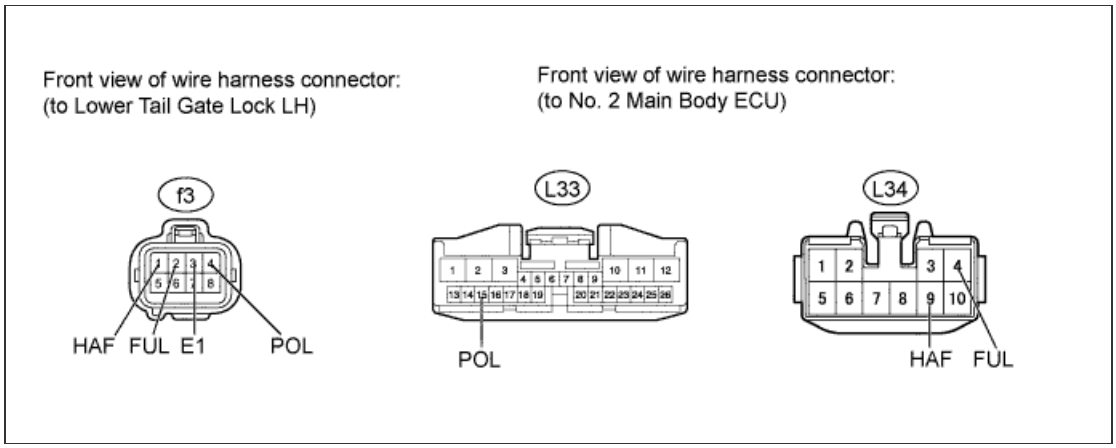
Tester Connection	Condition	Specified Condition
4 (POL) - 3 (E1)	Over-latch	10 kΩ or higher
4 (POL) - 3 (E1)	Full-latch	Below 1 Ω
4 (POL) - 3 (E1)	Half-latch	Below 1 Ω
4 (POL) - 3 (E1)	Open-latch	10 kΩ or higher



NG → REPLACE LOWER TAIL GATE LOCK ASSEMBLY LH (**Click here**)

OK

4.CHECK HARNESS AND CONNECTOR (LOCK - ECU AND BODY GROUND)



a. Disconnect the f3 lock connector.

b. Disconnect the L33 and L34 ECU connectors.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
f3-1 (HAF) - L34-9 (HAF)	Always	Below 1 Ω
f3-2 (FUL) - L34-4 (FUL)	Always	Below 1 Ω
f3-4 (POL) - L33-15 (POL)	Always	Below 1 Ω
f3-3 (E1) - Body ground	Always	Below 1 Ω
f3-1 (HAF) - Body ground	Always	10 kΩ or higher
f3-2 (FUL) - Body ground	Always	10 kΩ or higher
f3-4 (POL) - Body ground	Always	10 kΩ or higher

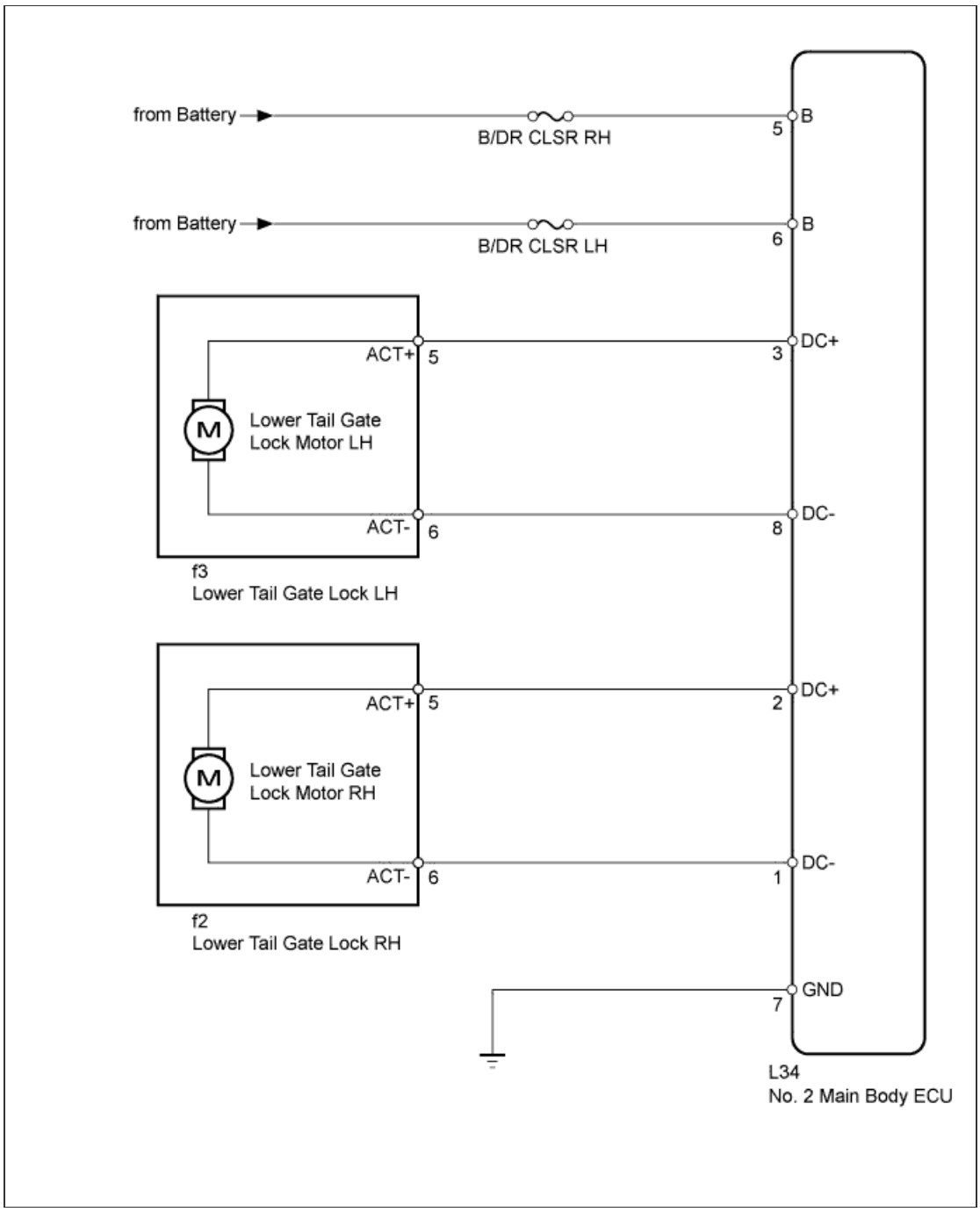
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

for Preparation Click here

WIRING DIAGRAM



INSPECTION PROCEDURE

1.INSPECT FUSE (B/DR CLSR RH, B/DR CLSR LH)

a. Remove the B/DR CLSR RH and B/DR CLSR LH fuses from the cowl side junction block RH.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
B/DR CLSR RH fuse	Always	Below 1 Ω
B/DR CLSR LH fuse	Always	Below 1 Ω

NG → REPLACE FUSE

OK

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

a. Disconnect the L34 ECU connector.

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

Standard Voltage:

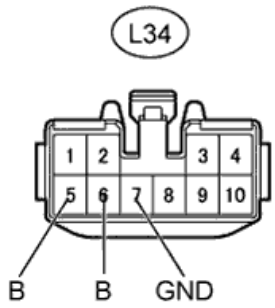
Tester Connection	Condition	Specified Condition
L34-5 (B) - Body ground	Always	11 to 14 V
L34-6 (B) - Body ground	Always	11 to 14 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
L34-7 (GND) - Body ground	Always	Below 1 Ω

Front view of wire harness connector:
(to No. 2 Main Body ECU)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3.INSPECT LOWER TAIL GATE LOCK ASSEMBLY

a. for LH:

i. Remove the lower tail gate lock LH (Click here).

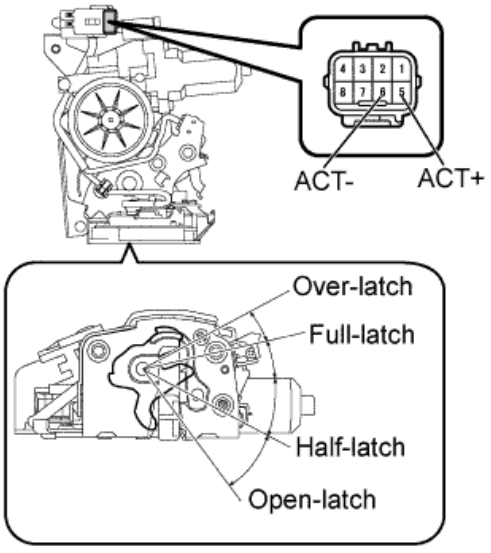
ii. Set the lower tail gate lock LH to the half-latch position.

iii. Apply battery voltage and check the operation of the lower tail gate lock motor LH.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 5 (ACT+) Battery negative (-) → Terminal 6 (ACT-)	Latch turns to over-latch position

Component without harness connected:
(Lower Tail Gate Lock LH)



b. for RH:

i. Remove the lower tail gate lock RH (Click here).

ii. Set the lower tail gate lock RH to the half-latch position.

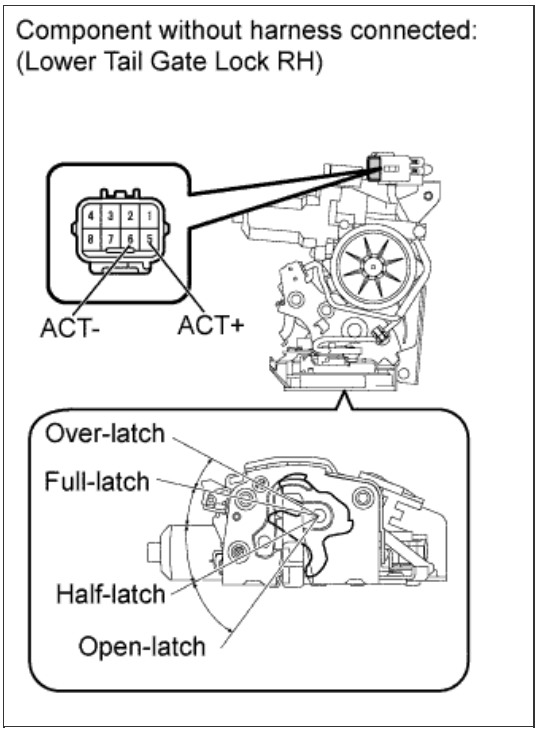
iii. Apply battery voltage and check the operation of the lower tail gate lock motor RH.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 5 (ACT+) Battery negative (-) → Terminal 6 (ACT-)	Latch turns to over-latch position

Result

Result	Proceed to
OK	A
NG (for LH)	B
NG (for RH)	C



B → REPLACE LOWER TAIL GATE LOCK ASSEMBLY LH (Click here)

C → REPLACE LOWER TAIL GATE LOCK ASSEMBLY RH (Click here)

A

4.CHECK HARNESS AND CONNECTOR (LOCK - ECU)

a. for LH:

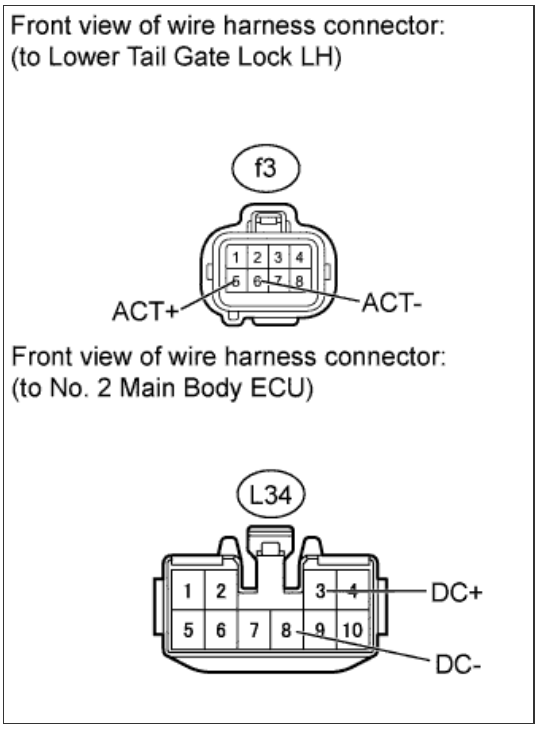
i. Disconnect the f3 lock connector.

ii. Disconnect the L34 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
f3-5 (ACT+) - L34-3 (DC+)	Always	Below 1 Ω
f3-6 (ACT-) - L34-8 (DC-)	Always	Below 1 Ω
f3-5 (ACT+) - Body ground	Always	10 kΩ or higher
f3-6 (ACT-) - Body ground	Always	10 kΩ or higher



b. for RH:

i. Disconnect the f2 lock connector.

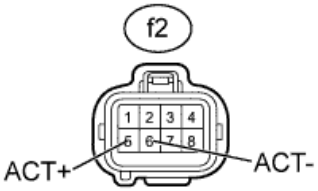
ii. Disconnect the L34 ECU connector.

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

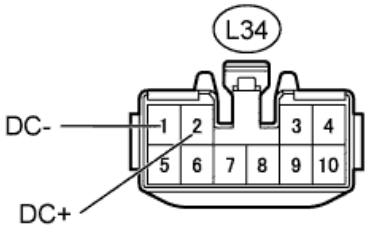
Standard Resistance:

Tester Connection	Condition	Specified Condition
f2-5 (ACT+) - L34-2 (DC+)	Always	Below 1 Ω
f2-6 (ACT-) - L34-1 (DC-)	Always	Below 1 Ω
f2-5 (ACT+) - Body ground	Always	10 kΩ or higher
f2-6 (ACT-) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Lower Tail Gate Lock RH)



Front view of wire harness connector:
(to No. 2 Main Body ECU)



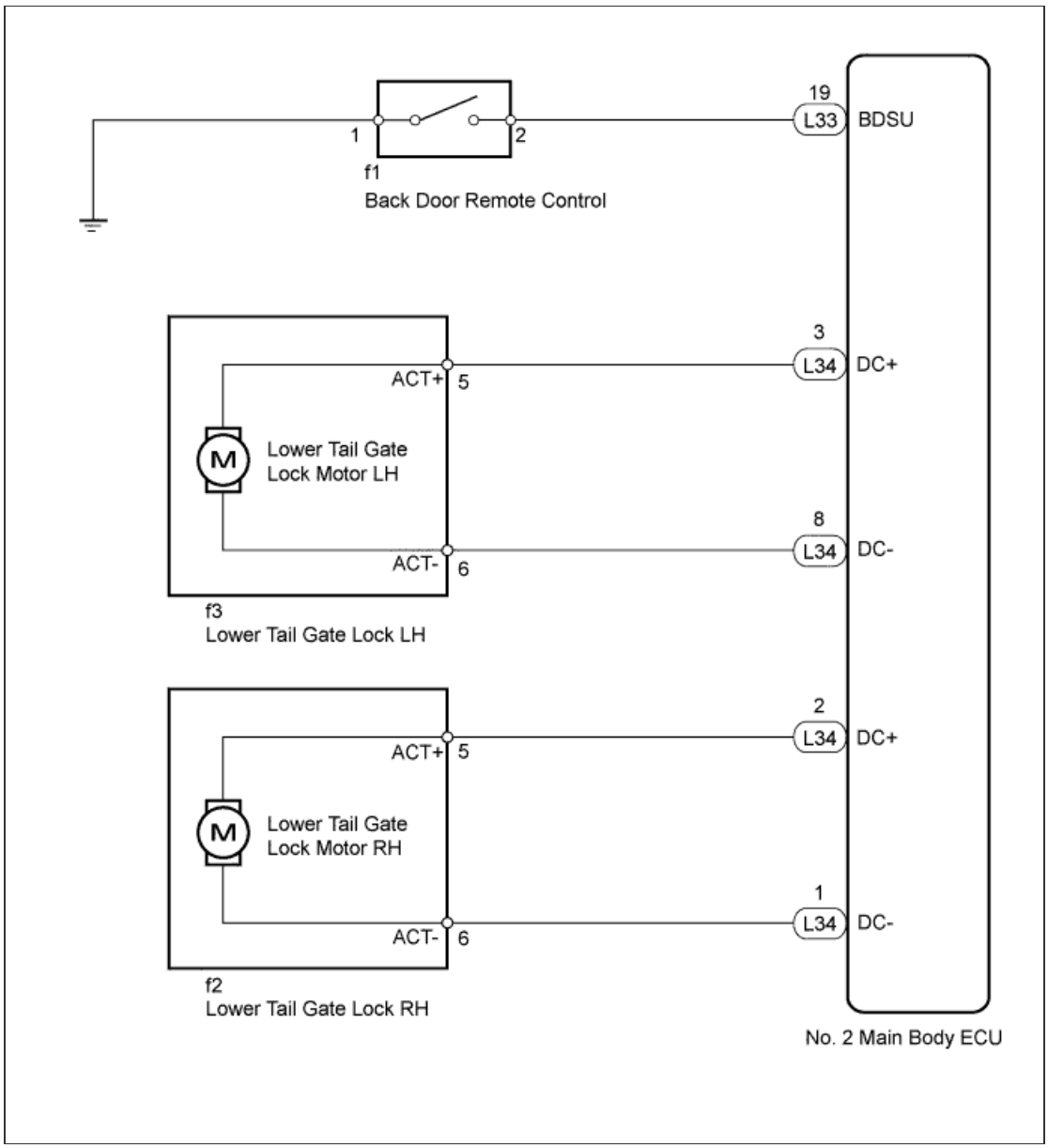
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

for Preparation Click here

WIRING DIAGRAM



INSPECTION PROCEDURE

1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (LOWER TAIL GATE LOCK)

a. Select the Active Test, use the intelligent tester to generate a control command, and check that the lower tail gate lock operates.

Body No. 4

Tester Display	Test Part	Control Range	Diagnostic Note
Tail Gate Panel Open	Lower tail gate lock	ON or OFF	The back door must be open.

OK:

Lower tail gate lock operates normally.

NG → Go to step 3

OK

2.READ VALUE USING INTELLIGENT TESTER (BACK DOOR REMOTE CONTROL)

a. Check the Data List for proper functioning of the back door remote control.

Body No. 4

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Handle Switch of tail gate panel	Back door remote control signal/ON or OFF	ON: Back door remote control pulled OFF: Back door remote control free	-

OK:

The display is as specified in the normal condition.

NG → Go to step 5

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

3.INSPECT LOWER TAIL GATE LOCK ASSEMBLY

a. for LH:

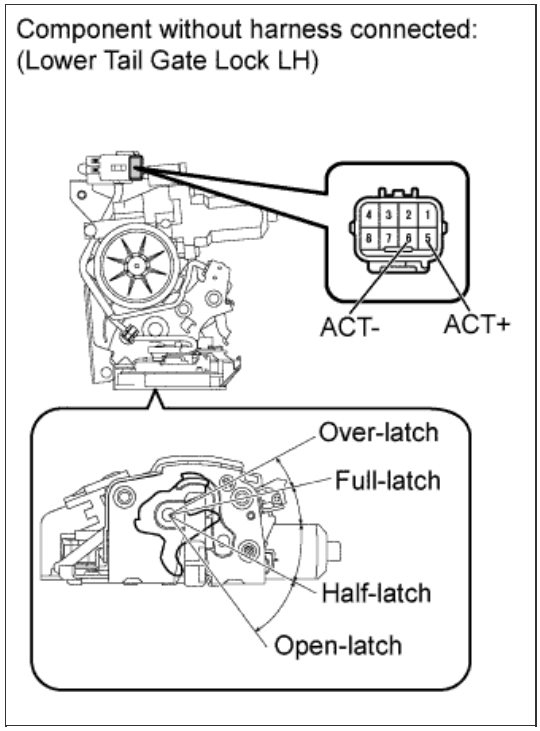
i. Remove the lower tail gate lock LH (Click here).

ii. Set the lower tail gate lock LH to the full-latch position.

iii. Apply battery voltage and check the operation of the lower tail gate lock motor LH.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 6 (ACT-) Battery negative (-) → Terminal 5 (ACT+)	Latch turns to open-latch position



b. for RH:

i. Remove the lower tail gate lock RH (Click here).

ii. Set the lower tail gate lock RH to the full-latch position.

iii. Apply battery voltage and check the operation of the lower tail gate lock motor RH.

OK:

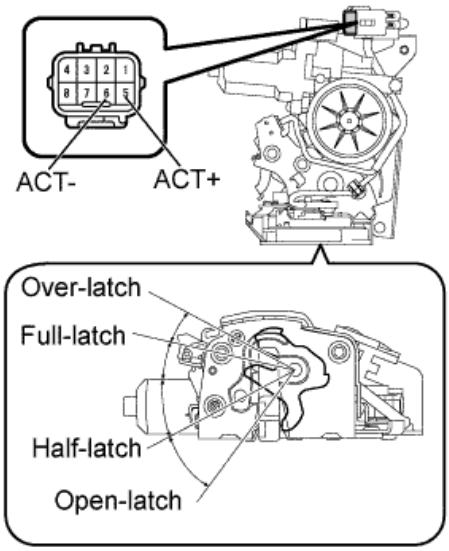
Measurement Condition	Specified Condition
Battery positive (+) → Terminal 6 (ACT-) Battery negative (-) → Terminal 5 (ACT+)	Latch turns to open-latch position

Result

Result	Proceed to
OK	A
NG (for LH)	B

NG (for RH)	C

Component without harness connected:
(Lower Tail Gate Lock RH)



B → REPLACE LOWER TAIL GATE LOCK ASSEMBLY LH (Click here)

C → REPLACE LOWER TAIL GATE LOCK ASSEMBLY RH (Click here)

A

4.CHECK HARNESS AND CONNECTOR (LOCK - ECU)

a. for LH:

i. Disconnect the f3 lock connector.

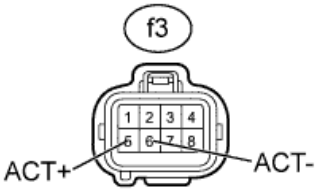
ii. Disconnect the L34 ECU connector.

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

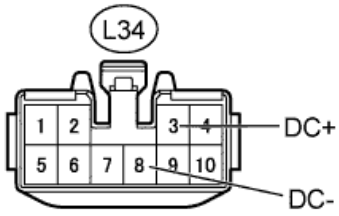
Standard Resistance:

Tester Connection	Condition	Specified Condition
f3-5 (ACT+) - L34-3 (DC+)	Always	Below 1 Ω
f3-6 (ACT-) - L34-8 (DC-)	Always	Below 1 Ω
f3-5 (ACT+) - Body ground	Always	10 kΩ or higher
f3-6 (ACT-) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Lower Tail Gate Lock LH)



Front view of wire harness connector:
(to No. 2 Main Body ECU)



b. for RH:

i. Disconnect the f2 lock connector.

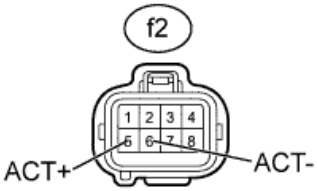
ii. Disconnect the L34 ECU connector.

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

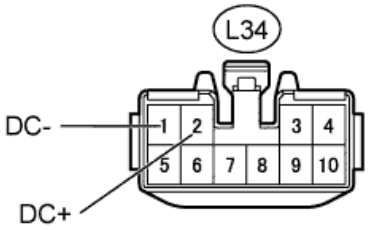
Standard Resistance:

Tester Connection	Condition	Specified Condition
f2-5 (ACT+) - L34-2 (DC+)	Always	Below 1 Ω
f2-6 (ACT-) - L34-1 (DC-)	Always	Below 1 Ω
f2-5 (ACT+) - Body ground	Always	10 kΩ or higher
f2-6 (ACT-) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Lower Tail Gate Lock RH)



Front view of wire harness connector:
(to No. 2 Main Body ECU)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

5.INSPECT BACK DOOR REMOTE CONTROL

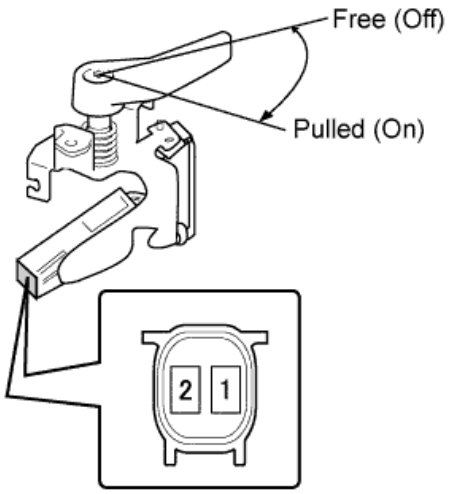
a. Remove the back door remote control (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - 2	Back door remote control is pulled (on)	Below 1 Ω
1 - 2	Back door remote control is free (off)	10 kΩ or higher

Component without harness connected:
(Back Door Remote Control Assembly)



NG → REPLACE BACK DOOR REMOTE CONTROL ASSEMBLY (Click here)

OK

6.CHECK HARNESS AND CONNECTOR (CONTROL - ECU AND BODY GROUND)

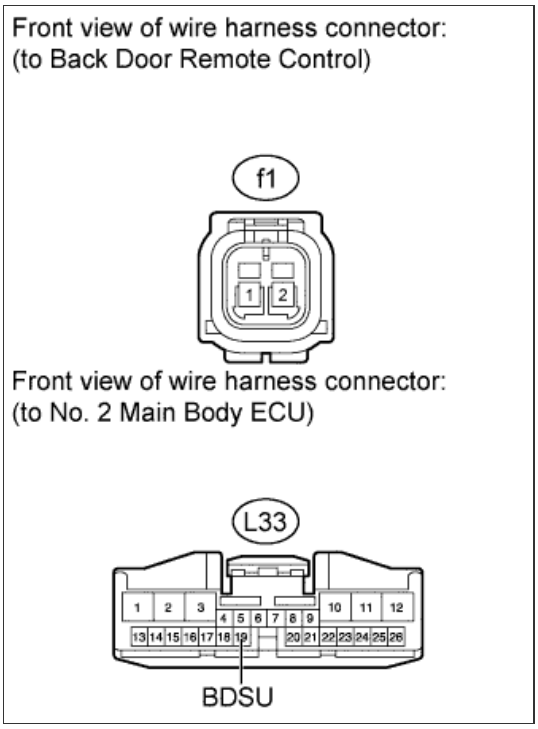
a. Disconnect the f1 control connector.

b. Disconnect the L33 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
f1-2 - L33-19 (BDSU)	Always	Below 1 Ω
f1-1 - Body ground	Always	Below 1 Ω
f1-2 - Body ground	Always	10 kΩ or higher

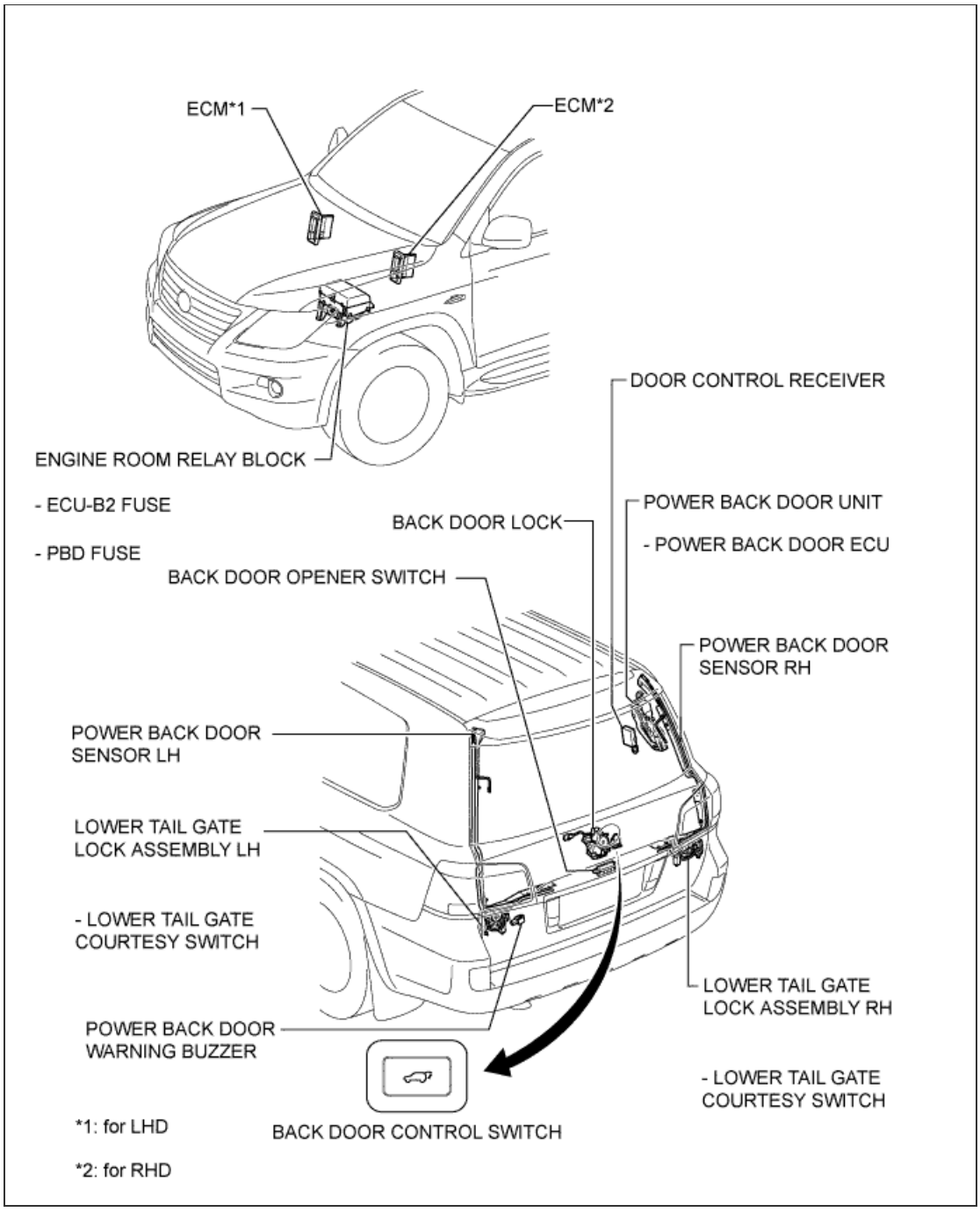


NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

for Preparation Click here



for LHD:

Refer to Service Bulletin for installation position.



CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)



DOOR CONTROL TRANSMITTER

- POWER BACK DOOR SWITCH

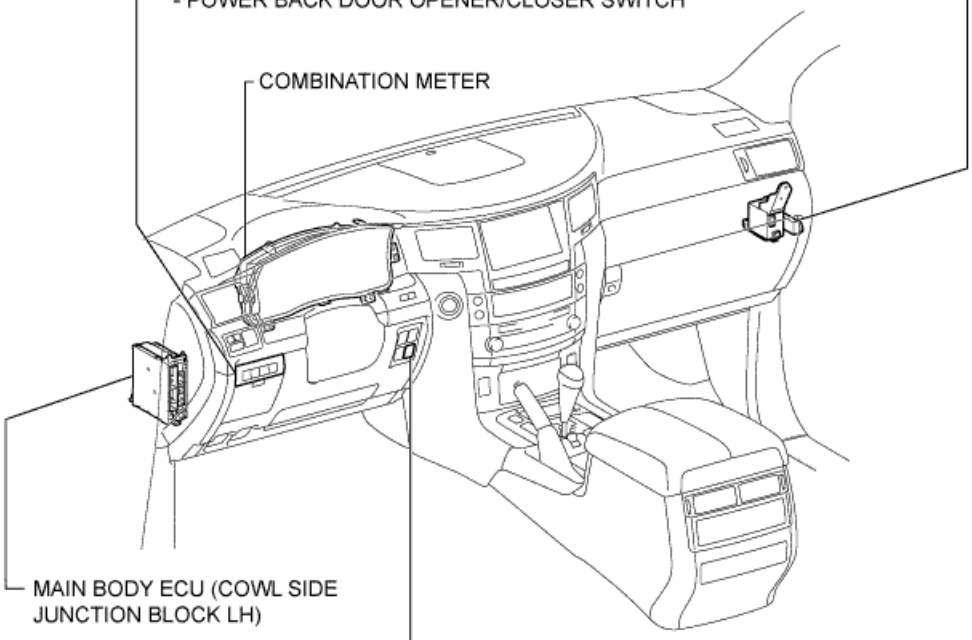
COWL SIDE JUNCTION BLOCK RH

- ECU-IG NO. 4 FUSE

COMBINATION SWITCH ASSEMBLY

- POWER BACK DOOR OPENER/CLOSER SWITCH

COMBINATION METER



MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

POWER BACK DOOR MAIN SWITCH

for RHD:

Refer to Service Bulletin for installation position.



CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

COMBINATION SWITCH ASSEMBLY

- POWER BACK DOOR OPENER/CLOSER SWITCH

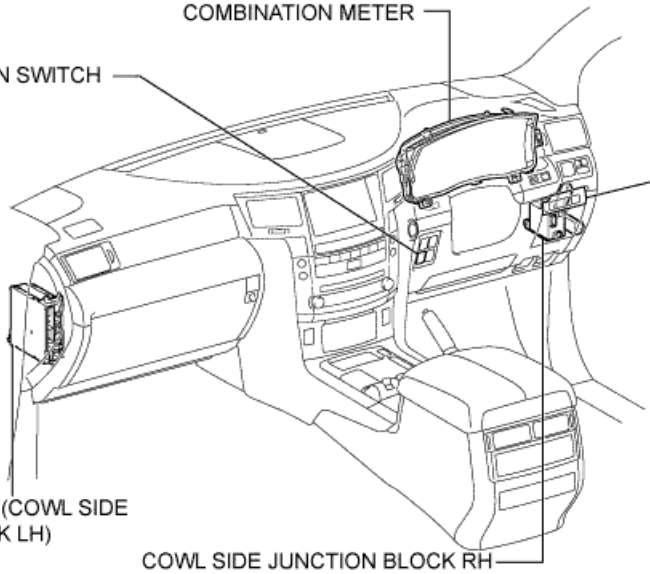


DOOR CONTROL TRANSMITTER

- POWER BACK DOOR SWITCH

COMBINATION METER

POWER BACK DOOR MAIN SWITCH

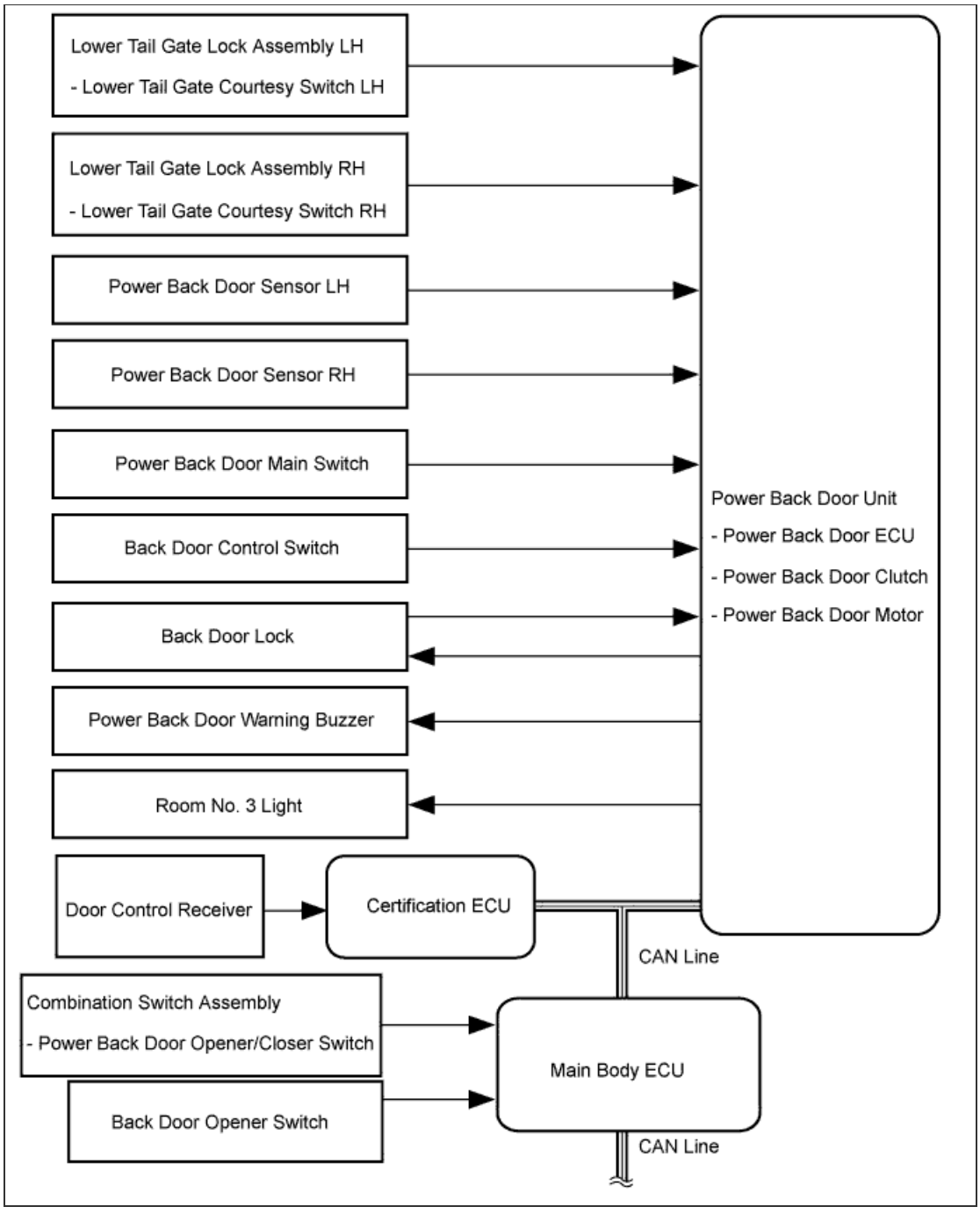


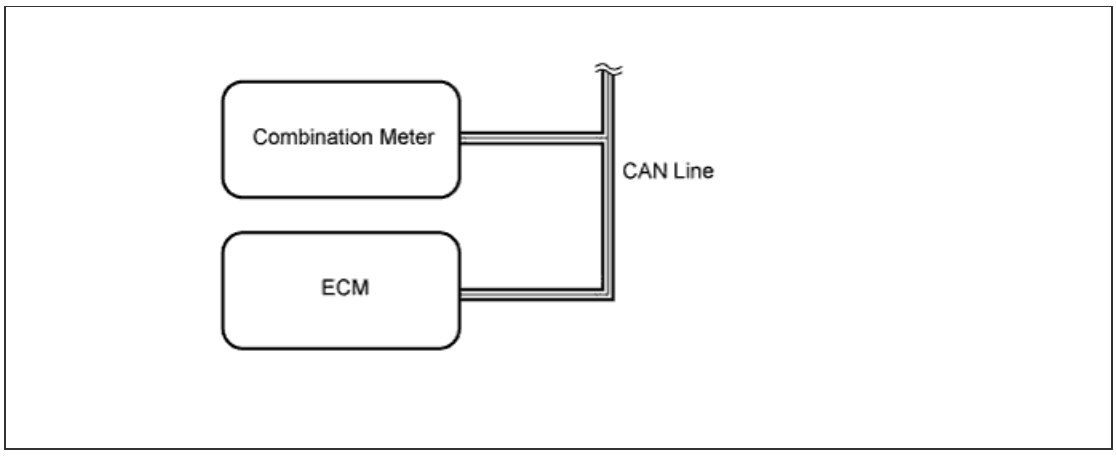
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

COWL SIDE JUNCTION BLOCK RH

- ECU-IG NO. 4 FUSE

for Preparation Click here





Communication Table

Sender ECU	Receiver ECU	Signal	Line
Combination Meter	Power Back Door ECU	Vehicle speed signal	CAN
ECM	Power Back Door ECU	Shift position signal	CAN
Certification ECU	Power Back Door ECU	Door control transmitter signal	CAN
Power Back Door ECU	Main Body ECU	Hazard warning light signal	CAN
Main Body ECU	Power Back Door ECU	Power back door control switch signal	CAN

for Preparation Click here

GENERAL

a. The power back door unit (power back door ECU) receives a switch signal from the back door control switch, power back door control switch, or transmitter switch, operates the power back door motor built into the unit, and causes the back door to automatically open and close.

i. The power back door system begins open operation after receiving a switch signal under the following conditions:

- The power back door main switch is on (not pushed).
- The tail gate is closed.
- The shift lever is in P.
- The power back door sensor circuit is not open.
- The vehicle speed is 3 km/h (2 mph) or less.

ii. The power back door system begins close operation after receiving a switch signal under the following conditions:

- The power back door main switch is on (not pushed).
- The shift lever is in P.
- The vehicle speed is 3 km/h (2 mph) or less.

iii. As the power back door ECU stores information about the position of the back door, when the battery, any of the fuses, or the power back door unit is removed/installed, perform initialization. If initialization is not performed, the power back door system will not function normally.

iv. When the power back door system begins operation, the buzzer sounds and the hazard warning lights flash to indicate the beginning of the operation.

v. When the motor senses resistance during the close operation, it will change to the opening operation (jam protection function).

vi. Operating any power back door switch when the back door is fully closed inputs a request signal to the power back door ECU. The power back door ECU then outputs a "latch release" command to the back door lock in response to the input.

vii. The latch can be released only when the back door is unlocked.

viii. 3 switches are built into the back door lock, and the power back door ECU monitors the status of each switch. The power back door ECU controls latch "release/close" operations in response to the inputs from each switch.

Switch	Function
Back door courtesy switch	Detects whether back door is open or closed. This switch turns on when back door is open or ajar and turns off when it is fully closed.
Half-latch switch	Detects ajar position of latch. This switch turns on when latch is in open-latch position.
Closer position switch	Detects fully closed position of latch. This switch turns on when latch is in over-latch position.

b. Function of main components.

Component	Function
Power back door main switch	According to whether the power back door main switch is turned on/off, the system operation will be as follows: • When the power back door main switch is on (not pushed), the power back door system operation is disabled. • When the power back door main switch is off (pushed), the power back door system operation is enabled.
Combination switch (Power back door control switch)	This switch sends a power back door open/close signal to the power back door ECU to open/close the back door.
Back door control switch	This switch sends a power back door close signal to the power back door ECU to close the back door.
Transmitter switch	By pressing the power back door switch on the transmitter, the power back door open/close operation is performed (pressing the switch during the open/close operation causes the opposite operation to begin).
Power back door warning buzzer	This buzzer sounds for 0.8 seconds when the power back door system begins operate.

Hazard warning light	The power back door ECU sends a power back door system operation start signal to the main body ECU which causes the hazard warning lights to flash twice.

for Preparation Click here

HINT:

- **Use the following procedures to troubleshoot the power back door 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 DTC OUTPUT*

a. Clear the DTCs (Click here).

b. Recheck for DTCs (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

5.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 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.REPAIR OR REPLACE

NEXT

8.CONFIRMATION TEST

NEXT

END

for Preparation Click here

HINT:

- **Use the following procedures to troubleshoot the power back door 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 DTC OUTPUT*

a. Clear the DTCs (Click here).

b. Recheck for DTCs (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

5.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 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.REPAIR OR REPLACE

NEXT

8.CONFIRMATION TEST

NEXT

END

for Preparation Click here

CHECK BASIC OPERATION

a. Power back door open operation conditions:

- The power back door main switch is on (not pushed).
- The lower tail gate is closed.
- The shift lever is in P.
- The vehicle speed is 3 km/h (2 mph) or less.
- The power back door sensor circuit is not open.

b. Power back door close operation conditions:

- The power back door main switch is on (not pushed).
- The shift lever is in P.
- The vehicle speed is 3 km/h (2 mph) or less.

c. Check the open operation.

i. With the back door fully closed, push the power back door opener/closer switch and check that the buzzer sounds for 0.8 seconds, the hazard warning lights flash twice and the back door open operation begins.

ii. With the back door fully closed, push the transmitter switch and check that the buzzer sounds for 0.8 seconds, the hazard warning lights flash twice and the back door open operation begins.

d. Check the close operation.

i. With the back door fully open, push the power back door opener/closer switch and check that the buzzer sounds for 0.8 seconds, the hazard warning lights flash twice and the back door close operation begins.

ii. With the back door fully open, push the transmitter switch and check that the buzzer sounds for 0.8 seconds, the hazard warning lights flash twice and the back door close operation begins.

iii. With the back door fully open, push the back door control switch and check that the buzzer sounds for 0.8 seconds, the hazard warning lights flash twice and the back door close operation begins.

e. Check the operation when another input is detected during the open/close operation.

i. During the back door open operation, push the power back door opener/closer switch, transmitter switch or back door control switch again, and check that the buzzer sounds for 0.2 seconds, the back door operation reverses and the close operation is performed.

ii. During the back door close operation, push the power back door opener/closer switch, transmitter switch or back door control switch again, and check that the buzzer sounds for 0.2 seconds, the back door operation reverses and the open operation is performed.

iii. During the back door close operation, touch the power back door sensor and check that the back door operation reverses and the open operation is performed.

f. Check the operation of the back door closer.

i. Set the back door to the half-latch position by hand, and check that the back door motor operates and the door fully closes.

ii. Operate the back door opener switch and check that the back door opens.

iii. Set the back door to the half-latch position by hand, then operate the back door opener switch during the close operation and check that the back door open operation is performed.

CHECK JAM PROTECTION FUNCTION

a. Check the jam protection function.

i. During the back door close operation, block the door by hand (slow down the operating speed) or touch the power back door sensor and check that the back door operation reverses and the open operation is performed.

HINT:

Perform the inspection after the close operation has begun and the back door has moved 30 cm (11.8 in.) or more.

for Preparation Click here

CUSTOMIZING FUNCTION WITH INTELLIGENT TESTER

HINT:

The following item can be customized.

NOTICE:

- **When the customer requests a change in a function, first make sure that the function can be customized.**
- **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.

PSD & PBD operation

Display	Default	Contents	Setting
PBD Power Operation	Valid	Makes power back door function ON or OFF	Valid/Invalid
PBD SW Operation	0.8 s	Function that turns power back door closer switch ON when switch is pushed once or held down for 0.8 sec.	0.8s/ON
PBD Buzzer	ON	This function makes the power back door buzzer sound when power back door operating	ON/OFF
Wireless PBD Operation	0.8 s	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)	ON/2 times/0.8 s/OFF

for Preparation Click here

RESET BACK DOOR CLOSE POSITION

NOTICE:

Perform initialization of the power back door system (power back door ECU initialization) if one of the following is performed: 1) The cable is disconnected from the negative (-) battery terminal; 2) a wire harness, the power back door unit or back door lock is replaced or removed/installed; or 3) the ECU-B2 fuse is replaced or removed/installed. If initialization is not performed, the power back door system will not operate.

a. When the back door is open and the cable is disconnected and reconnected to the negative (-) battery terminal, fully close the back door by hand.

HINT:

Initialization is not necessary if the cable is disconnected and reconnected to the negative (-) battery terminal while the back door is closed. However, because the power back door ECU recognizes that the back door is locked, the power back door system will not operate if the back door is not unlocked.

CHECK POWER BACK DOOR FUNCTION

HINT:

- **Proceed to Operation Check (Click here).**
- **If the power back door system does not operate and/or the back door does not open, disconnect the cable from the negative (-) battery terminal. Then wait 10 seconds, reconnect the cable and perform initialization of the power back door system again.**

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.**

Power Back Door System

Symptom	Suspected Area	See page
Power back door does not operate	ECU Power Source Circuit	Click here
	Main Switch Circuit	Click here
	Power Back Door Unit	Click here
Power back door does not operate with power back door control switch	Power Back Door Open / Closer Switch Circuit	Click here
	Power Back Door Unit	Click here
Power back door does not operate with door control switch	Door Control Switch Circuit	Click here
	Power Back Door Unit	Click here
Power back door does not operate with door control transmitter	Wireless Door Lock Control System	Click here
	CAN Communication System (for LHD)	Click here
	CAN Communication System (for RHD)	Click here
	Power Back Door Unit	Click here
No-answer back	Power Back Door Warning Buzzer Circuit	Click here
	Hazard Warning Light Circuit	Click here
	CAN Communication System (for LHD)	Click here
	CAN Communication System (for RHD)	Click here
	Power Back Door Unit	Click here
Jam protection function is activated while power back door is operating	Fitting condition of back door	-
	Power Back Door Sensor Circuit	Click here
	Power Back Door Unit	Click here
Back door closer does not operate	Back Door Lock Motor Circuit	Click here
	Power Back Door Unit	Click here

for Preparation Click here

HINT:

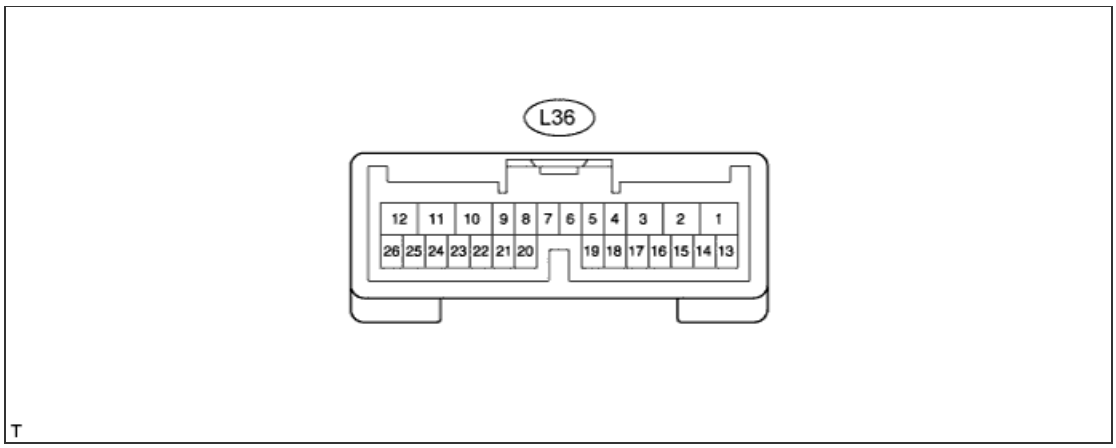
- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are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

Power Back Door System

Symptom	Suspected Area	See page
Power back door does not operate	ECU Power Source Circuit	Click here
	Main Switch Circuit	Click here
	Power Back Door Unit	Click here
Power back door does not operate with power back door control switch	Power Back Door Open / Closer Switch Circuit	Click here
	Power Back Door Unit	Click here
Power back door does not operate with door control switch	Door Control Switch Circuit	Click here
	Power Back Door Unit	Click here
Power back door does not operate with door control transmitter	Wireless Door Lock Control System	Click here
	CAN Communication System (for LHD)	Click here
	CAN Communication System (for RHD)	Click here
	Power Back Door Unit	Click here
No-answer back	Power Back Door Warning Buzzer Circuit	Click here
	Hazard Warning Light Circuit	Click here
	CAN Communication System (for LHD)	Click here
	CAN Communication System (for RHD)	Click here
	Power Back Door Unit	Click here
Jam protection function is activated while power back door is operating	Fitting condition of back door	-
	Power Back Door Sensor Circuit	Click here
	Power Back Door Unit	Click here
Back door closer does not operate	Back Door Lock Motor Circuit	Click here
	Power Back Door Unit	Click here

for Preparation Click here

CHECK POWER BACK DOOR UNIT



a. Disconnect the L36 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
L36-10 (ECUB) - Body ground	R - Body ground	ECUB power supply	Always	11 to 14 V
L36-12 (B) - Body ground	B - Body ground	Power supply	Always	11 to 14 V
L36-8 (IG) - Body ground	G - Body ground	IG power supply	Engine switch on (IG)	11 to 14 V
L36-8 (IG) - Body ground	G - Body ground	IG power supply	Engine switch off	Below 1 V
L36-15 (OSL) - L36-14 (OSE)	G - BR	Power back door sensor LH circuit	Power back door sensor LH not pressed	Approximately 1 kΩ
L36-15 (OSL) - L36-14 (OSE)	G - BR	Power back door sensor LH circuit	Power back door sensor LH pressed	Below 100 Ω
L36-13 (OSR) - L36-14 (OSE)	Y - BR	Power back door sensor RH circuit	Power back door sensor RH not pressed	Approximately 1 kΩ
L36-13 (OSR) - L36-14 (OSE)	Y - BR	Power back door sensor RH circuit	Power back door sensor RH pressed	Below 100 Ω
L36-11 (GND) - Body ground	W-B - Body ground	Body ground	Always	Below 1 Ω
L36-17 (MSW) - Body ground	G - Body ground	Power back door main switch signal circuit	Power back door main switch not pushed (on)	Below 1 Ω
L36-17 (MSW) - Body ground	G - Body ground	Power back door main switch signal circuit	Power back door main switch pushed (off)	10 kΩ or higher
L36-4 (DS1) - Body ground	R - Body ground	Back door control switch signal circuit	Back door control switch on	Below 1 Ω
L36-4 (DS1) - Body ground	R - Body ground	Back door control switch signal circuit	Back door control switch off	10 kΩ or higher

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

c. Reconnect the L36 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
L36-26 (BZR+) - Body ground	L - Body ground	Power back door warning buzzer signal input	Power back door warning buzzer is sounding	Pulse generation (see waveform 1)
L36-26 (BZR+) - Body ground	L - Body ground	Power back door warning buzzer signal input	Power back door warning buzzer is stopped	Below 1 V
L36-2 (DC+) - L36-1	R - B	Power back door lock	Power back door lock	11 to 14 V

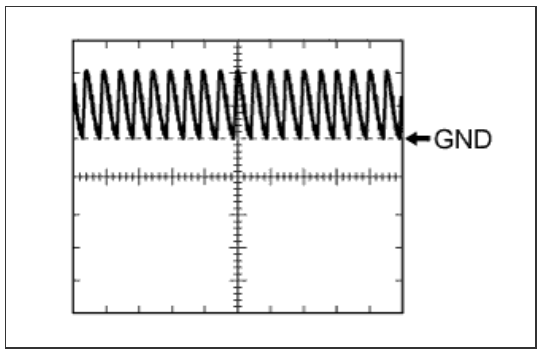
(DC-)		motor circuit	motor is operating	
L36-2 (DC+) - L36-1 (DC-)	R - B	Power back door lock motor circuit	Power back door lock motor is stopped	Below 1 V
L36-17 (MSW) - Body ground	G - Body ground	Power back door main switch signal circuit	Power back door main switch not pushed (on)	Below 1 V
L36-17 (MSW) - Body ground	G - Body ground	Power back door main switch signal circuit	Power back door main switch pushed (off)	Pulse generation (see waveform 2)
L36-20 (FUL) - Body ground	W - Body ground	Back door courtesy switch signal circuit	Back door is opened	Below 1 V
L36-20 (FUL) - Body ground	W - Body ground	Back door courtesy switch signal circuit	Back door is closed	Pulse generation (see waveform 3)
L36-4 (DS1) - Body ground	R - Body ground	Back door control switch signal circuit	Back door control switch on	Below 1 V
L36-4 (DS1) - Body ground	R - Body ground	Back door control switch signal circuit	Back door control switch off	Pulse generation (see waveform 4)
L36-22 (HAF) - Body ground	G - Body ground	Back door lock half-latch switch signal circuit	Back door is opened	Below 1 V
L36-22 (HAF) - Body ground	G - Body ground	Back door lock half-latch switch signal circuit	Back door is closed	Pulse generation (see waveform 5)
L36-24 (POS) - Body ground	B - Body ground	Back door lock position switch signal circuit	Back door is closed	Below 1 V
L36-24 (POS) - Body ground	B - Body ground	Back door lock position switch signal circuit	Back door is opened	Pulse generation (see waveform 6)
L36-23 (CYLH) - Body ground	G - Body ground	Lower tail gate courtesy switch LH circuit	Lower tail gate is opened	Below 1 V
L36-23 (CYLH) - Body ground	G - Body ground	Lower tail gate courtesy switch LH circuit	Lower tail gate is closed	Pulse generation (see waveform 7)
L36-7 (CYRH) - Body ground	Y - Body ground	Lower tail gate courtesy switch RH circuit	Lower tail gate is opened	Below 1 V
L36-7 (CYRH) - Body ground	Y - Body ground	Lower tail gate courtesy switch RH circuit	Lower tail gate is closed	Pulse generation (see waveform 8)

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

e. Using an oscilloscope, check waveform 1.

Waveform 1 (Reference)

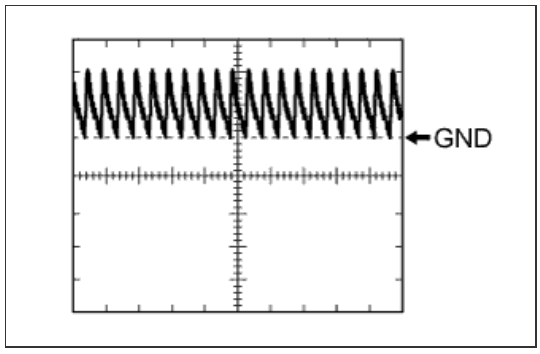
Item	Content
Terminal (Symbol)	L36-26 (BZR+) - Body ground
Tool Setting	5 V/DIV., 1 ms/DIV
Condition	Power back door warning buzzer is sounding



f. Using an oscilloscope, check waveform 2.

Waveform 2 (Reference)

Item	Content
Terminal (Symbol)	L36-17 (MSW) - Body ground
Tool Setting	5 V/DIV., 10 ms/DIV
Condition	Power back door main switch pushed (OFF)

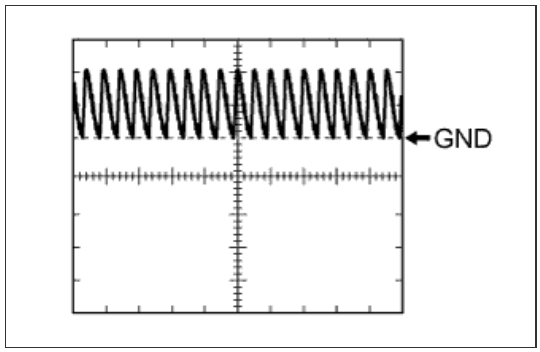


g. Using an oscilloscope, check waveform 3.

Waveform 3 (Reference)

Item	Content
Terminal (Symbol)	L36-20 (FUL) - Body ground

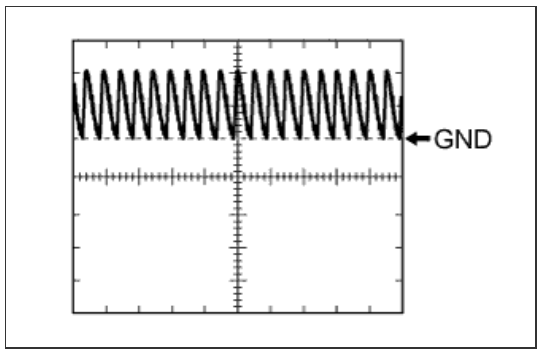
Tool Setting	5 V/DIV., 10 ms/DIV
Condition	Back door is closed



h. Using an oscilloscope, check waveform 4.

Waveform 4 (Reference)

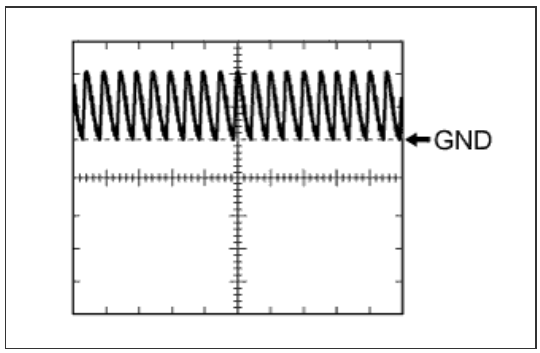
Item	Content
Terminal (Symbol)	L36-4 (DS1) - Body ground
Tool Setting	5 V/DIV., 10 ms/DIV
Condition	Back door control switch off



i. Using an oscilloscope, check waveform 5.

Waveform 5 (Reference)

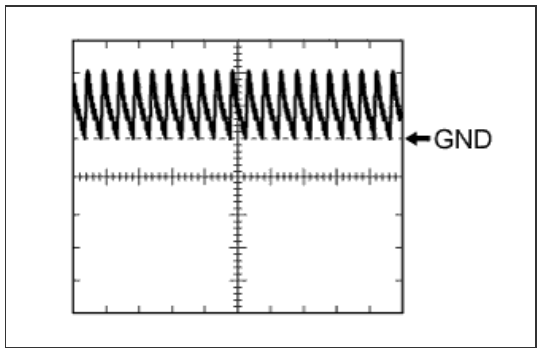
Item	Content
Terminal (Symbol)	L36-22 (HAF) - Body ground
Tool Setting	5 V/DIV., 10 ms/DIV
Condition	Back door is closed



j. Using an oscilloscope, check waveform 6.

Waveform 6 (Reference)

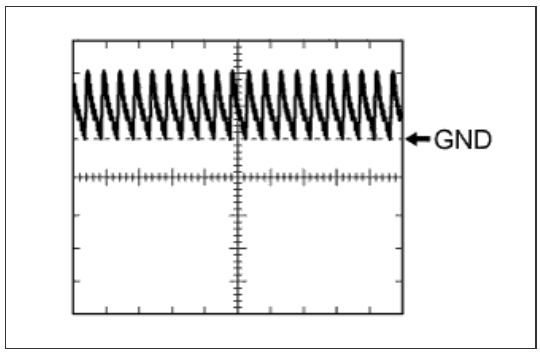
Item	Content
Terminal (Symbol)	L36-24 (POS) - Body ground
Tool Setting	5 V/DIV., 10 ms/DIV
Condition	Back door is opened



k. Using an oscilloscope, check waveform 7.

Waveform 7 (Reference)

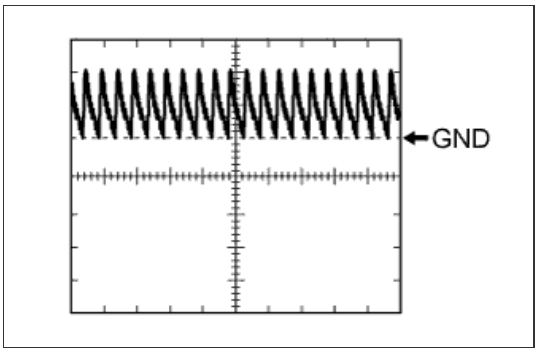
Item	Content
Terminal (Symbol)	L36-23 (CYLH) - Body ground
Tool Setting	5 V/DIV., 10 ms/DIV
Condition	Lower tail gate is closed



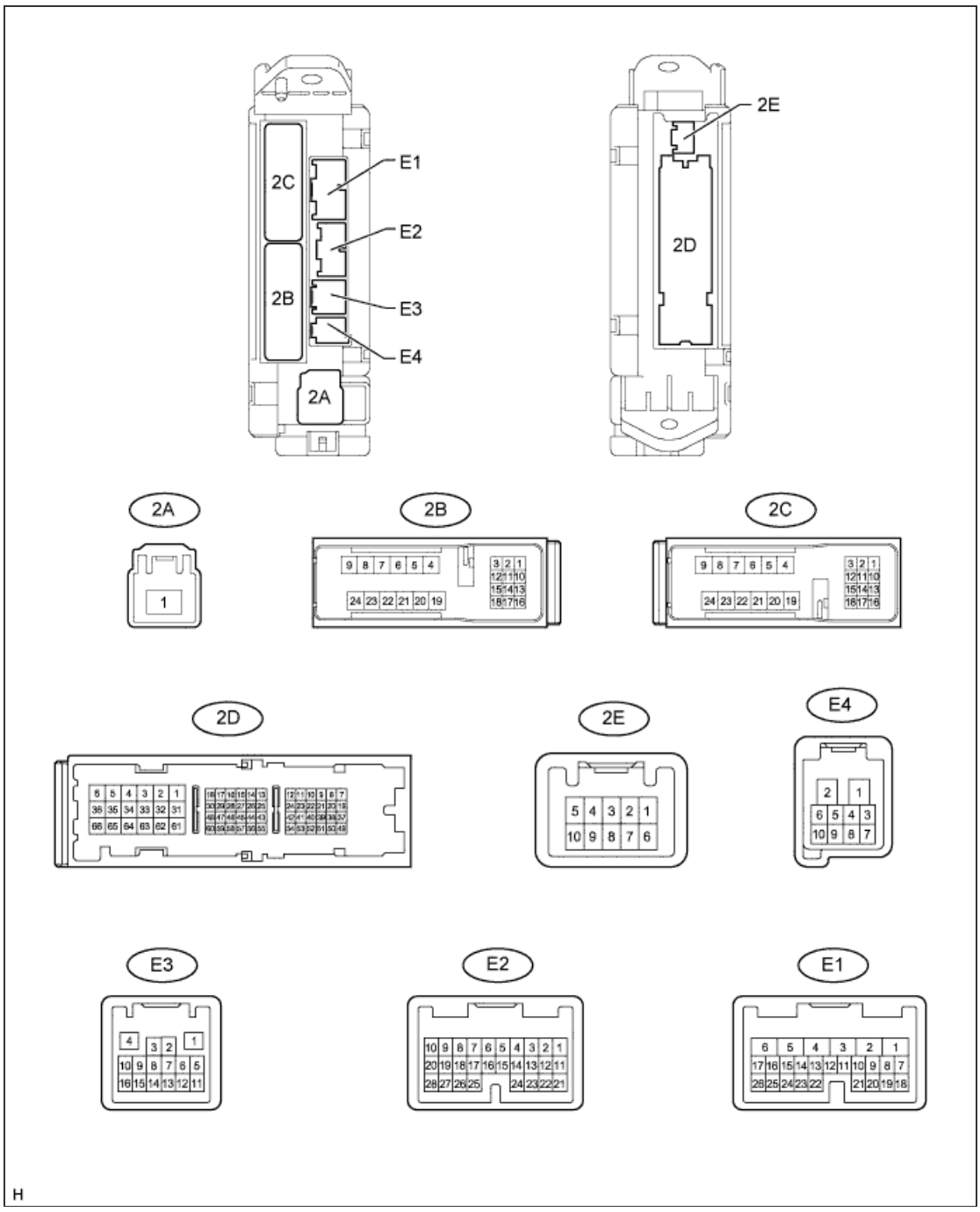
l. Using an oscilloscope, check waveform 8.

Waveform 8 (Reference)

Item	Content
Terminal (Symbol)	L36-7 (CYRH) - Body ground
Tool Setting	5 V/DIV., 10 ms/DIV
Condition	Lower tail gate is closed



CHECK MAIN BODY ECU



a. Disconnect the 2B, 2D, E2 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
2B-20 (BATB) - Body ground	L - Body ground	Battery power supply	Always	11 to 14 V
2D-8 (ACC) - Body				

ground	GR - Body ground	ACC power supply	Engine switch on (ACC)	11 to 14 V
2D-8 (ACC) - Body ground	GR - Body ground	ACC power supply	Engine switch off	Below 1 V
E2-2 (PBDS) - Body ground	R - Body ground	Power back door opener/closer switch circuit	Power back door opener/closer switch is pushed (on)	Below 1 Ω
E2-2 (PBDS) - Body ground	R - Body ground	Power back door opener/closer switch circuit	Power back door opener/closer switch is not pushed (off)	10 kΩ or higher
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 2B, 2D, E2 and E3 ECU connectors.

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

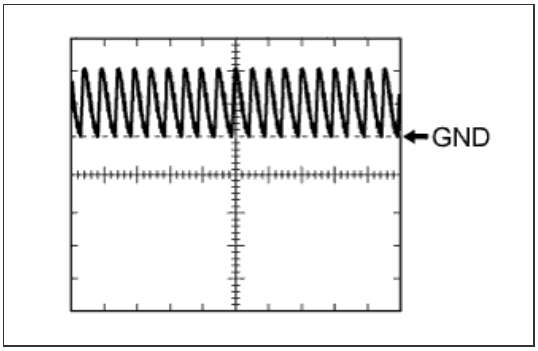
Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
E2-2 (PBDS) - Body ground	R - Body ground	Power back door opener/closer switch circuit	Power back door opener/closer switch is pushed (on)	Below 1 V
E2-2 (PBDS) - Body ground	R - Body ground	Power back door opener/closer switch circuit	Power back door opener/closer switch is not pushed (off)	Pulse generation (see waveform)

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

e. Using an oscilloscope, check waveform.

Waveform (Reference)

Item	Content
Terminal (Symbol)	E2-2 (PBDS) - Body ground
Tool Setting	5 V/DIV., 10 ms/DIV
Condition	Power back door opener/closer switch is not pushed (off)



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 / Back Door / 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 / Back Door / 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 the tester, read the Data List.

Back Door

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Door Lock Status	Back door lock status signal/LOCK or UNLOCK	LOCK: Back door lock UNLOCK: Back door unlock	-
Half Latch SW	Half-latch switch signal/ON or OFF	ON: Half-latch switch on OFF: Half-latch switch off	-
Closer Position SW	Closer position switch signal/ON or OFF	ON: Closer position switch on OFF: Closer position switch off	-
Courtesy SW	Back door courtesy switch signal/ON or OFF	ON: Back door courtesy switch on OFF: Back door courtesy switch off	-
RH CTSY SW of Tail Gate Panel	Lower tail gate courtesy switch RH signal/ON or OFF	ON: Tail gate closed OFF: Tail gate open	-
LH CTSY SW of Tail Gate Panel	Lower tail gate courtesy switch LH signal/ON or OFF	ON: Tail gate closed OFF: Tail gate open	-
PBD Touch Sensor (Right)	Power back door sensor RH signal/ON or OFF	ON: Power back door sensor RH pressed OFF: Power back door sensor RH not pressed	-
PBD Touch Sensor (Left)	Power back door sensor LH signal/ON or OFF	ON: Power back door sensor LH pressed OFF: Power back door sensor LH not pressed	-
PBD Main SW	Power back door main switch signal/ON or OFF	ON: Power back door main switch not pressed OFF: Power back door main switch pressed	-
PBD Close SW	Back door control switch signal/ON or OFF	ON: Back door control switch on OFF: Back door control switch off	-
IG SW	Engine switch signal/ON or OFF	ON: Engine switch on (IG) or on (ACC) OFF: Engine switch off	-
PBD Position (Close-1/4)	Back door position (Full close - 1/4 open)/CAUTION or OK	CAUTION: Back door position is not fully closed to 1/4 opened OK: Back door position is fully closed to 1/4 opened	-
PBD Position (1/4-2/4)	Back door position (1/4 open - 2/4 open)/CAUTION or OK	CAUTION: Back door position is not 1/4 opened to 2/4 opened OK: Back door position is 1/4 opened to 2/4 opened	-
PBD Position (2/4-3/4)	Back door position (2/4 open - 3/4 open)/CAUTION or OK	CAUTION: Back door position is not 2/4 opened to 3/4 opened OK: Back door position is 2/4 opened to 3/4 opened	-

PBD Position (3/4-Open)	Back door position (3/4 open - Full open)/CAUTION or OK	CAUTION: Back door position is not 3/4 opened to fully opened OK: Back door position is 3/4 opened to fully opened	-
PBD SW Operation	Power back door switch operation condition signal/0.0s or 0.8s	Current customize setting displayed	-
PBD buzz in use	Power back door warning buzzer operation condition signal/ON or OFF	Current customize setting displayed	-
Wireless PBD SW Operation	Transmitter switch operation condition signal/1 time, 2 times, 0.8 sPR, OFF	Current customize setting displayed	-
# Codes	Number of stored trouble codes/ min.: 0, max.: 255	Number of DTCs will be displayed	-

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Back Door Open SW	Power back door opener/closer switch signal/ON or OFF	ON: Power back door opener/closer switch on OFF: Power back door opener/closer 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 / Back Door / Active Test.

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

Back Door

Tester Display	Test Part	Control Range	Diagnostic Note
Latch Releaser	Operate back door lock	Free or Release	-
PBD Motor	Operate power back door motor	FORWARD or OFF REVERSE or OFF	-
PBD Clutch	Operate power back door clutch	ON/OFF	-
PBD Buzzer	Operate warning buzzer	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.

Power Back Door System

DTC Code	Detection Item	Trouble Area	See page
B2222	PBD Pulse Sensor Malfunction	- Power back door unit	Click here
B2225	Back Door Motor Clutch Malfunction	- Power back door unit	Click here
B2250	Back Door Closer Operation Malfunction	- Back door lock - Harness or connector - Power back door unit	Click here
B2251	Back Door Closer Switch Malfunction	- Back door lock - Harness or connector - Power back door unit	Click here

DTC B2222 PBD Pulse Sensor Malfunction

for Preparation Click here

DESCRIPTION

- A pulse sensor is built into the power back door unit to detect foreign objects and the back door position. The pulse sensor monitors the operating speed of the back door while the power back door is in operation to detect foreign objects. The pulse sensor also monitors where the back door is to detect the back door position. If a pulse signal that is out of the normal range is output, the power back door unit (power back door ECU) will set DTC B2222.
- If DTC B2222 is set, the power back door system will be turned off. Thus, the back door will be switched to manual operation mode (not electrically controlled) and can be moved freely.
- In order to restore the power back door system to normal operation mode, first solve the problem indicated by DTC B2222 and then manually close the back door fully (reset operation).

DTC Code	DTC Detection Condition	Trouble Area
B2222	Power back door unit does not operate	Power back door unit

INSPECTION PROCEDURE

1.CHECK DTC OUTPUT

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2222 is not output.

NG → **REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)**

OK

USE SIMULATION METHOD TO CHECK (Click here)

DTC B2250 Back Door Closer Operation Malfunction

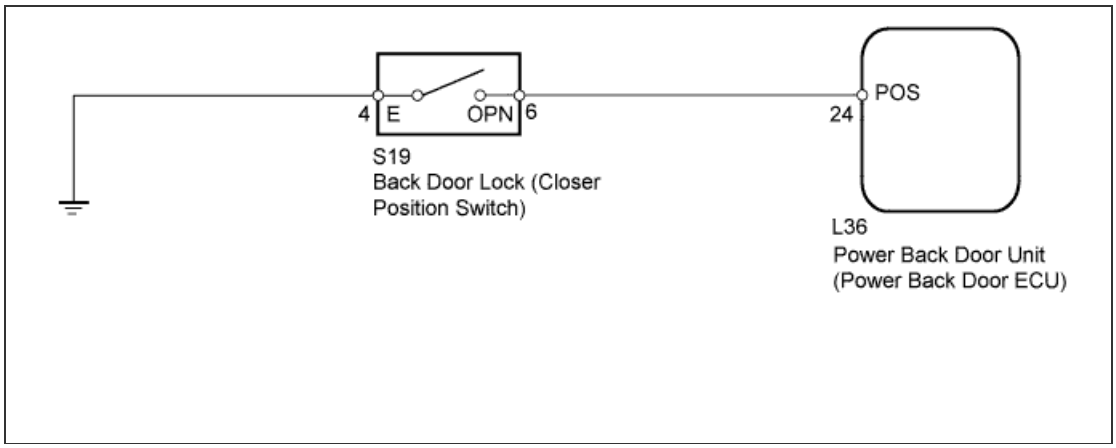
for Preparation Click here

DESCRIPTION

The power back door unit (power back door ECU) inputs signals from the latch switch, closer position switch and back door courtesy switch, which are built into the back door lock. Based on these switch signals, the latch position of the back door lock is determined.

DTC Code	DTC Detection Condition	Trouble Area
B2250	While back door closer is operating, malfunction is detected in position information from closer position switch within specified amount of time	• Back door lock • Harness or connector • Power back door unit

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (CLOSER POSITION SWITCH)

a. Check the Data List for proper functioning of each switch.

Back Door

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Closer Position SW	Closer position switch signal/ON or OFF	ON: Closer position switch is ON OFF: Closer position switch is OFF	-

OK:

The display is as specified in the normal condition.

NG → Go to step 2

OK

REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

2.INSPECT BACK DOOR LOCK ASSEMBLY (CLOSER POSITION SWITCH)

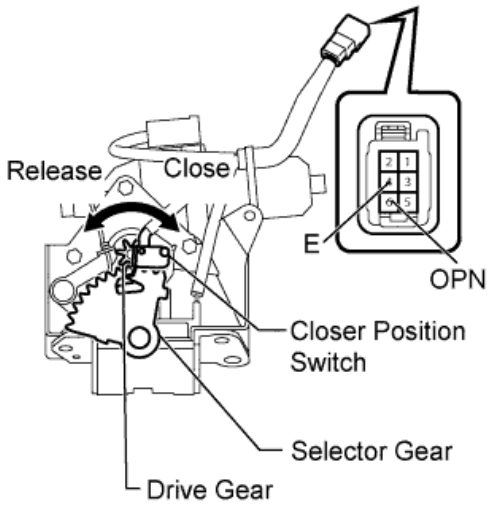
a. Remove the back door lock (Click here).

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
6 (OPN) - 4 (E)	Selector gear is center position	Below 1 Ω
6 (OPN) - 4 (E)	Selector gear is except center position	10 kΩ or higher

Component without harness connected:
(Back Door Lock)



NG → REPLACE BACK DOOR LOCK ASSEMBLY (Click here)

OK

3.CHECK HARNESS AND CONNECTOR (LOCK - UNIT AND BODY GROUND)

a. Disconnect the S19 door lock connector.

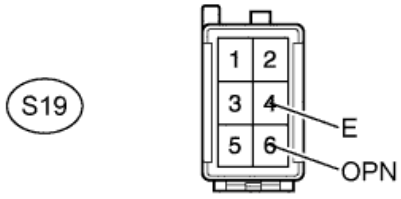
b. Disconnect the L36 unit connector.

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

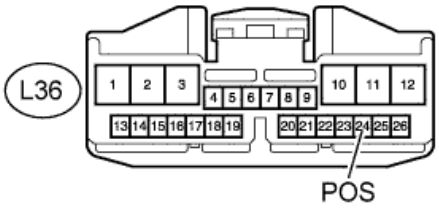
Standard Resistance:

Tester Connection	Condition	Specified Condition
S19-6 (OPN) - L36-24 (POS)	Always	Below 1 Ω
S19-4 (E) - Body ground	Always	Below 1 Ω
S19-6 (OPN) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Back Door Lock)



Front view of wire harness connector:
(to Power Back Door Unit)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

DTC B2225 Back Door Motor Clutch Malfunction

for Preparation Click here

DESCRIPTION

When a voltage and current malfunction (open or short) is detected in the clutch circuit of the power back door unit while the power back door is operating, the power back door ECU outputs DTC B2225.

DTC Code	DTC Detection Condition	Trouble Area
B2225	Voltage and current malfunction in clutch circuit of power back door unit	Power back door unit

INSPECTION PROCEDURE

1.CHECK DTC OUTPUT

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2225 is not output.

NG → REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

OK

USE SIMULATION METHOD TO CHECK (Click here)

DTC B2251 Back Door Closer Switch Malfunction

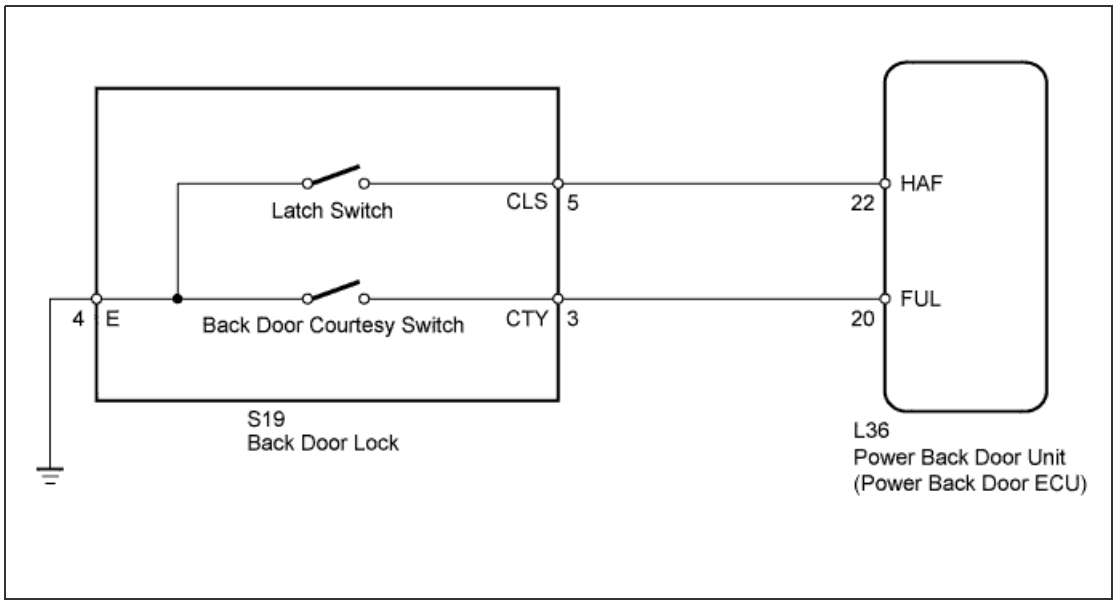
for Preparation Click here

DESCRIPTION

The power back door unit (power back door ECU) inputs signals from the latch switch, closer position switch and back door courtesy switch, which are built into the back door lock. Based on these switch signals, the latch position of the back door lock is determined.

DTC Code	DTC Detection Condition	Trouble Area
B2251	While back door closer is operating, malfunction is detected in position information from each switch within specified amount of time	• Back door lock • Harness or connector • Power back door unit

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (LATCH SWITCH AND BACK DOOR COURTESY SWITCH)

a. Check the Data List for proper functioning of each switch.

Back Door

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Half Latch SW	Latch switch signal/ON or OFF	ON: Latch switch is ON OFF: Latch switch is OFF	-
Courtesy SW	Back door courtesy switch signal/ON or OFF	ON: Back door courtesy switch is ON OFF: Back door courtesy switch is OFF	-

OK:
The display is as specified in the normal condition.

NG → Go to step 2

OK

REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

2.INSPECT BACK DOOR LOCK ASSEMBLY (BACK DOOR COURTESY SWITCH)

a. Remove the back door lock (Click here).

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

Standard Resistance :

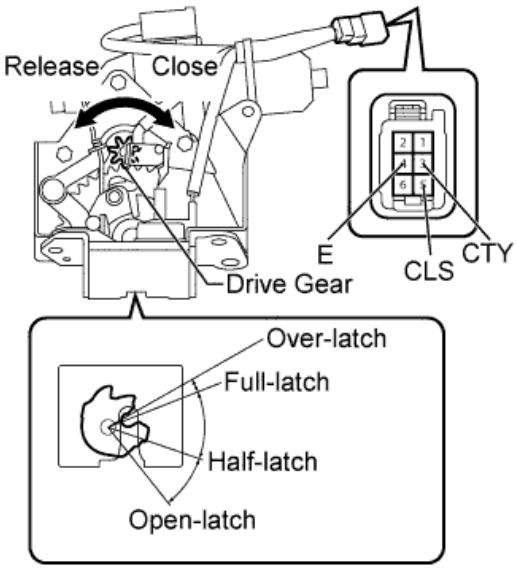
Latch Switch

Tester Connection	Condition	Specified Condition
5 (CLS) - 4 (E)	Over-latch	Below 1 Ω
5 (CLS) - 4 (E)	Full-latch	10 kΩ or higher
5 (CLS) - 4 (E)	Half-latch	10 kΩ or higher
5 (CLS) - 4 (E)	Open-latch	10 kΩ or higher

Back Door Courtesy Switch:

Tester Connection	Condition	Specified Condition
3 (CTY) - 4 (E)	Over-latch	10 kΩ or higher
3 (CTY) - 4 (E)	Full-latch	10 kΩ or higher
3 (CTY) - 4 (E)	Half-latch	Below 1 Ω
3 (CTY) - 4 (E)	Open-latch	Below 1 Ω

Component with harness connected:
(Back Door Lock)



NG → REPLACE BACK DOOR LOCK ASSEMBLY (Click here)

OK

3.CHECK HARNESS AND CONNECTOR (LOCK - UNIT AND BODY GROUND)

a. Disconnect the S19 door lock connector.

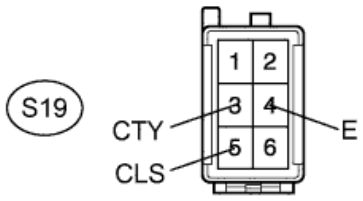
b. Disconnect the L36 unit connector.

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

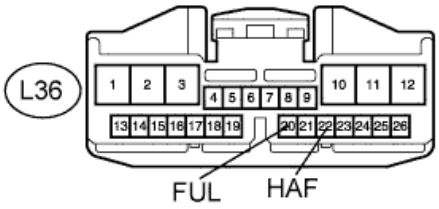
Standard Resistance:

Tester Connection	Condition	Specified Condition
S19-5 (CLS) - L36-22 (HAF)	Always	Below 1 Ω
S19-3 (CTY) - L36-20 (FUL)	Always	Below 1 Ω
S19-4 (E) - Body ground	Always	Below 1 Ω
S19-5 (CLS) - Body ground	Always	10 kΩ or higher
S19-3 (CTY) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Back Door Lock)



Front view of wire harness connector:
(to Power Back Door Unit)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

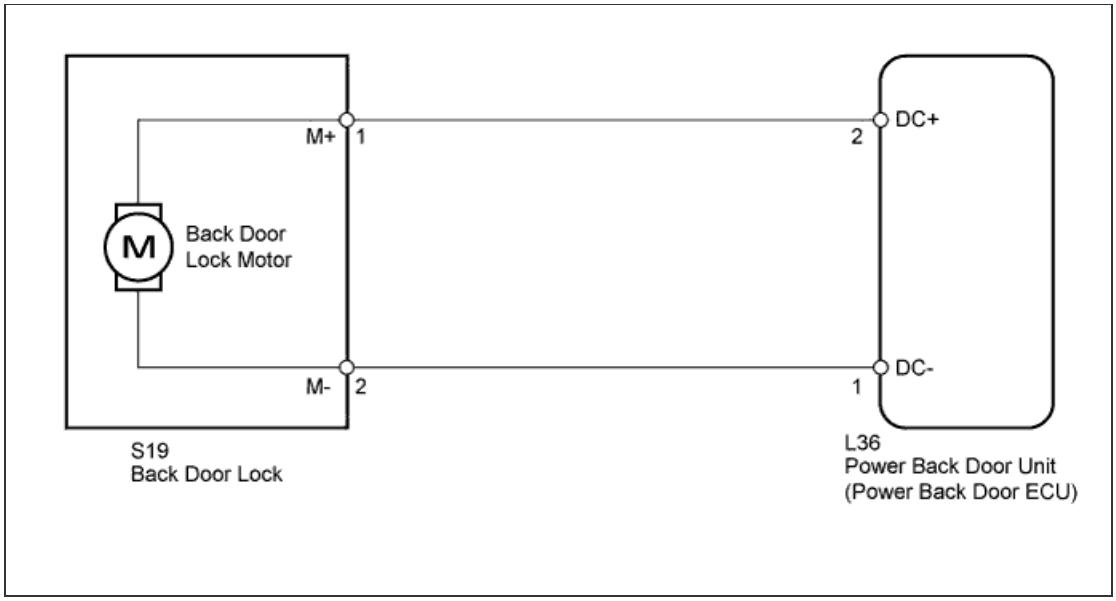
REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

The back door lock motor is built into the back door lock. The power back door unit (power back door ECU) controls the back door lock motor to open/close the back door. This ECU applies current to terminals 2 and 1 to operate the motor to close the door. It reverses the direction of the current to operate the motor to open the door.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.INSPECT BACK DOOR LOCK ASSEMBLY

a. Remove the back door lock (Click here).

b. Set the back door lock to the half-latch position.

c. Apply battery voltage and check operation of the door lock motor.

OK:

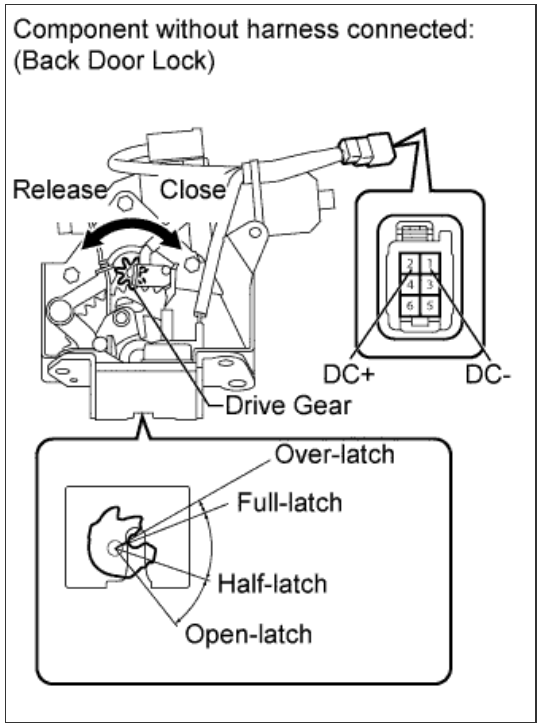
Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 (DC+) Battery negative (-) → Terminal 2 (DC-)	Latch turns to over-latch position

d. Set the back door lock to the full-latch position.

e. Apply battery voltage and check operation of the door lock motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 2 (DC-) Battery negative (-) → Terminal 1 (DC+)	Latch turns to open-latch position



NG → REPLACE BACK DOOR LOCK ASSEMBLY (Click here)

OK

2.CHECK HARNESS AND CONNECTOR (LOCK - UNIT)

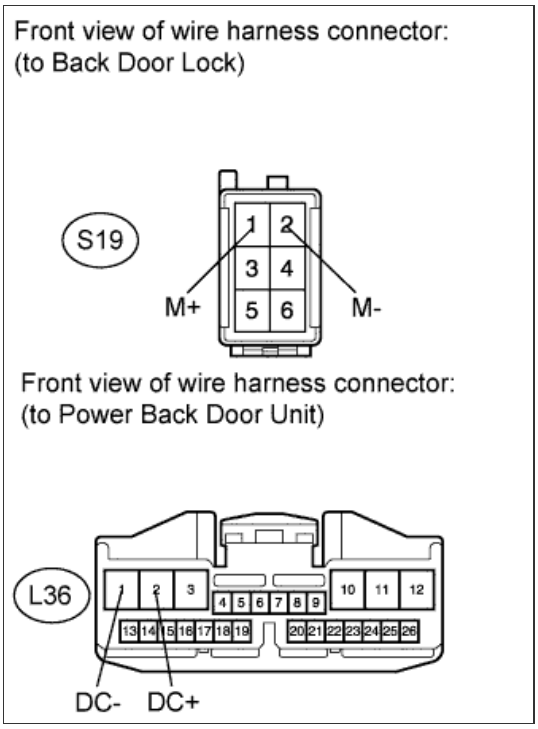
a. Disconnect the S19 door lock connector.

b. Disconnect the L36 unit connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
S19-1 (M+) - L36-2 (DC+)	Always	Below 1 Ω
S19-2 (M-) - L36-1 (DC-)	Always	Below 1 Ω
S19-1 (M+) - Body ground	Always	10 kΩ or higher
S19-2 (M-) - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

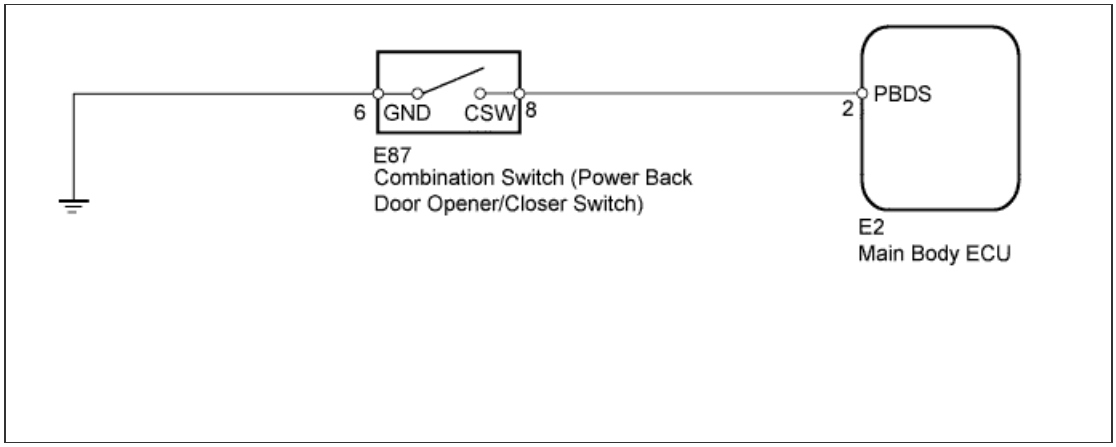
REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

The combination switch (power back door opener/closer switch) only turns on while the switch is being pressed, and turns off when the switch is released.
When the switch is on, a power back door operation request signal is input to the main body ECU to operate the back door.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (POWER BACK DOOR CONTROL SWITCH)

a. Check the Data List for proper functioning of the power back door opener/closer switch.

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Back Door Open SW	Power back door opener/closer switch signal/ON or OFF	ON: Power back door opener/closer switch on OFF: Power back door opener/closer switch off	-

OK:
The display is as specified in the normal condition.

NG → Go to step 2

OK

REPLACE MAIN BODY ECU

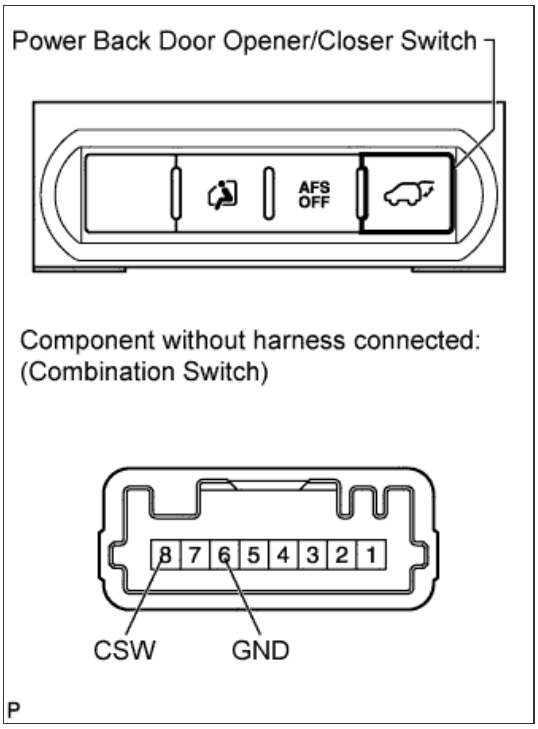
2.INSPECT COMBINATION SWITCH ASSEMBLY (POWER BACK DOOR OPENER/CLOSER SWITCH)

a. Remove the combination switch (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
8 (CSW) - 6 (GND)	Power back door opener/closer switch is pushed (on)	Below 1 Ω
8 (CSW) - 6 (GND)	Power back door opener/closer switch is free (off)	10 kΩ or higher



NG → REPLACE COMBINATION SWITCH ASSEMBLY (Click here)

OK

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

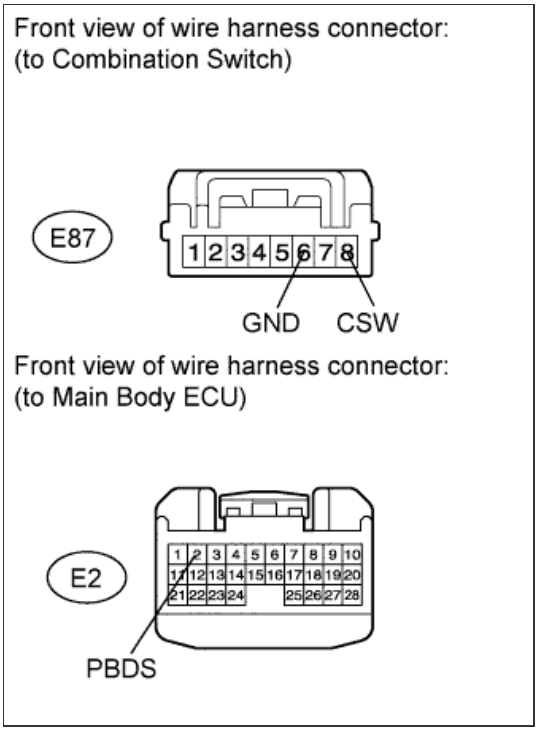
a. Disconnect the E87 switch connector.

b. Disconnect the E2 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E87-8 (CSW) - E2-2 (PBDS)	Always	Below 1 Ω
E87-6 (GND) - Body ground	Always	Below 1 Ω
E87-8 (CSW) - Body ground)	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

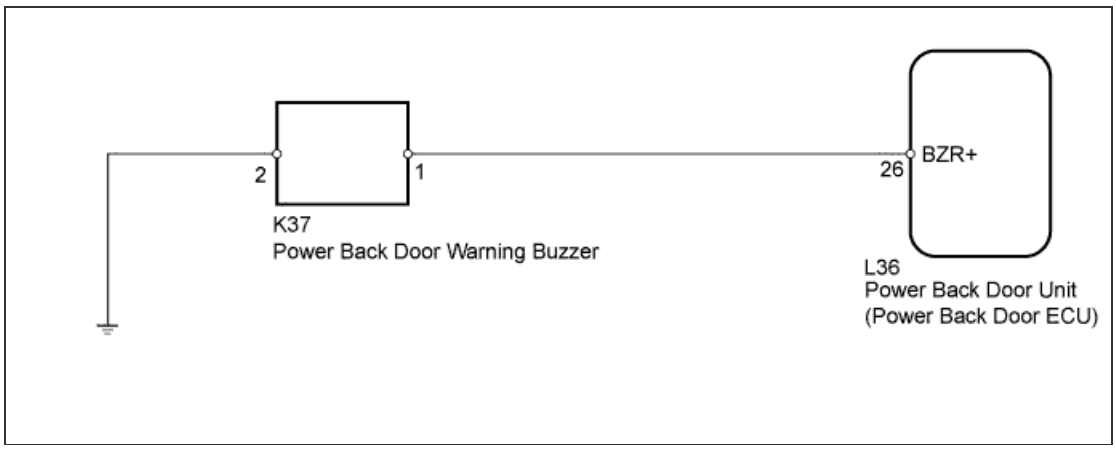
REPLACE MAIN BODY ECU

for Preparation Click here

DESCRIPTION

The power back door unit (power back door ECU) receives the power back door ON/OFF switch signal to sound the power back door warning buzzer.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (POWER BACK DOOR WARNING BUZZER)

a. Select the Active Test, use the intelligent tester to generate a control command, and check that the power back door warning buzzer sounds.

Back Door

Tester Display	Test Part	Control Range	Diagnostic Note
PBD Buzzer	Operate warning buzzer	ON/OFF	-

OK:

Power back door warning buzzer sounds normally.

NG → Go to step 2

OK

REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

2.CHECK HARNESS AND CONNECTOR (BUZZER - UNIT AND BODY GROUND)

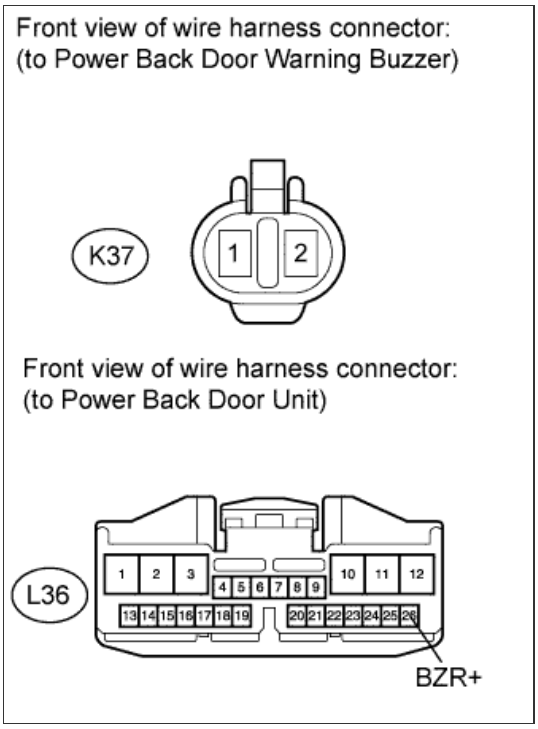
a. Disconnect the K37 buzzer connector.

b. Disconnect the L36 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
K37-1 - L36-26 (BZR+)	Always	Below 1 Ω
K37-2 - Body ground	Always	Below 1 Ω
K37-1 - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3.REPLACE POWER BACK DOOR WARNING BUZZER

a. Replace power back door warning buzzer (Click here).

NEXT

4.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (POWER BACK DOOR WARNING BUZZER)

a. Select the Active Test, use the intelligent tester to generate a control command, and check that the power back door warning buzzer sounds.

Back Door

Tester Display	Test Part	Control Range	Diagnostic Note
PBD Buzzer	Operate warning buzzer	ON/OFF	-

OK:

Power back door warning buzzer sounds normally.

NG → REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

OK

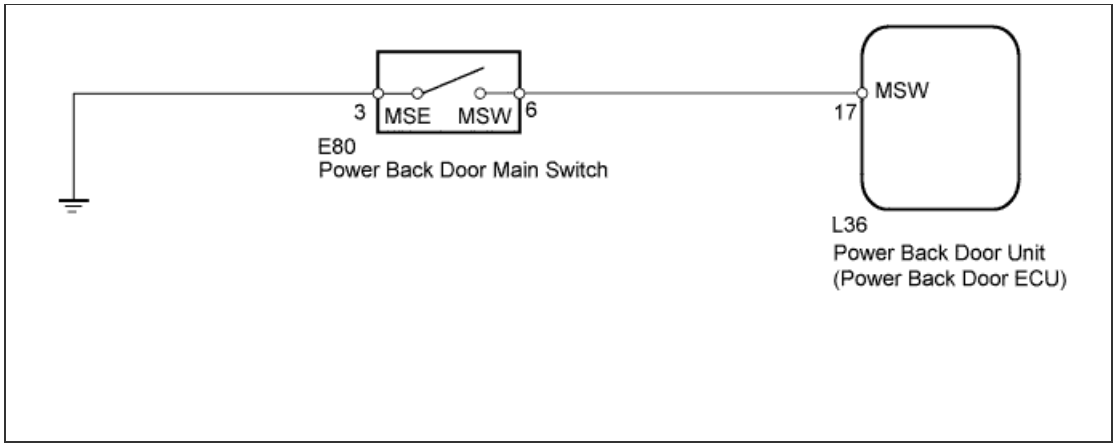
END (POWER BACK DOOR WARNING BUZZER IS DEFECTIVE)

for Preparation Click here

DESCRIPTION

The power back door main switch only turns on while the switch is being pressed, and turns off when the switch is released.
When the switch is on, a power back door operation request signal is input to the power back door ECU.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (POWER BACK DOOR MAIN SWITCH)

a. Check the Data List for proper functioning of the power back door main switch.

Back Door

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
PBD Main SW	Power back door main switch/ON or OFF	ON: Power back door main switch is not pushed OFF Power back door main switch in pushed	-

OK:
The display is as specified in the normal condition.

NG → Go to step 2

OK

REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

2.INSPECT POWER BACK DOOR MAIN SWITCH

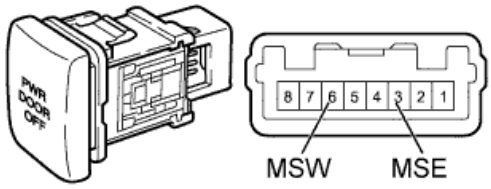
a. Remove the power back door main switch (Click here).

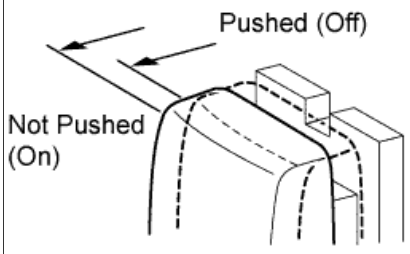
b. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
3 (MSE) - 6 (MSW)	Free (ON)	Below 1 Ω
3 (MSE) - 6 (MSW)	Pushed (OFF)	10 kΩ or higher

Component without harness connected:
(Power Back Door Control Switch)





NG → REPLACE POWER BACK DOOR MAIN SWITCH (Click here)

OK

3.CHECK HARNESS AND CONNECTOR (SWITCH - UNIT AND BODY GROUND)

a. Disconnect the E80 switch connection.

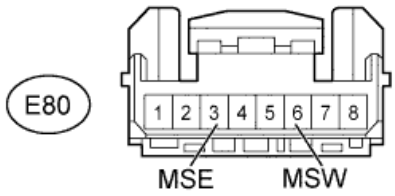
b. Disconnect the L36 unit connector.

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

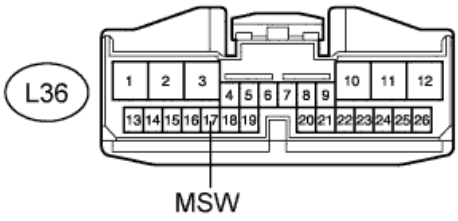
Standard Resistance:

Tester Connection	Condition	Specified Condition
E80-6 (MSW) - L36-17 (MSW)	Always	Below 1 Ω
E80-3 (MSE) - Body ground	Always	Below 1 Ω
E80-6 (MSW) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Power Back Door Main Switch)



Front view of wire harness connector:
(to Power Back Door Unit)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

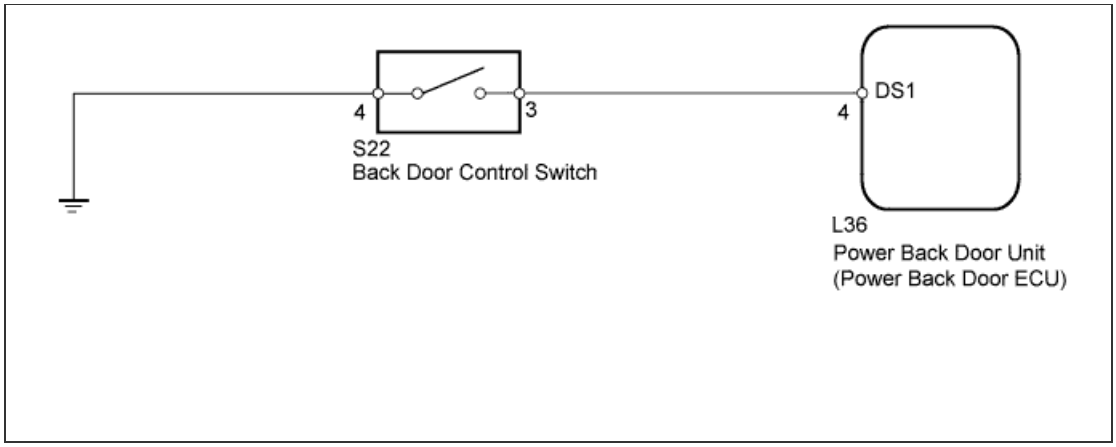
REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

The back door control switch only turns on while the switch is being pressed, and turns off when the switch is released.
When the back door control switch is on, a power back door close request signal is input to the power back door ECU to close the back door.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (BACK DOOR CONTROL SWITCH)

a. Check the Data List for proper functioning of the back door control switch.

Back Door

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
PBD Close SW	Back door control switch signal/ON or OFF	ON: Back door control switch on OFF: Back door control switch off	-

OK:
The display is as specified in the normal condition.

NG → Go to step 2

OK →

REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

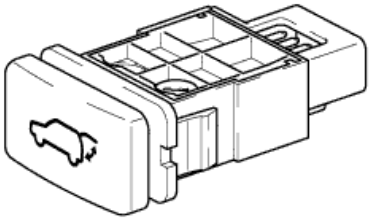
2.INSPECT BACK DOOR CONTROL SWITCH

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

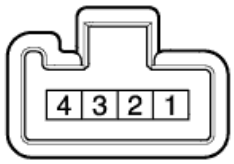
b. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
3 - 4	Pushed (ON)	Below 1 Ω
3 - 4	Free (OFF)	10 kΩ or higher



Component without harness connected:
(Back Door Control Switch)



P

NG → REPLACE BACK DOOR CONTROL SWITCH (Click here)

OK

3.CHECK HARNESS AND CONNECTOR (SWITCH - UNIT AND BODY GROUND)

a. Disconnect the S22 switch connector.

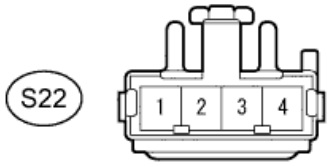
b. Disconnect the L36 unit connector.

c. Measure the resistance of the wire harness side connectors.

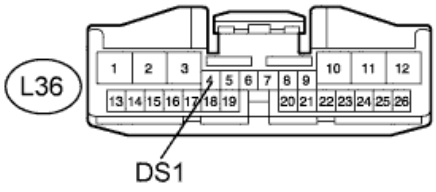
Standard Resistance:

Tester Connection	Condition	Specified Condition
S22-3 - L36-4 (DS1)	Always	Below 1 Ω
S22-4 - Body ground	Always	Below 1 Ω
S22-3 - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Back Door Control Switch)



Front view of wire harness connector:
(to Power Back Door Unit)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

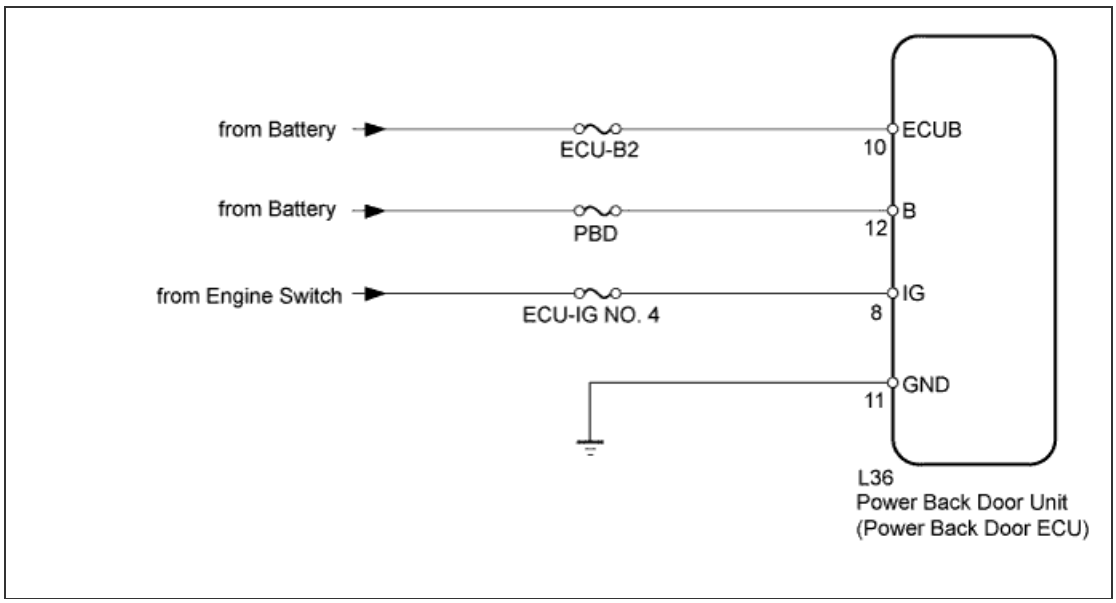
REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

This circuit supplies power to operate the power back door unit.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.INSPECT FUSE (ECU-B2, PBD, ECU-IG NO.4)

a. Remove the ECU-B2 and PBD fuses from the engine room relay block.

b. Remove the ECU-IG NO.4 fuse from the cowl side junction block RH.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
ECU-B2 fuse	Always	Below 1 Ω
PBD fuse	Always	Below 1 Ω
ECU-IG NO.4 fuse	Always	Below 1 Ω

NG → REPLACE FUSE

OK

2.CHECK HARNESS AND CONNECTOR (UNIT - BATTERY AND BODY GROUND)

a. Disconnect the L36 unit connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
L36-10 (ECUB) - Body ground	Always	11 to 14 V
L36-12 (B) - Body ground	Always	11 to 14 V
L36-8 (IG) - Body ground	Engine switch on (IG)	11 to 14 V

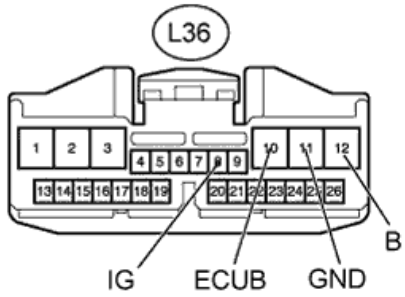
L36-8 (IG) - Body ground	Engine switch off	Below 1 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
L36-11 (GND) - Body ground	Always	Below 1 Ω

Front view of wire harness connector:
(to Power Back Door Unit)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

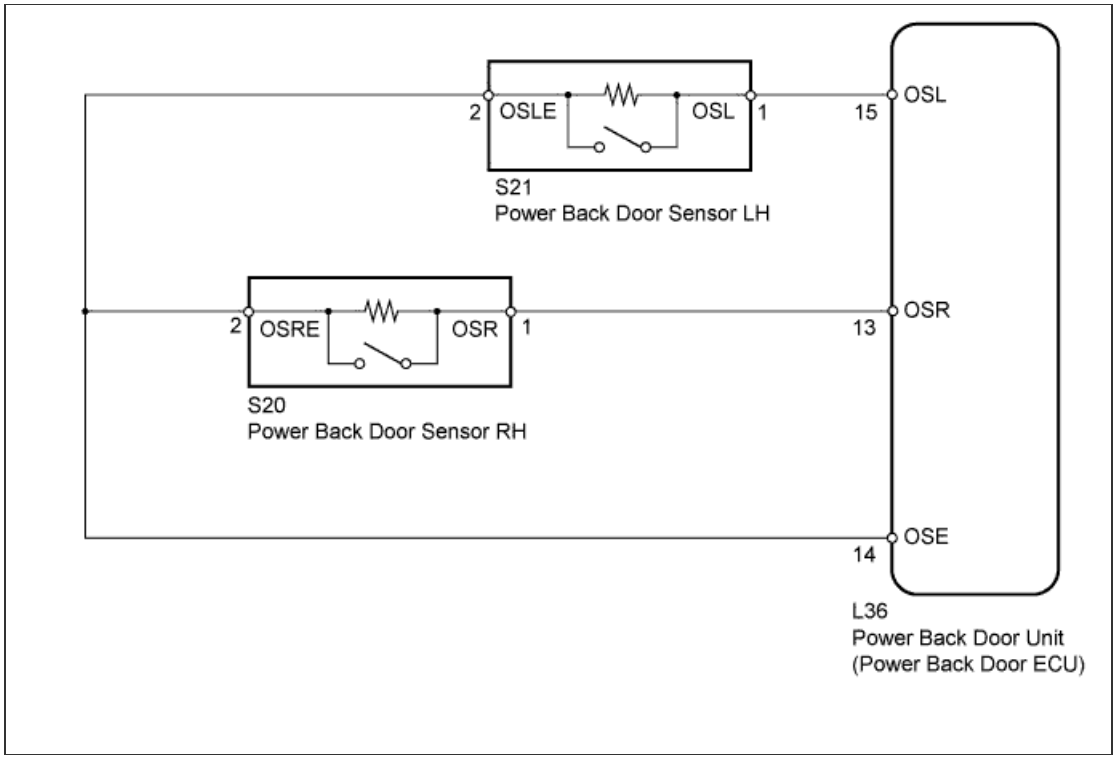
PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

for Preparation Click here

DESCRIPTION

When the power back door unit (power back door ECU) receives a jam signal from the power back door sensor while the power back door closer is operating, the ECU reverses the back door operation and opens the door.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (POWER BACK DOOR SENSOR ASSEMBLY)

a. Check the Data List for proper functioning of the power back door sensor.

Back Door

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
PBD power back door sensor (Left)	Power back door sensor LH signal/ON or OFF	ON: Power back door sensor LH pressed OFF: Power back door sensor LH not pressed	-
PBD power back door sensor (Right)	Power back door sensor RH signal/ON or OFF	ON: Power back door sensor RH pressed OFF: Power back door sensor RH not pressed	-

OK:

The display is as specified in the normal condition.

NG → Go to step 2

OK

REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

2.INSPECT POWER BACK DOOR SENSOR ASSEMBLY

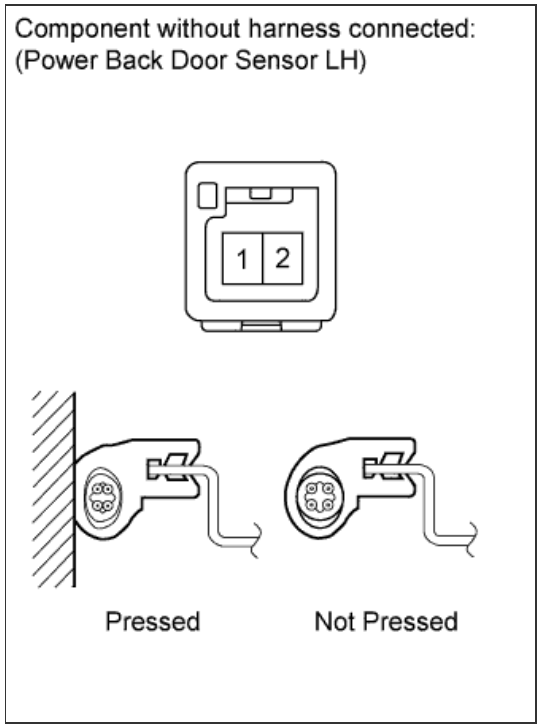
a. for LH:

i. Disconnect the S21 sensor connectors.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
1 - 2	Not pressed	Approximately 1 kΩ
1 - 2	Pressed	Below 100 Ω



b. for RH:

i. Disconnect the S20 sensor connectors.

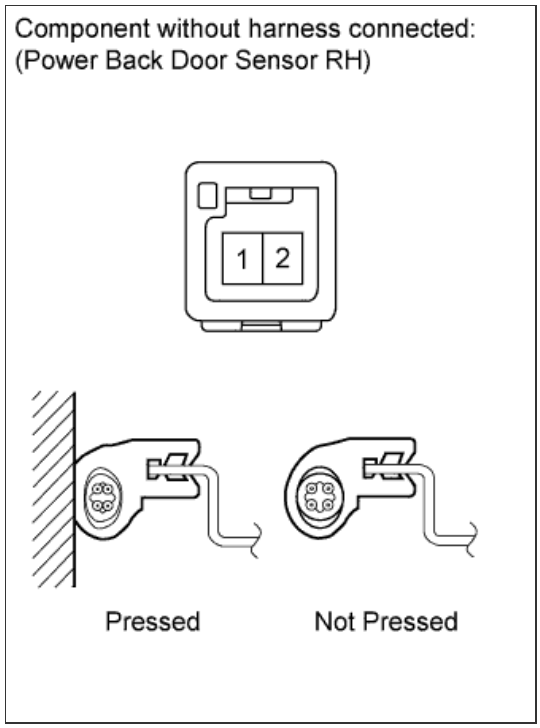
ii. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Condition	Specified Condition
1 - 2	Not pressed	Approximately 1 kΩ
1 - 2	Pressed	Below 100 Ω

Result

Result	Proceed to
OK	A
NG (for LH)	B
NG (for RH)	C



B → REPLACE POWER BACK DOOR SENSOR ASSEMBLY LH (Click here)

C → REPLACE POWER BACK DOOR SENSOR ASSEMBLY RH (Click here)

A

3.CHECK HARNESS AND CONNECTOR (SENSOR - UNIT AND BODY GROUND)

a. for LH:

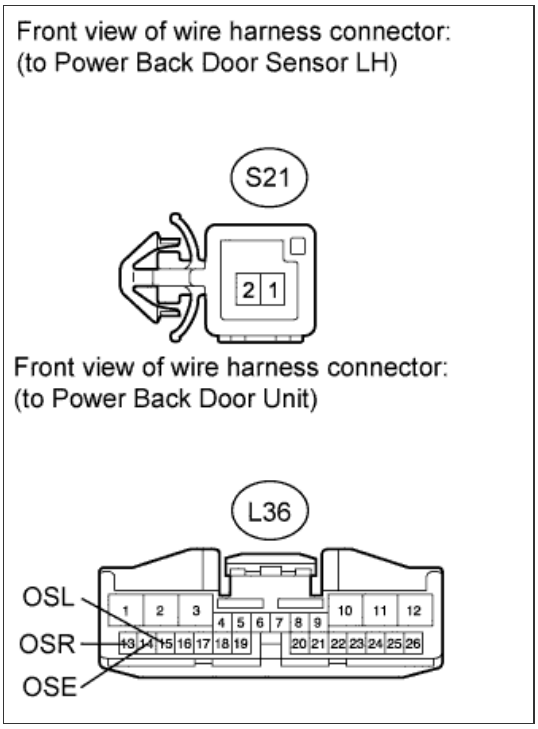
i. Disconnect the S21 sensor connector.

ii. Disconnect the L36 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
S21-1 - L36-15 (OSL)	Always	Below 1 Ω
S21-2 - L36-14 (OSE)	Always	Below 1 Ω
S21-1 - Body ground	Always	10 kΩ or higher
S21-2 - Body ground	Always	10 kΩ or higher



b. for RH:

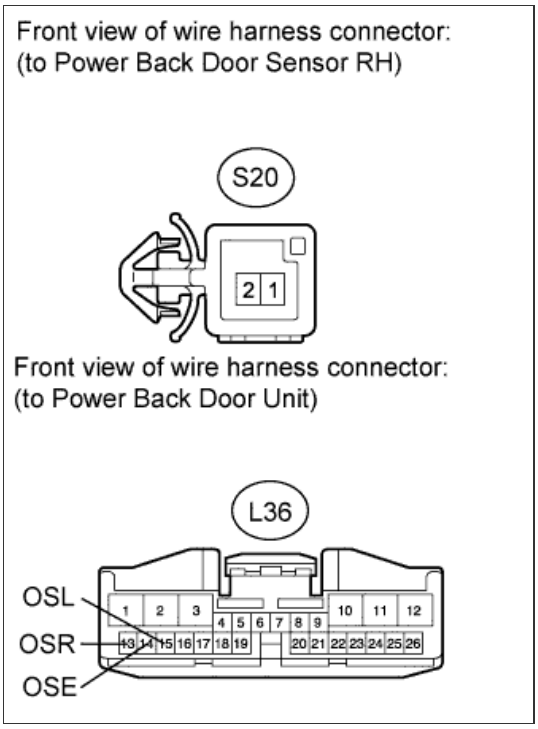
i. Disconnect the S20 sensor connector.

ii. Disconnect the L36 ECU connector.

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

Standard Resistance:

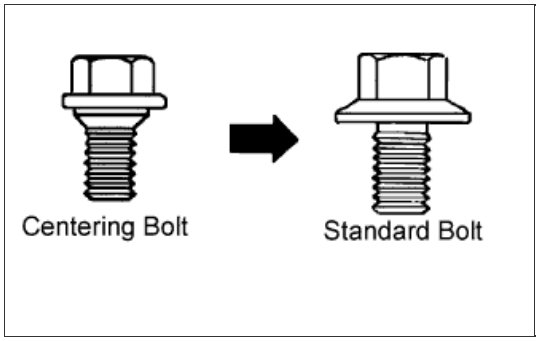
Tester Connection	Condition	Specified Condition
S20-1 - L36-13 (OSR)	Always	Below 1 Ω
S20-2 - L36-14 (OSE)	Always	Below 1 Ω
S20-1 - Body ground	Always	10 kΩ or higher
S20-2 - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE POWER BACK DOOR UNIT ASSEMBLY (Click here)

for Preparation Click here

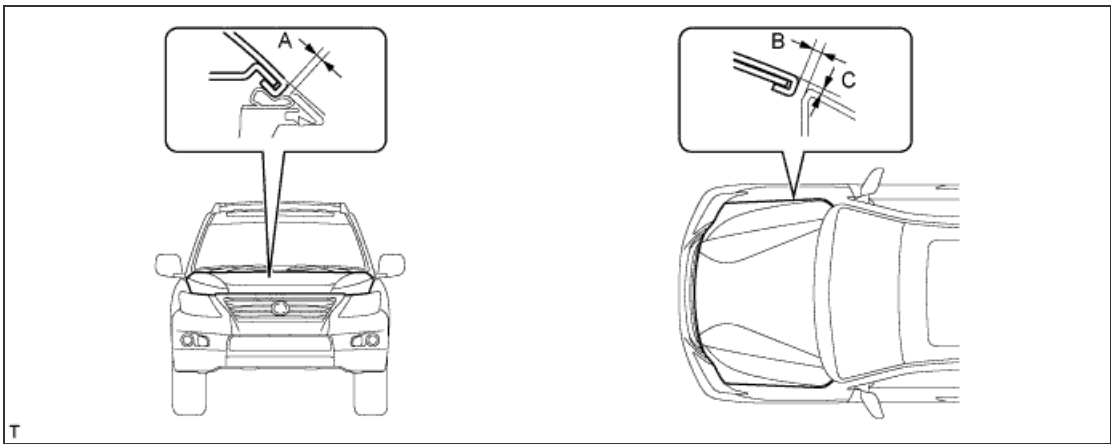


HINT:

- **Centering bolts are used to mount the hood hinge and hood lock. The hood and hood lock cannot be adjusted with the centering bolts on. Substitute the centering bolts with standard bolts (with washers) when making adjustments.**
- **A bolt without a torque specification is shown in the standard bolt chart (Click here).**

1. INSPECT HOOD SUB-ASSEMBLY

a. Check that the clearance measurements of areas A to C are within the standard range.



Standard:

Area	Specified Condition
A (Reference)	4.35 mm (0.171 in.)
B	2.0 to 5.0 mm (0.0787 to 0.197 in.)
C	-1.5 to 1.5 mm (-0.0591 to 0.0591 in.)

2. ADJUST HOOD SUB-ASSEMBLY

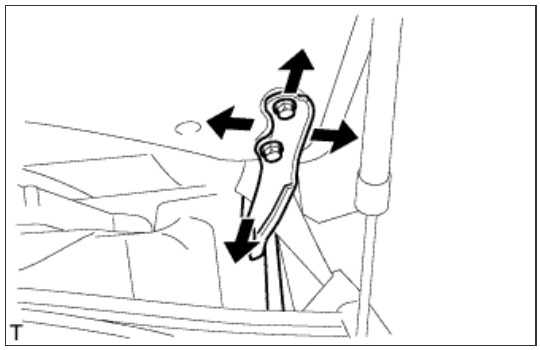
a. Adjust the hood position.

i. Loosen the 4 hinge bolts of the hood.

ii. Move the hood and adjust the clearance between the hood and front fender.

iii. Tighten the 4 hinge bolts of the hood after the adjustment.

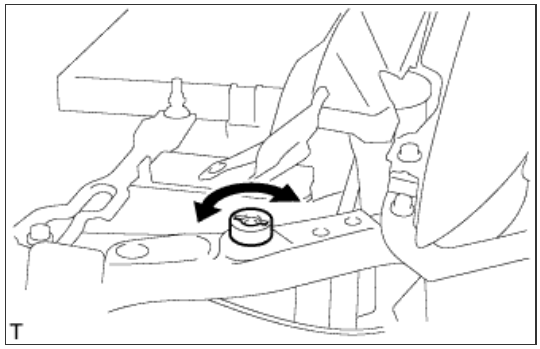
Torque:
13 N*m{ 133 kgf*cm , 10 ft.*lbf }



iv. Adjust the cushion rubber so that the height of the hood and fender are aligned.

HINT:

Raise or lower the front end of the hood by turning the cushion rubber.

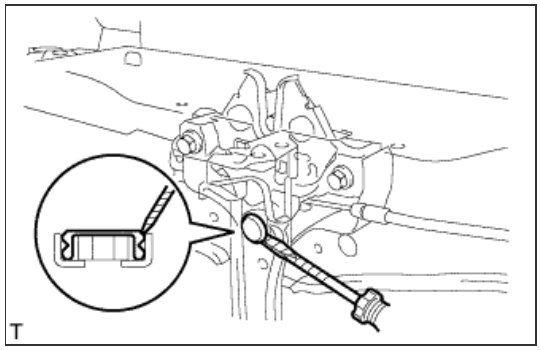


b. Adjust the hood lock.

i. Using a screwdriver, remove the hood lock nut cap as shown in the illustration.

HINT:

Tape the screwdriver tip before use.



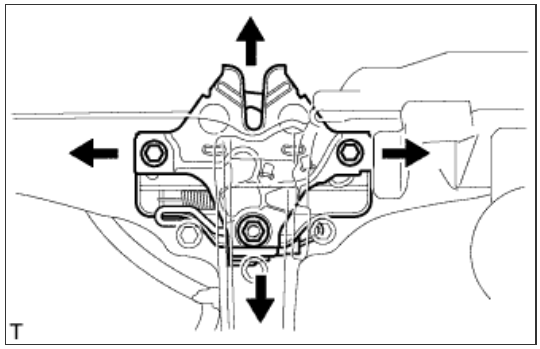
ii. Loosen the 2 bolts and hood lock nut.

iii. Adjust the hood lock position so that the striker can enter it smoothly.

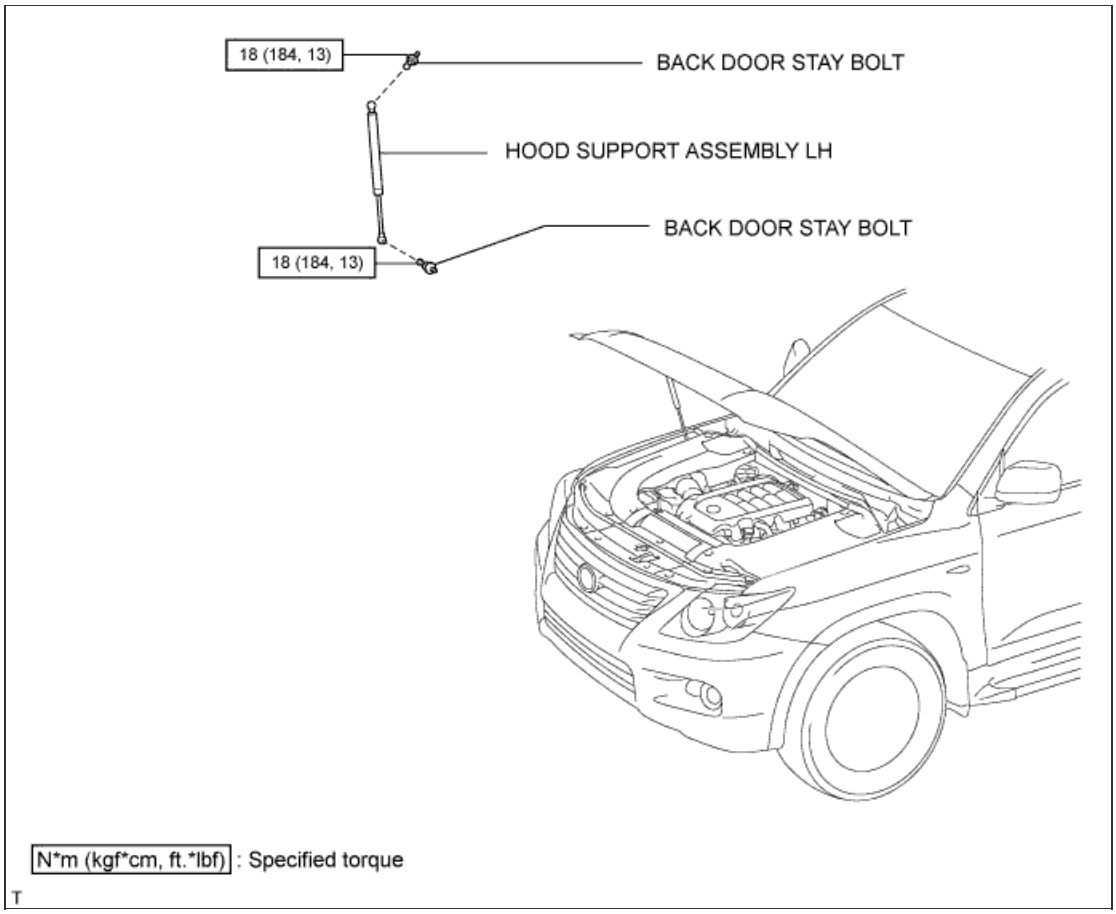
iv. Tighten the bolts and nut after the adjustment.

Torque:
5.5 N*m{ 56 kgf*cm , 49 in.*lbf }

v. Install a new cap.



for Preparation Click here



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.**

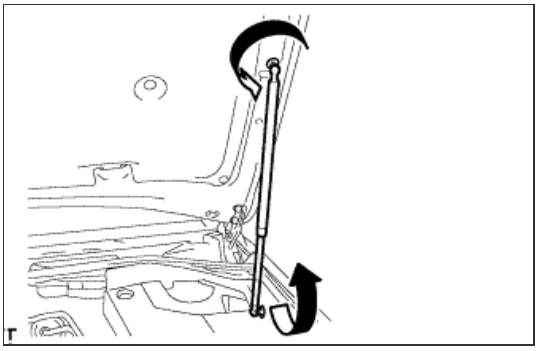
1. REMOVE HOOD SUPPORT ASSEMBLY LH

a. Remove the bolt and hood support from the hood.

CAUTION:

Remove the hood support while supporting the hood by hand.

b. Remove the bolt and hood support.



for Preparation Click here

NOTICE:

- **As much as possible, avoid touching the stroke portions of the rod to prevent foreign matter from attaching to them. Be sure to hold the cylinders while servicing.**
- **Do not wear cotton gloves or other similar materials when handling the rod. Fibers may attach to the rod and result in gas leaks.**
- **Do not apply any load to the cylinders in the horizontal direction in order to prevent the rod from being deformed.**

HINT:

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

1. INSTALL HOOD SUPPORT ASSEMBLY LH

a. When reusing the hood support:

i. Install the hood support assembly with the 2 bolts.

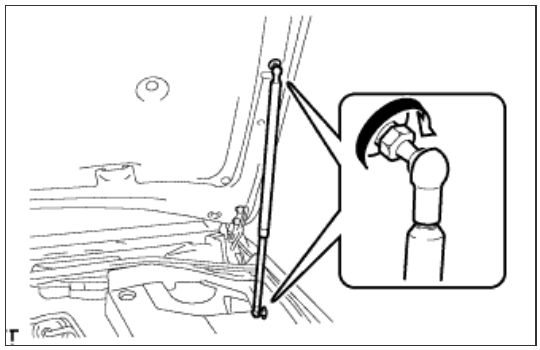
Torque:
18 N*m{ 184 kgf*cm , 13 ft.*lbf }

CAUTION:

Install the hood support while supporting the hood by hand.

NOTICE:

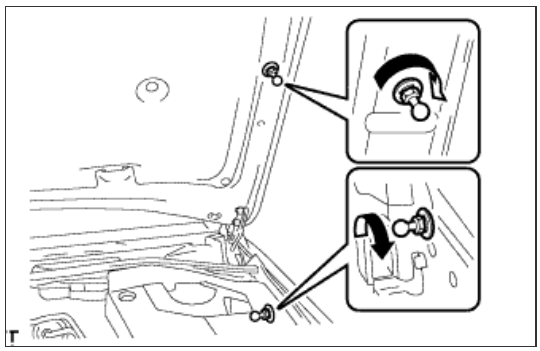
Check that the hood support is engaged in the ball joints and cannot be pulled out.



b. When installing a new hood support:

i. Install the 2 back door stay bolts.

Torque:
18 N*m{ 184 kgf*cm , 13 ft.*lbf }



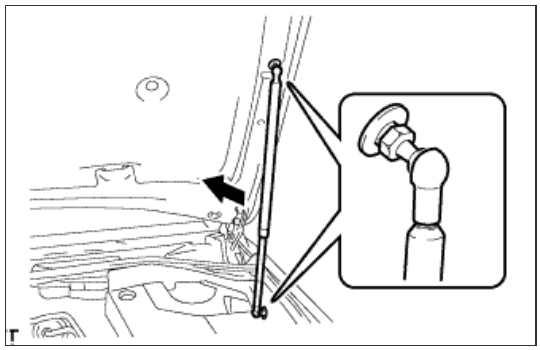
c. Attach the ball joints to install the hood support assembly.

CAUTION:

Install the hood support while supporting the hood by hand.

NOTICE:

Check that the hood support is engaged in the ball joints cannot be pulled out.



for Preparation Click here

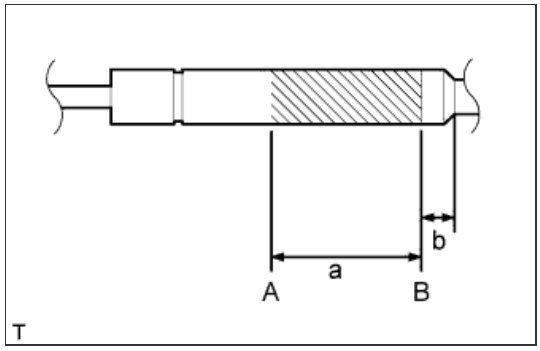
HINT:

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

1. DISPOSE OF HOOD SUPPORT ASSEMBLY

a. Horizontally fix the hood support in a vise with the piston-rod pulled out.

b. Wear safety glasses. Gradually cut any area between A and B shown in the illustration using a metal saw and gradually release the gas.



Standard:

Area	Specified Condition
a	150 mm (5.91 in.)
b	20 mm (0.787 in.)

CAUTION:

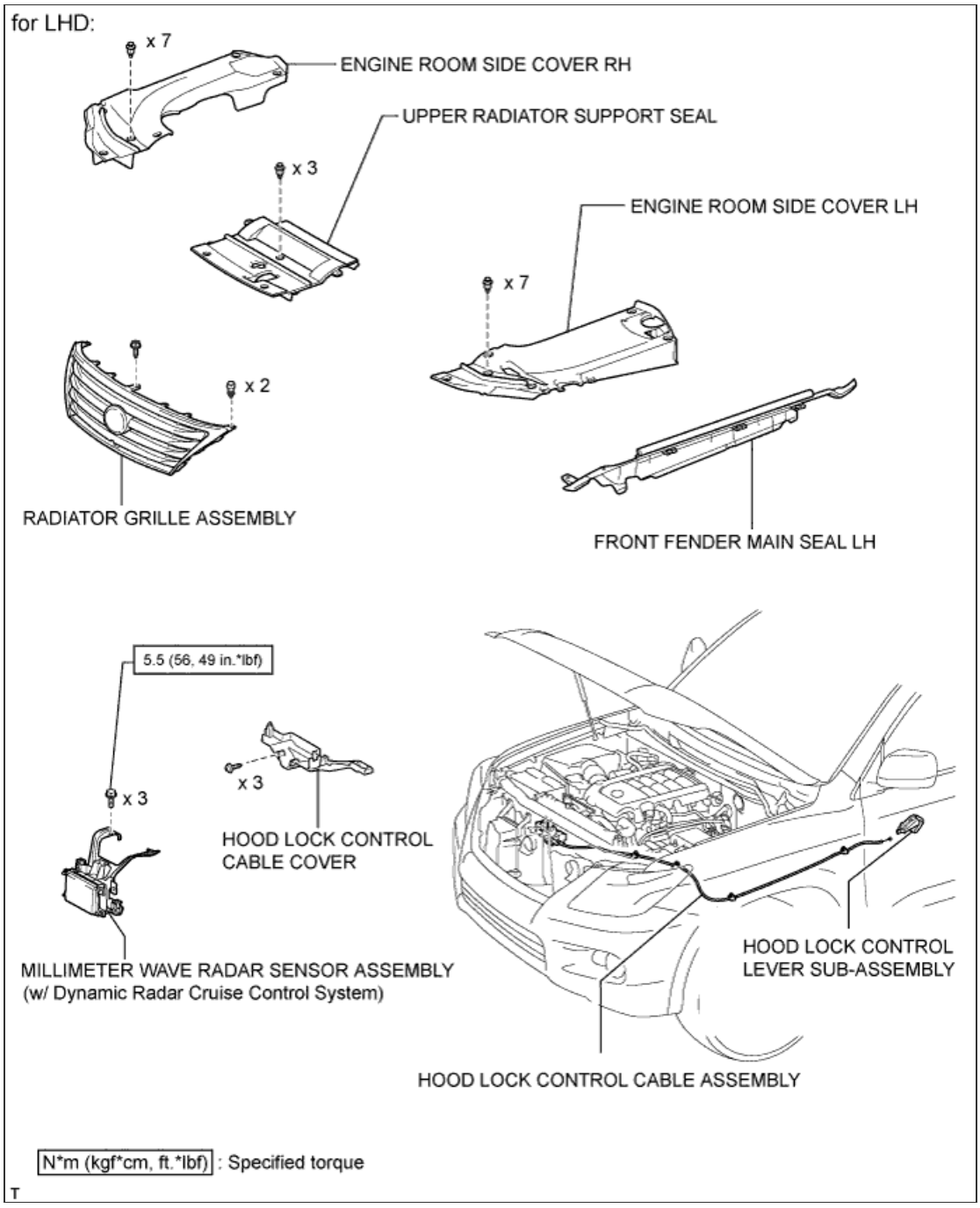
As metal debris may be blown outward by the gas, you must:

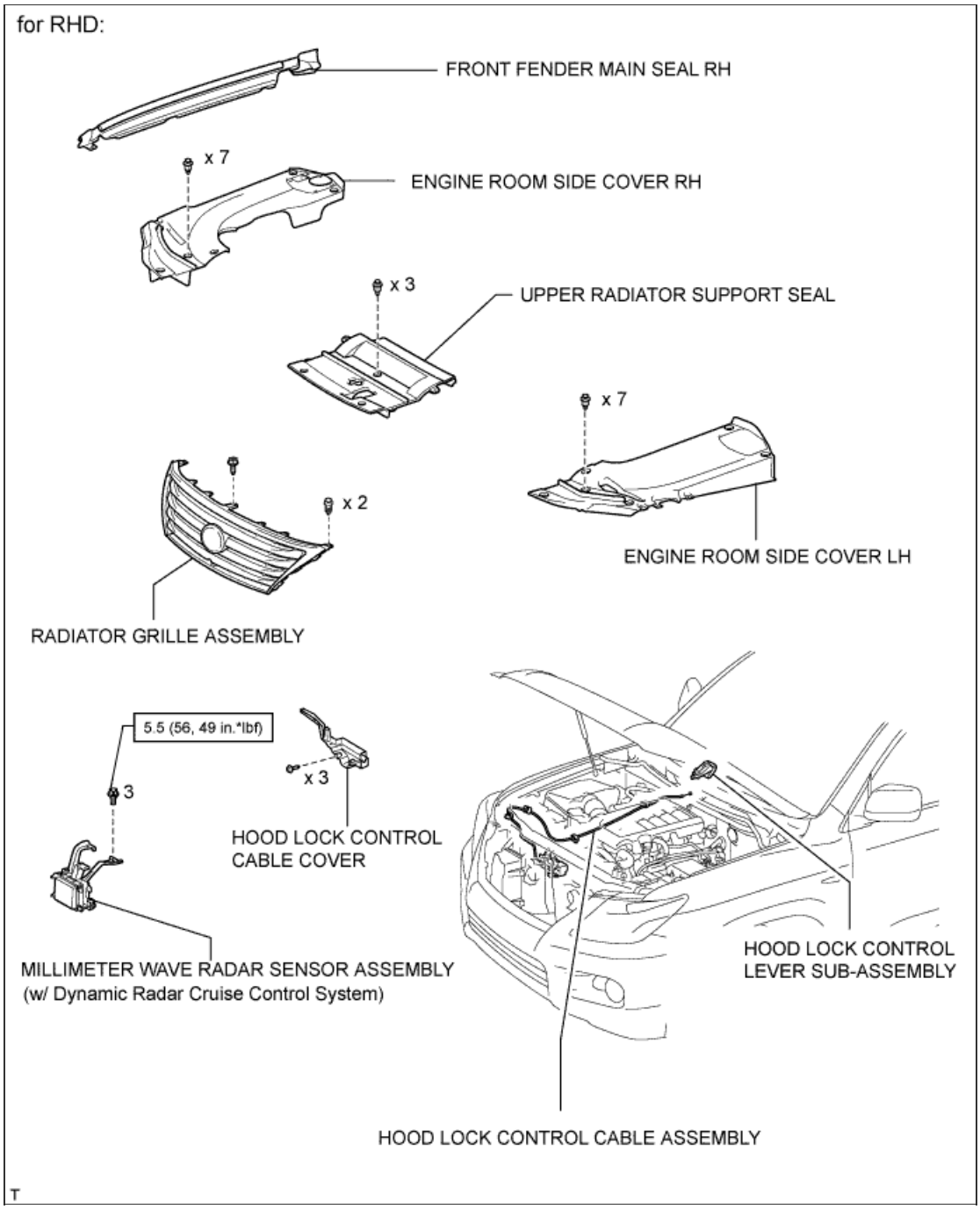
- **Wear protective glasses.**
- **Cover the area being cut.**

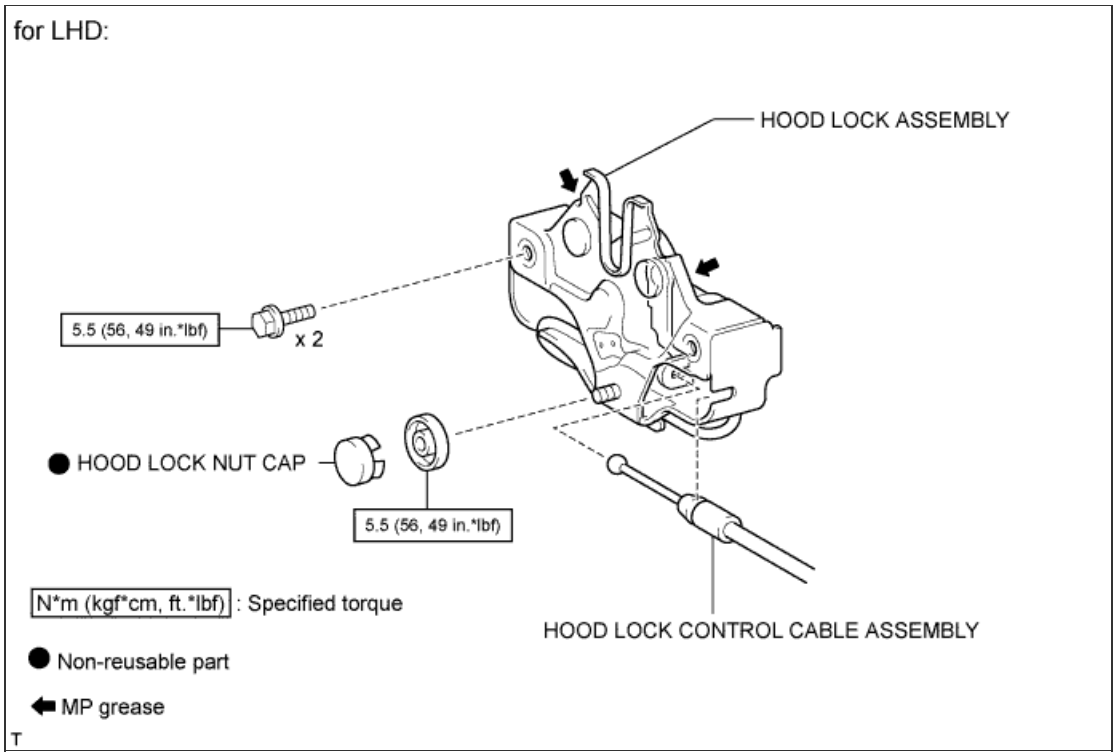
NOTICE:

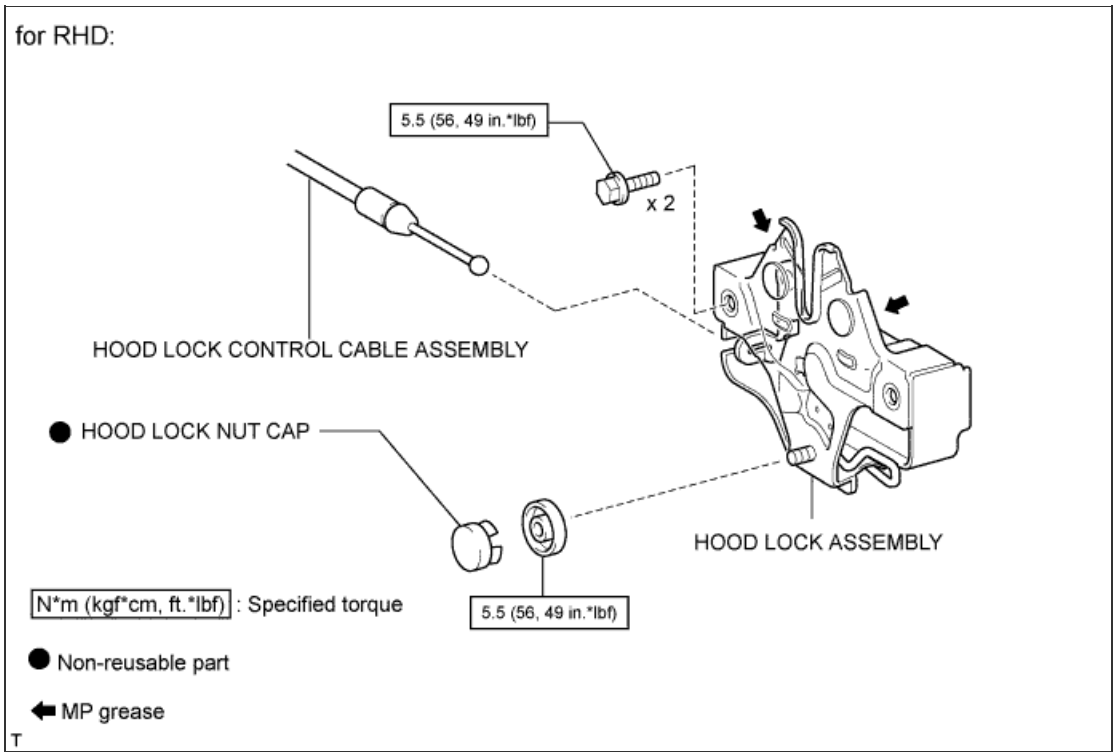
The gas inside the hood support is colorless, odorless and harmless. As there is a possibility that metal debris could scatter, cover the hood support with a piece of cloth or other material.

for Preparation Click here




for RHD:
FRONT FENDER MAIN SEAL RH
x 7
ENGINE ROOM SIDE COVER RH
x 3
UPPER RADIATOR SUPPORT SEAL
x 7
x 2
ENGINE ROOM SIDE COVER LH
RADIATOR GRILLE ASSEMBLY
5.5 (56, 49 in.*lbf)
3
x 3
HOOD LOCK CONTROL
CABLE COVER
MILLIMETER WAVE RADAR SENSOR ASSEMBLY
(w/ Dynamic Radar Cruise Control System)
HOOD LOCK CONTROL
LEVER SUB-ASSEMBLY
HOOD LOCK CONTROL CABLE ASSEMBLY
T

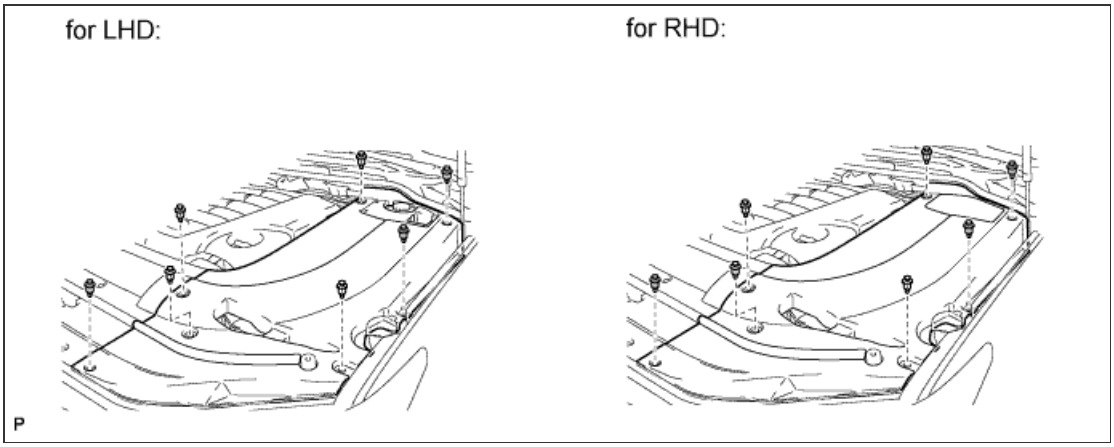

for LHD:
HOOD LOCK ASSEMBLY
5.5 (56, 49 in.*lbf)
x 2
HOOD LOCK NUT CAP
5.5 (56, 49 in.*lbf)
N*m (kgf*cm, ft.*lbf) : Specified torque
HOOD LOCK CONTROL CABLE ASSEMBLY
Non-reusable part
MP grease
T


for RHD:
5.5 (56, 49 in.*lbf)
x 2
HOOD LOCK CONTROL CABLE ASSEMBLY
HOOD LOCK NUT CAP
HOOD LOCK ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
5.5 (56, 49 in.*lbf)
Non-reusable part
MP grease
T

for Preparation Click here

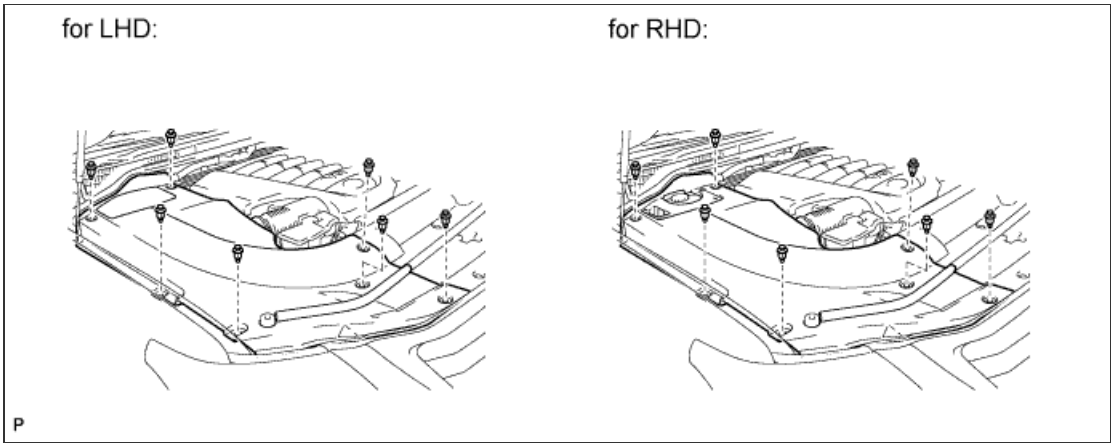
1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



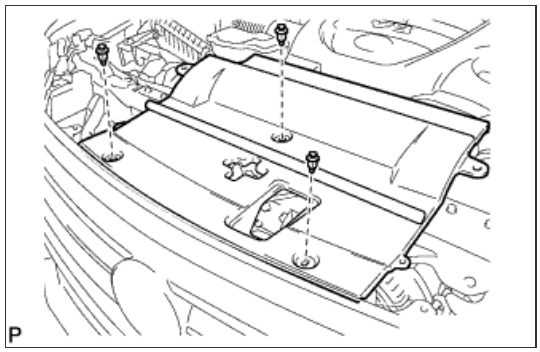
2. REMOVE ENGINE ROOM SIDE COVER RH

a. Remove the 7 clips and engine room side cover.



3. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 3 clips and upper radiator support seal.

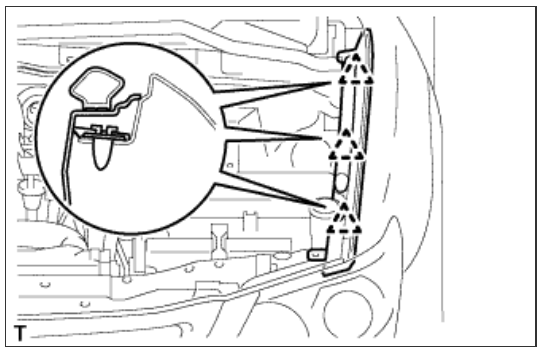


4. REMOVE FRONT FENDER MAIN SEAL LH (for LHD)

a. Using a screwdriver, detach the 3 clips and remove the fender main seal.

HINT:

Tape the screwdriver tip before use.

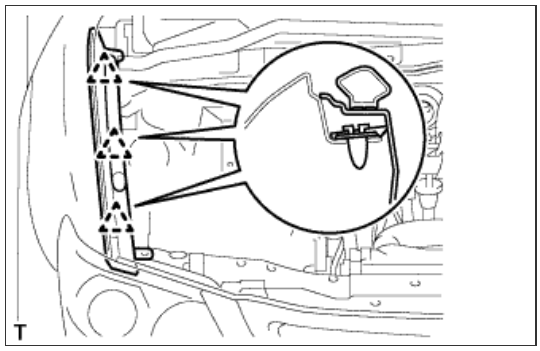


5. REMOVE FRONT FENDER MAIN SEAL RH (for RHD)

a. Using a screwdriver, detach the 3 clips and remove the fender main seal.

HINT:

Tape the screwdriver tip before use.



6. REMOVE RADIATOR GRILLE ASSEMBLY

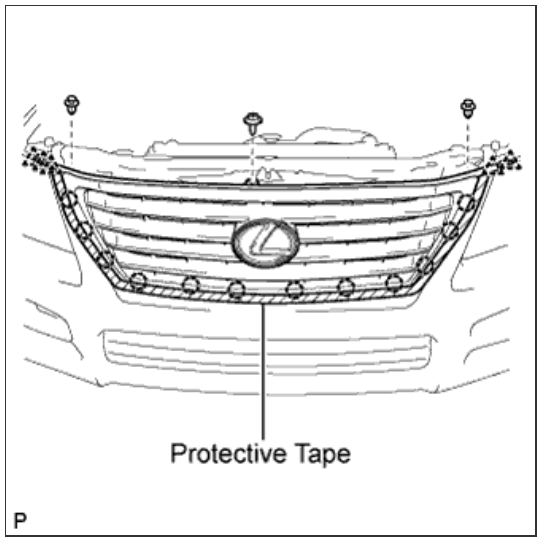
a. Put protective tape around the radiator grille.

b. Remove the screw and 2 clips.

c. Detach the 5 clips and partially remove the upper radiator seal.

d. w/o Wide View Front Monitor System:
Detach the 12 claws and remove the radiator grille.

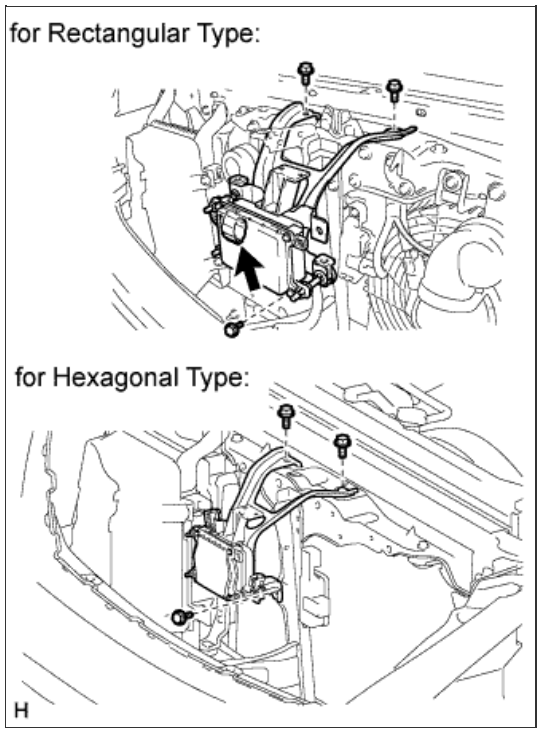
e. w/ Wide View Front Monitor System:
Detach the 12 claws, disconnect the connector and remove the radiator grille.



7. REMOVE MILLIMETER WAVE RADAR SENSOR ASSEMBLY (w/ Dynamic Radar Cruise Control System)

a. Disconnect the sensor connector.

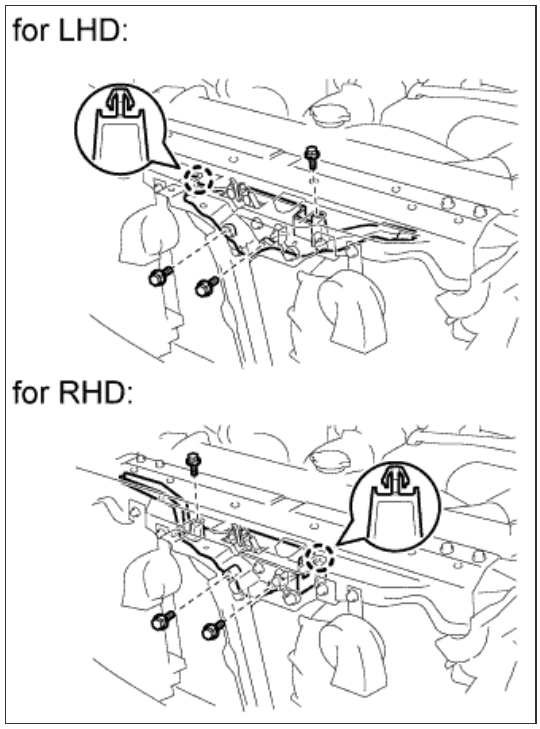
b. Remove the 3 bolts and sensor.



8. REMOVE HOOD LOCK CONTROL CABLE COVER

a. Remove the 3 screws.

b. Detach the claw and remove the cable cover.

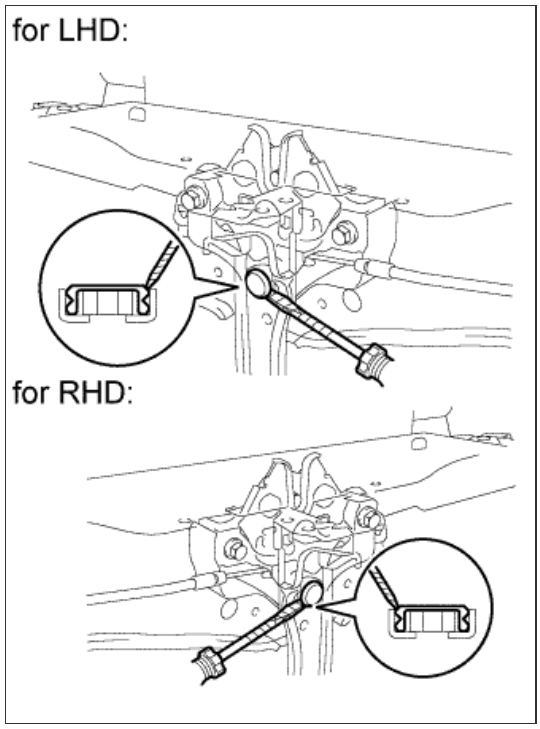


9. REMOVE HOOD LOCK NUT CAP

a. Using a screwdriver, remove the hood lock nut cap as shown in the illustration.

HINT:

Tape the screwdriver tip before use.

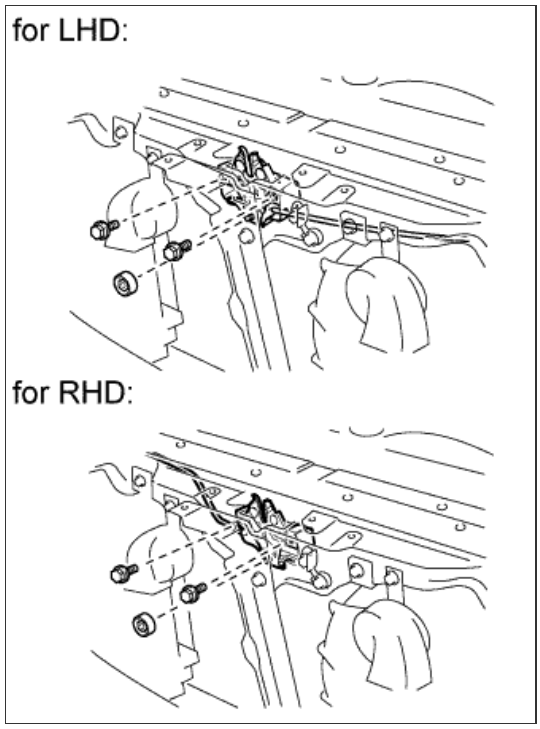


10. REMOVE HOOD LOCK ASSEMBLY

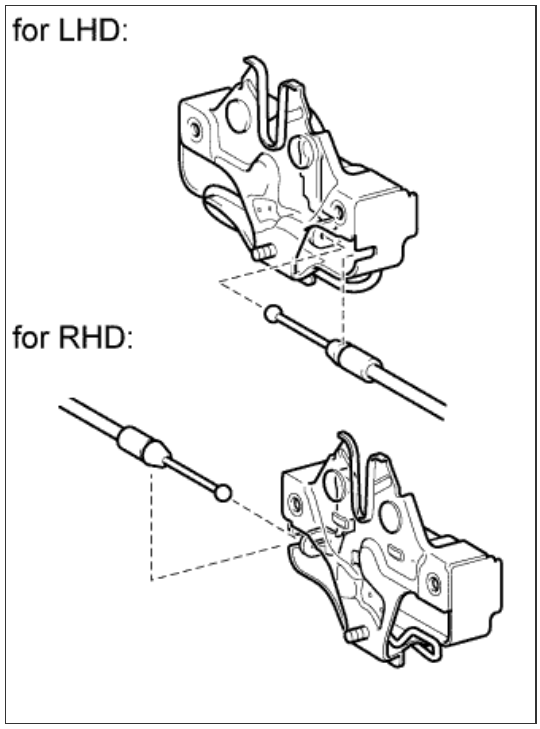
a. Remove the 2 bolts and nut.

b. Remove the hood lock.

c. Disconnect the connector.



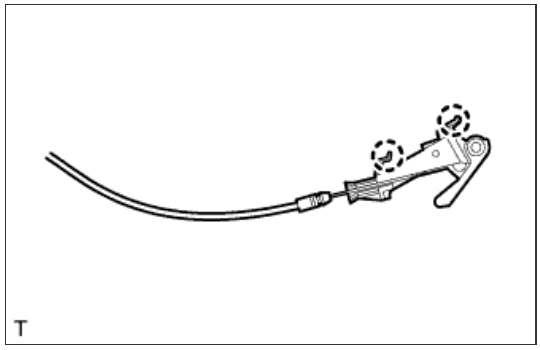
d. Disconnect the hood lock control cable.



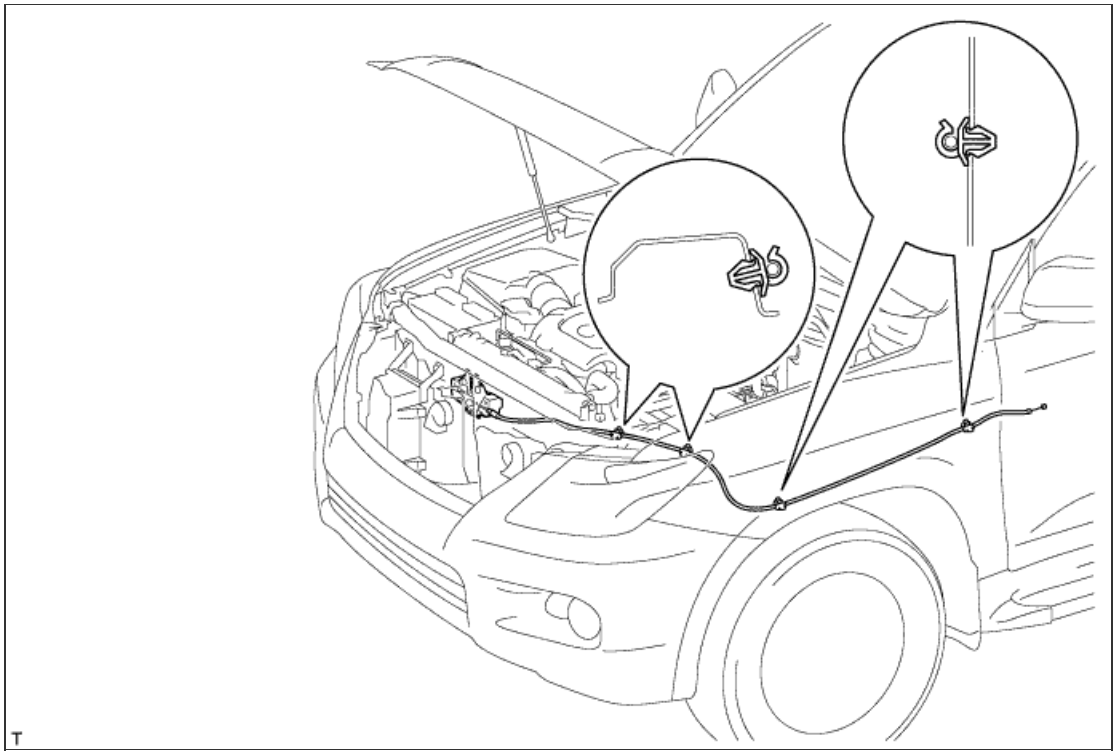
11. REMOVE HOOD LOCK CONTROL LEVER SUB-ASSEMBLY

a. Detach the 2 claws.

b. Disconnect the hood lock control cable and remove the hood lock lever.



12. REMOVE HOOD LOCK CONTROL CABLE ASSEMBLY (for LHD)



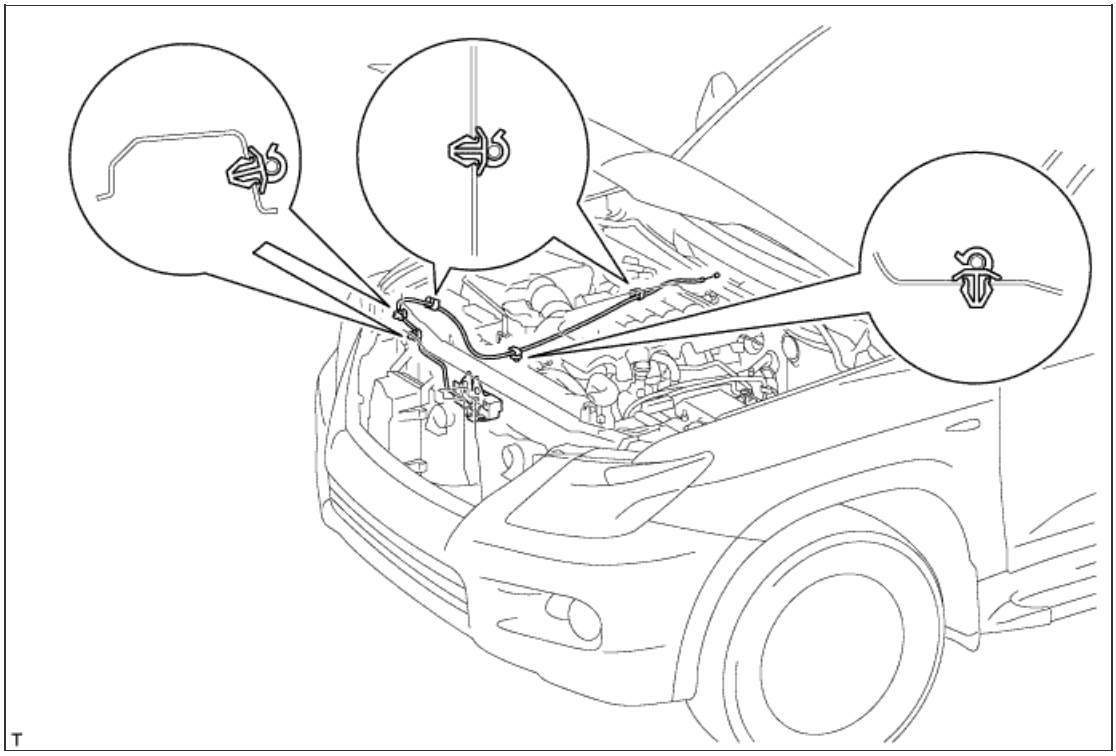
a. Using a screwdriver, disconnect the clamps shown in the illustration.

HINT:

Tape the screwdriver tip before use.

b. Pull the cable from the engine room and remove it.

13. REMOVE HOOD LOCK CONTROL CABLE ASSEMBLY (for RHD)



a. Using a screwdriver, disconnect the clamps shown in the illustration.

HINT:

Tape the screwdriver tip before use.

b. Pull the cable from the engine room and remove it.

for Preparation Click here

HINT:

A bolt without a torque specification is shown in the standard bolt chart (Click here).

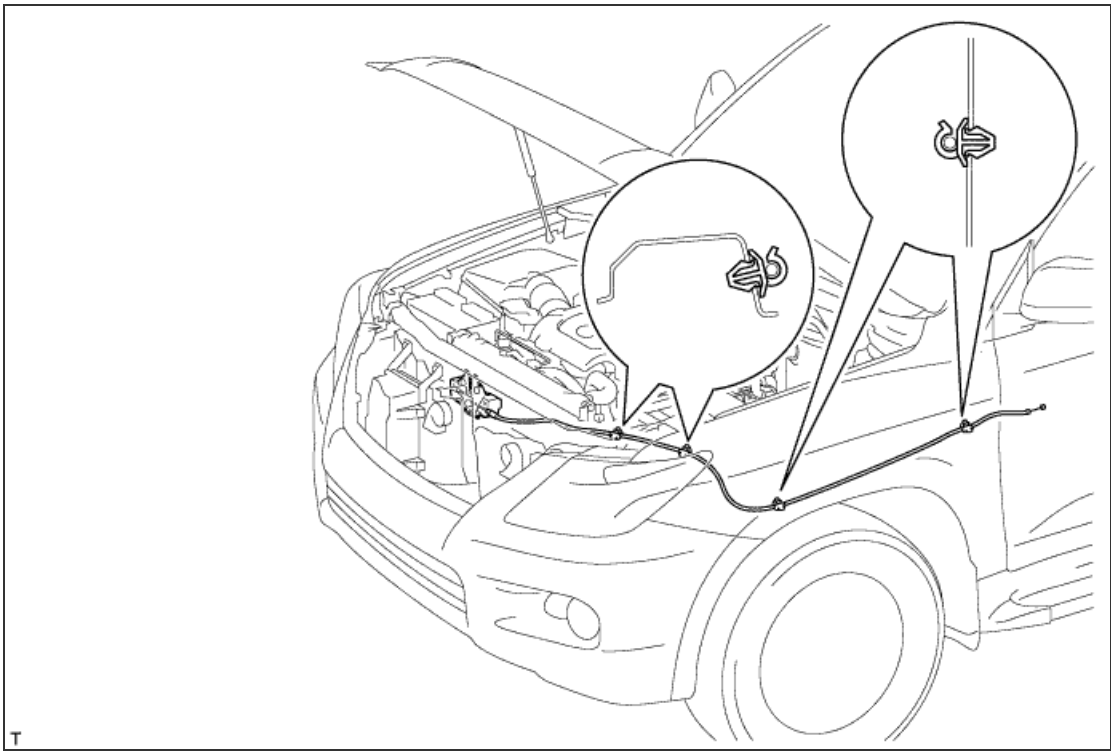
1. INSTALL HOOD LOCK CONTROL CABLE ASSEMBLY (for LHD)

a. Pass the cable into the engine room.

b. Pass the rear side of the cable through the grommet until the cable stopper is attached to the grommet.

c. Pass the front side of the cable through the upper radiator support.

d. Connect the clamps shown in the illustration.



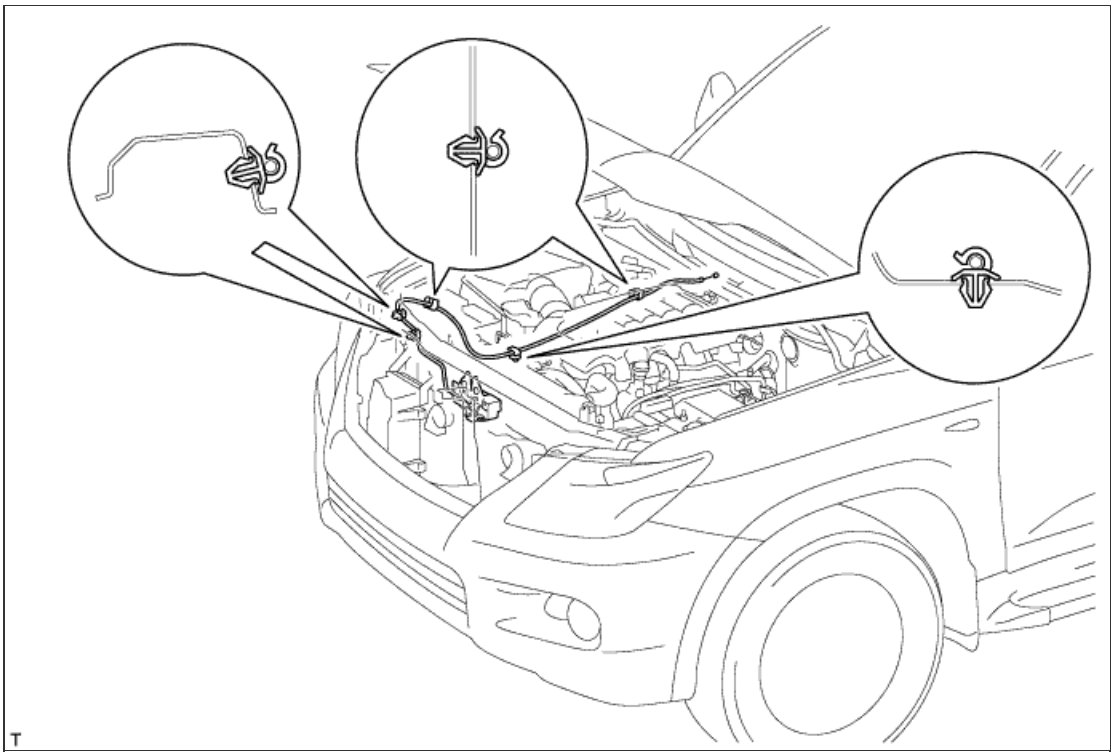
2. INSTALL HOOD LOCK CONTROL CABLE ASSEMBLY (for RHD)

a. Pass the cable into the engine room.

b. Pass the cable rear side through the grommet until the cable stopper is attached to the grommet.

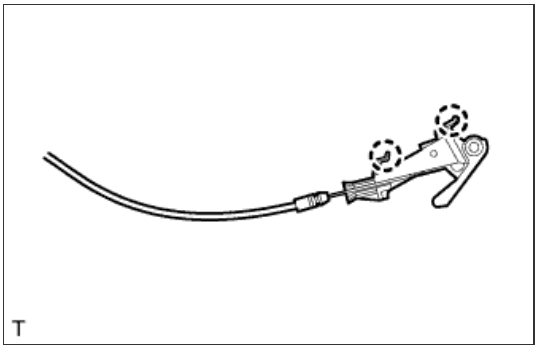
c. Pass the cable front side through the upper radiator support.

d. Connect the clamps as shown in the illustration.



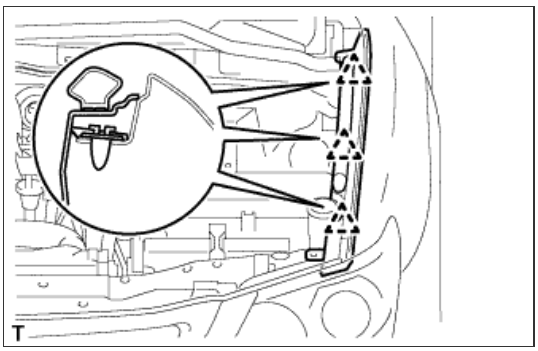
3. INSTALL HOOD LOCK CONTROL LEVER SUB-ASSEMBLY

a. Connect the hood lock control cable and attach the 2 claws to install the hood lock lever.



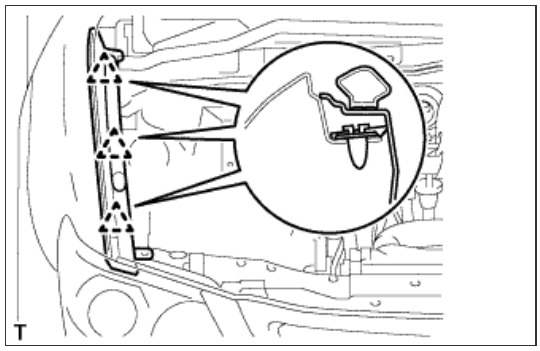
4. INSTALL FRONT FENDER MAIN SEAL LH (for LHD)

a. Attach the 3 clips to install the fender main seal.



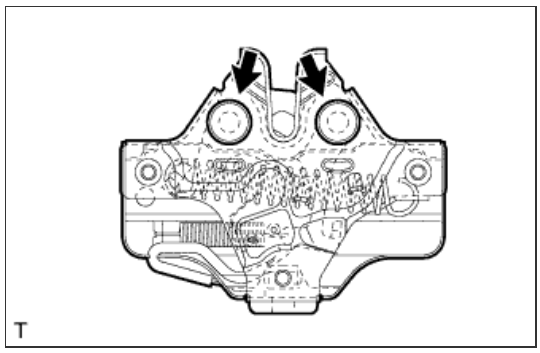
5. INSTALL FRONT FENDER MAIN SEAL RH (for RHD)

a. Attach the 3 clips to install the fender main seal.



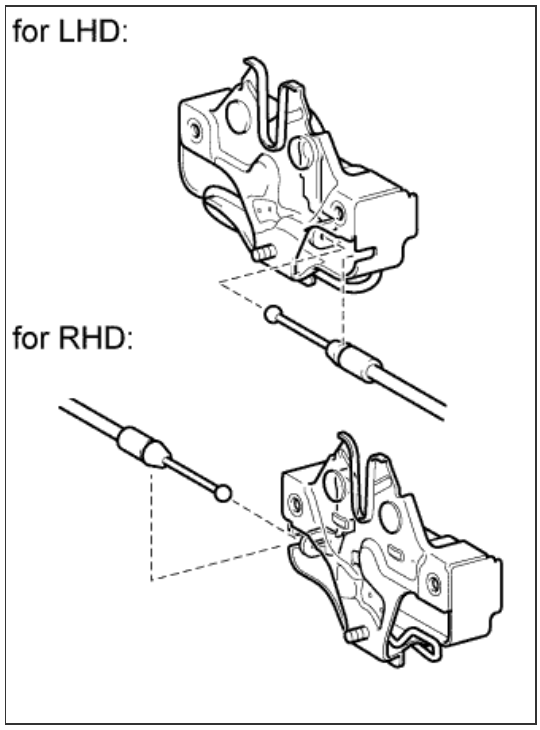
6. INSTALL HOOD LOCK ASSEMBLY

a. Apply MP grease to the sliding areas of the lock.



b. Connect the hood lock control cable.

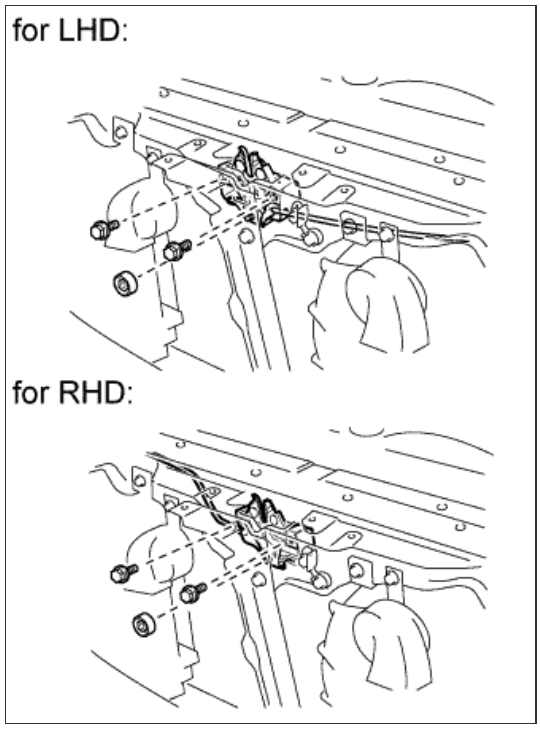
c. Install the hood lock.



d. Install the 2 bolts and nut.

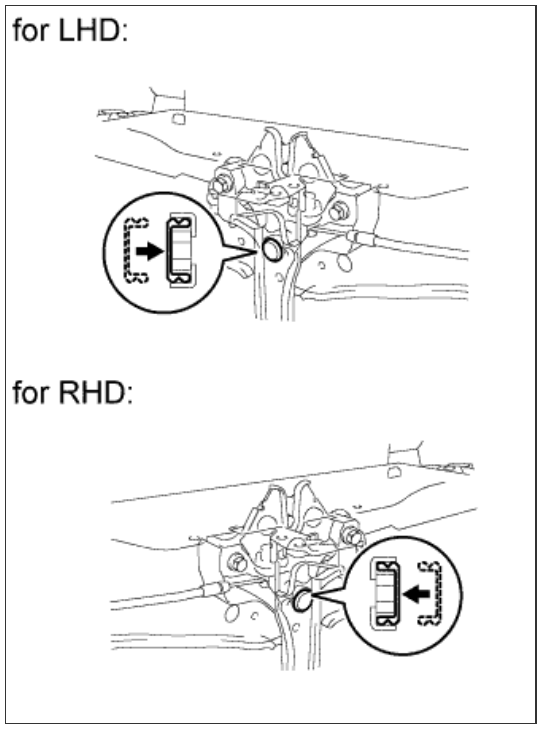
Torque:
5.5 N*m{ 56 kgf*cm , 49 in.*lbf }

e. Connect the connector.



7. INSTALL HOOD LOCK NUT CAP

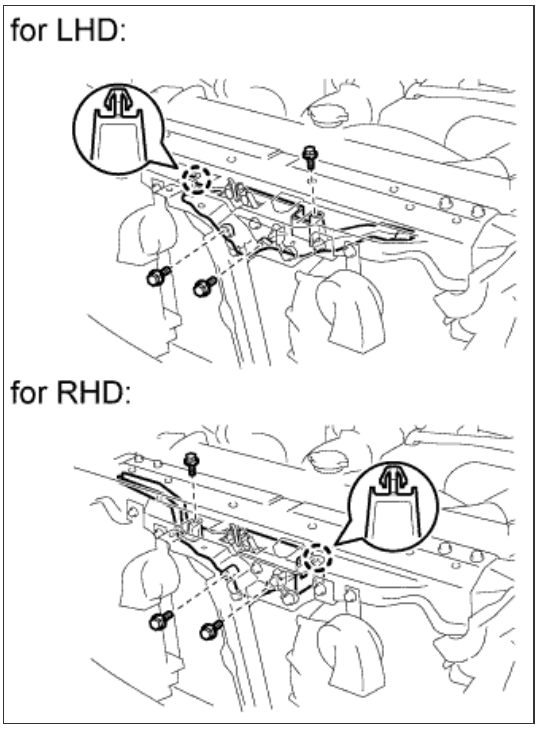
a. Install a new hood lock nut cap.



8. INSTALL HOOD LOCK CONTROL CABLE COVER

a. Attach the claw to install the cable cover.

b. Install the 3 screws.



9. INSTALL MILLIMETER WAVE RADAR SENSOR ASSEMBLY (w/ Dynamic Radar Cruise Control System)

a. Temporarily install the millimeter wave radar sensor assembly with the 3 bolts.

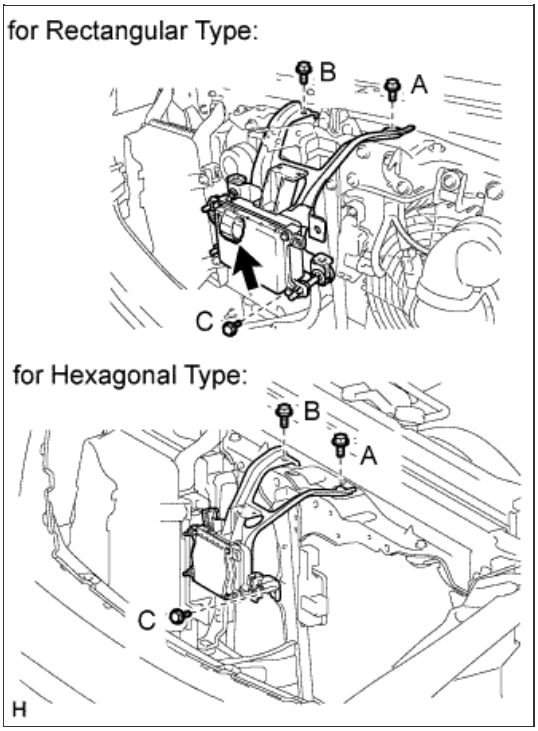
b. Tighten the 3 bolts in alphabetical order.

Torque:
5.5 N*m{ 56 kgf*cm , 49 in.*lbf }

c. Connect the sensor connector.

NOTICE:

Do not use a sensor which has been dropped or subjected to any strong shocks.



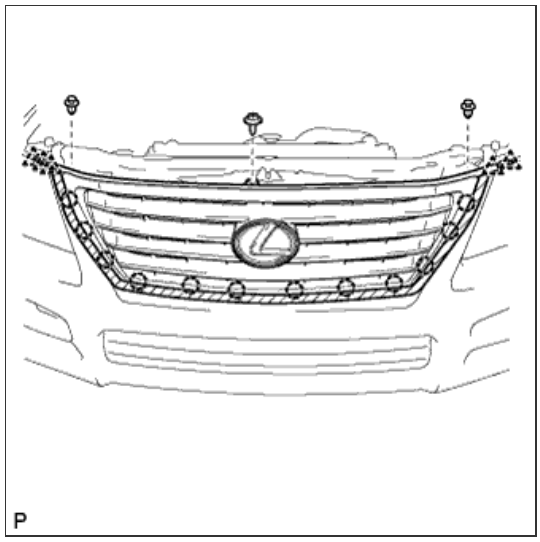
10. INSTALL RADIATOR GRILLE ASSEMBLY

a. w/ Wide View Front Monitor System:
Connect the connector.

b. Attach the 12 claws to install the radiator grille.

c. Attach the 5 clips to install the detached part of the upper radiator seal.

d. Install the screw and 2 clips.

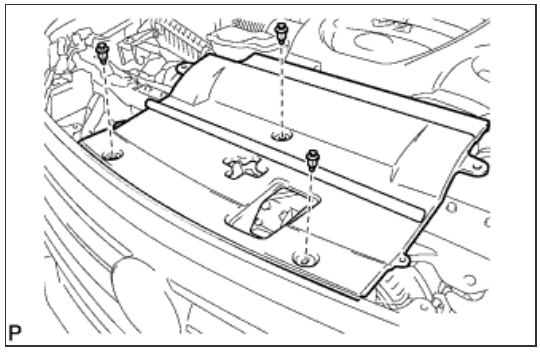


11. ADJUST MILLIMETER WAVE RADAR SENSOR ASSEMBLY (w/ Dynamic Radar Cruise Control System)

a. Adjust the millimeter wave radar sensor assembly (Click here).

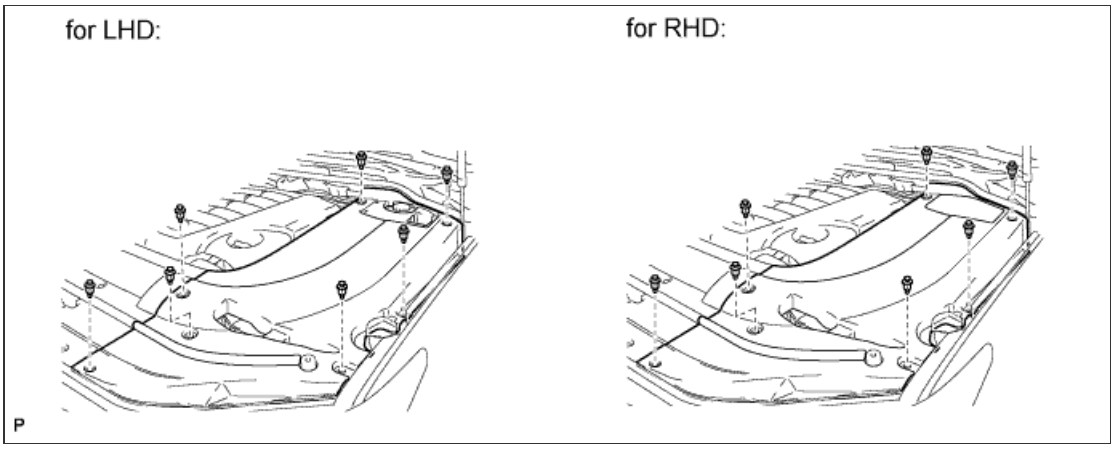
12. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the upper radiator support seal with the 3 clips.



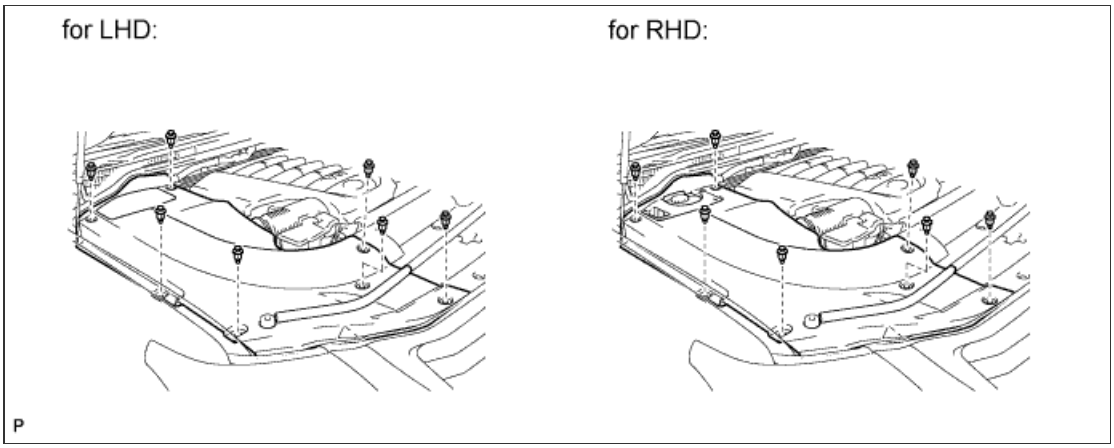
13. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

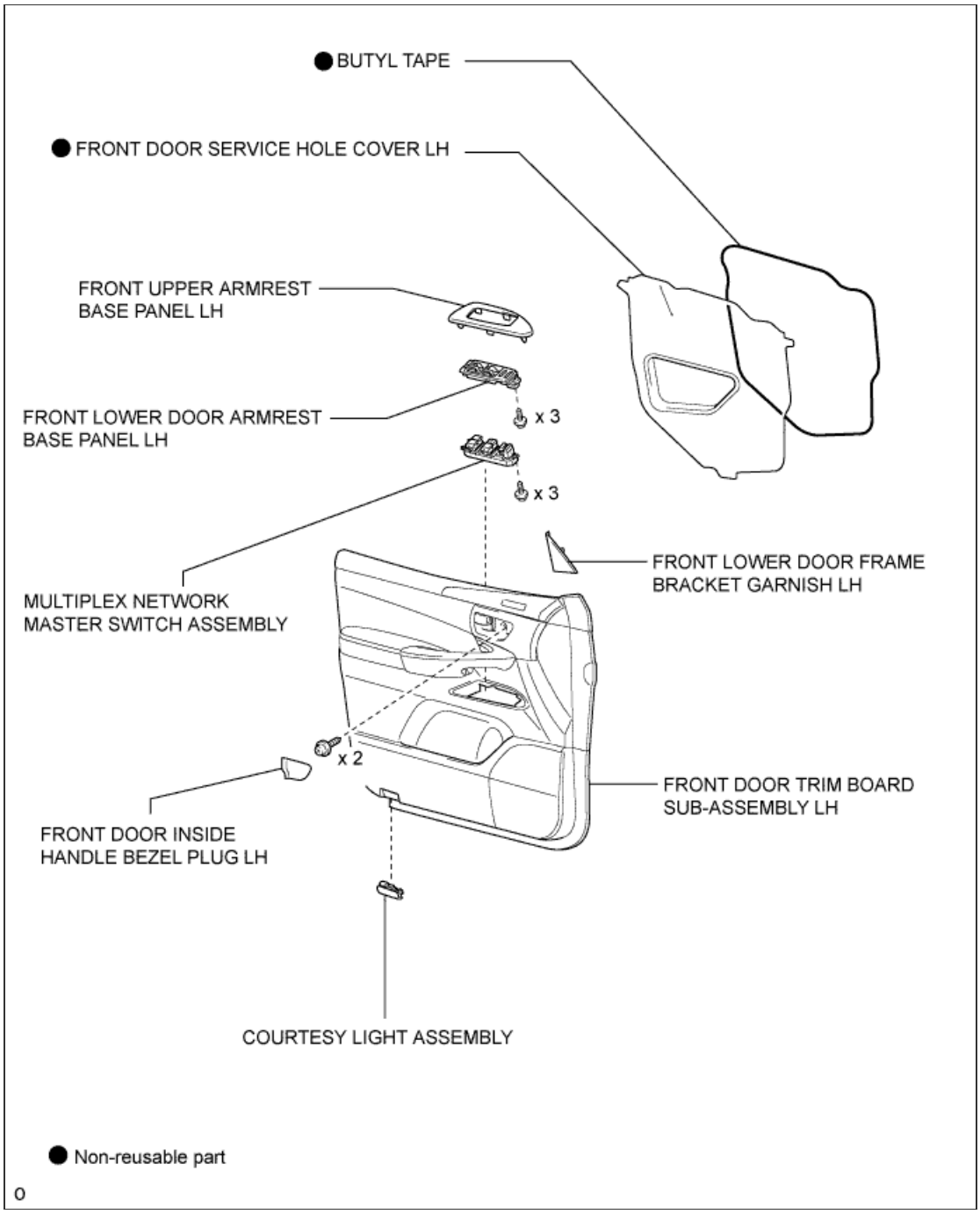


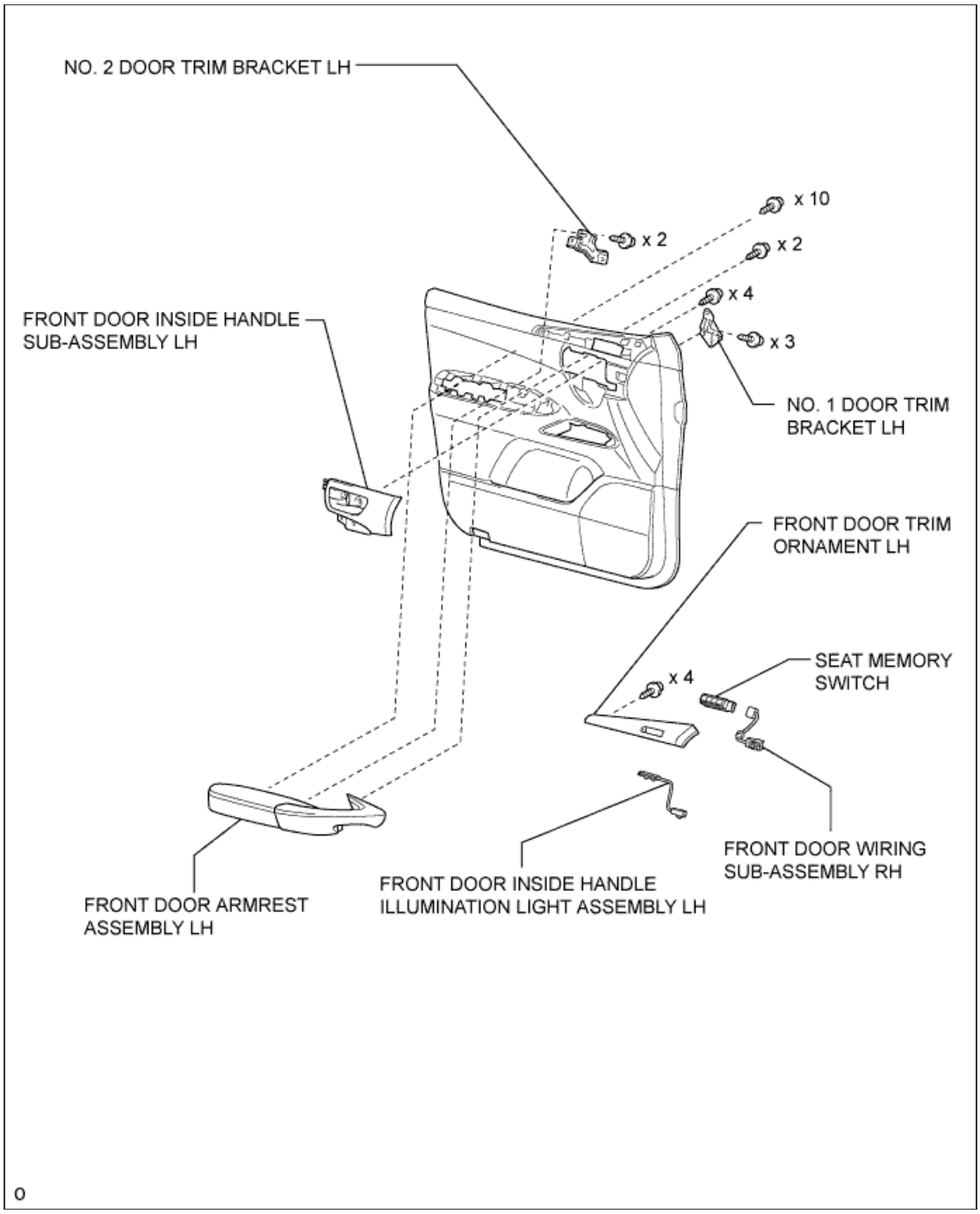
14. INSTALL ENGINE ROOM SIDE COVER RH

a. Install the engine room side cover with the 7 clips.

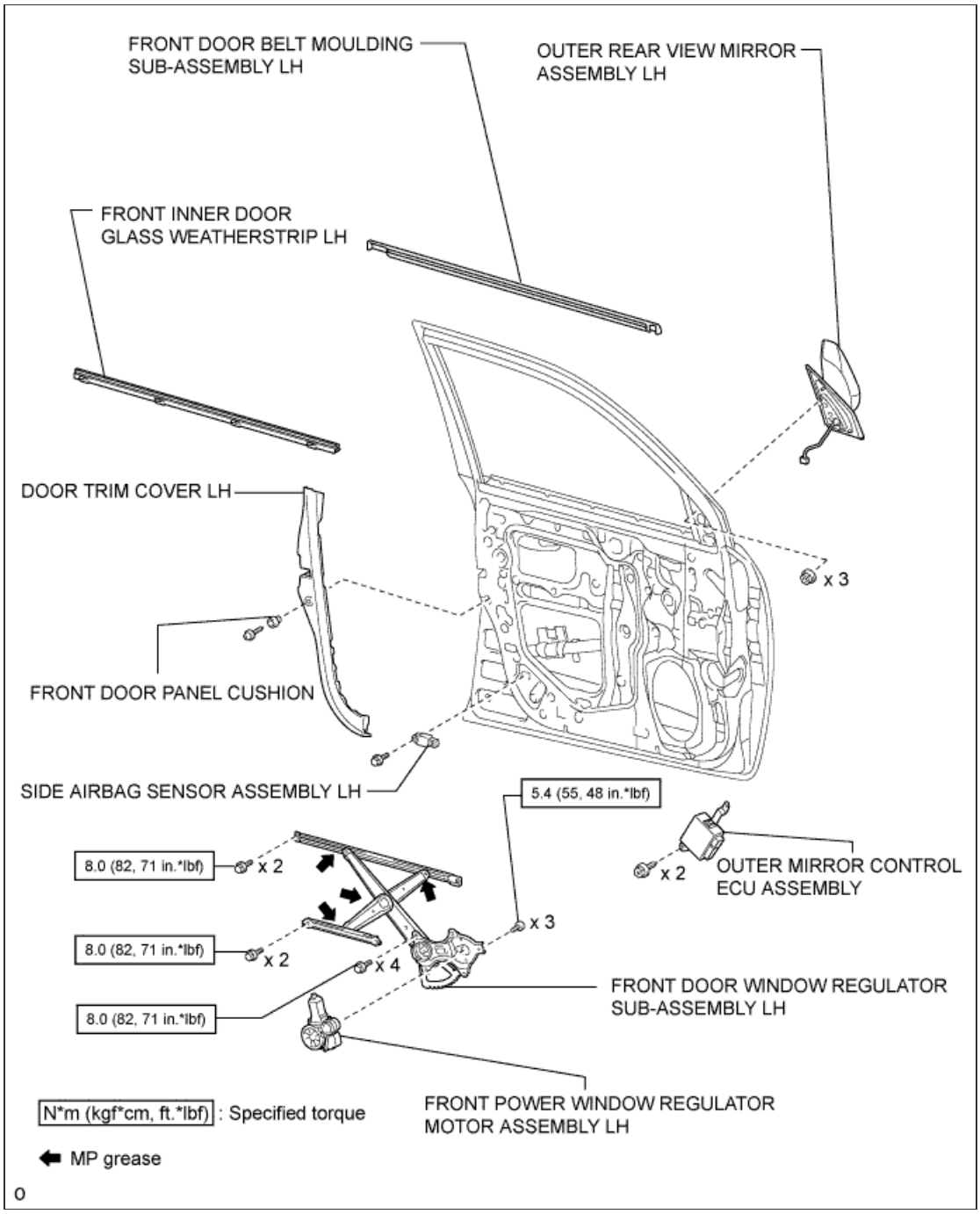


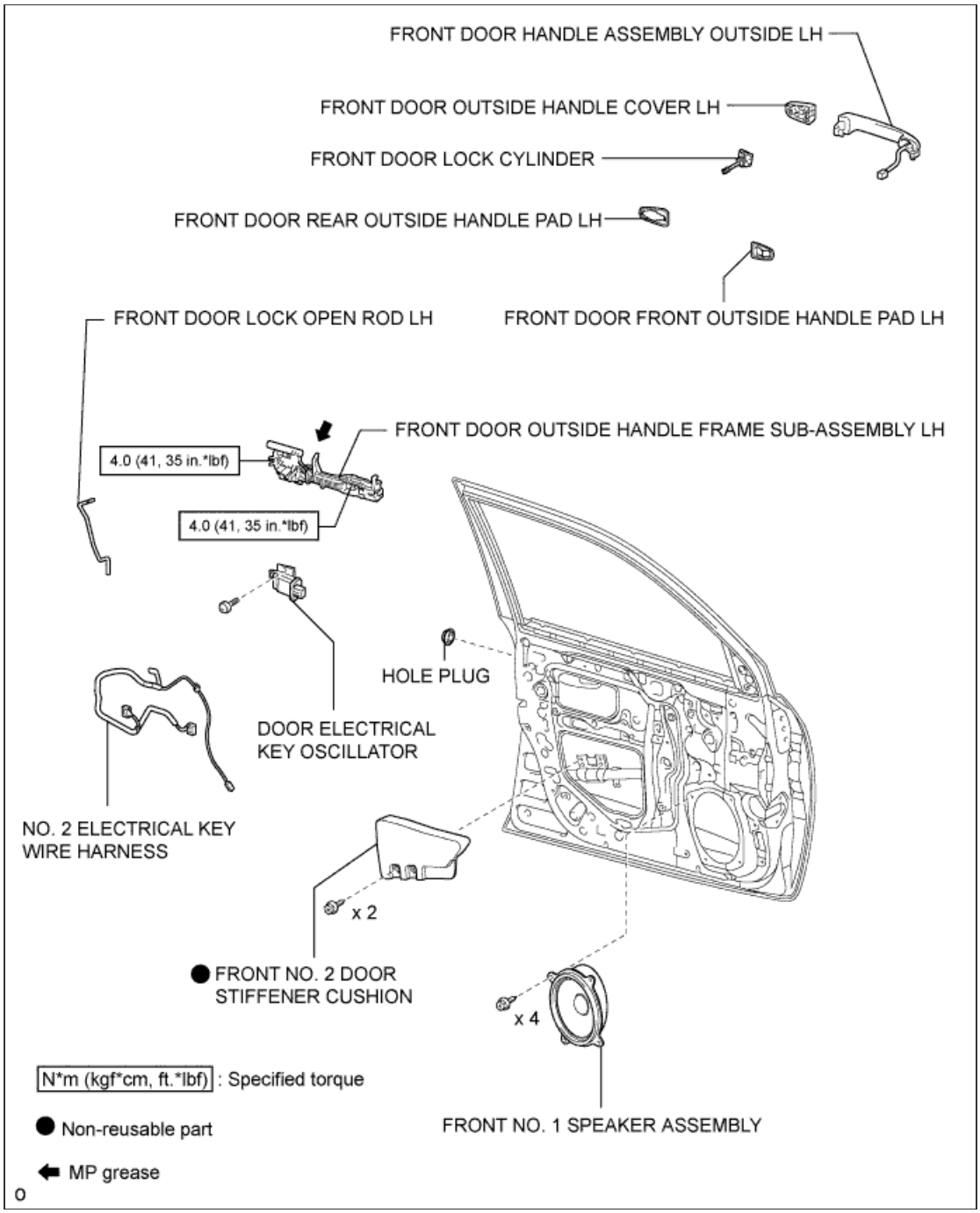
for Preparation Click here

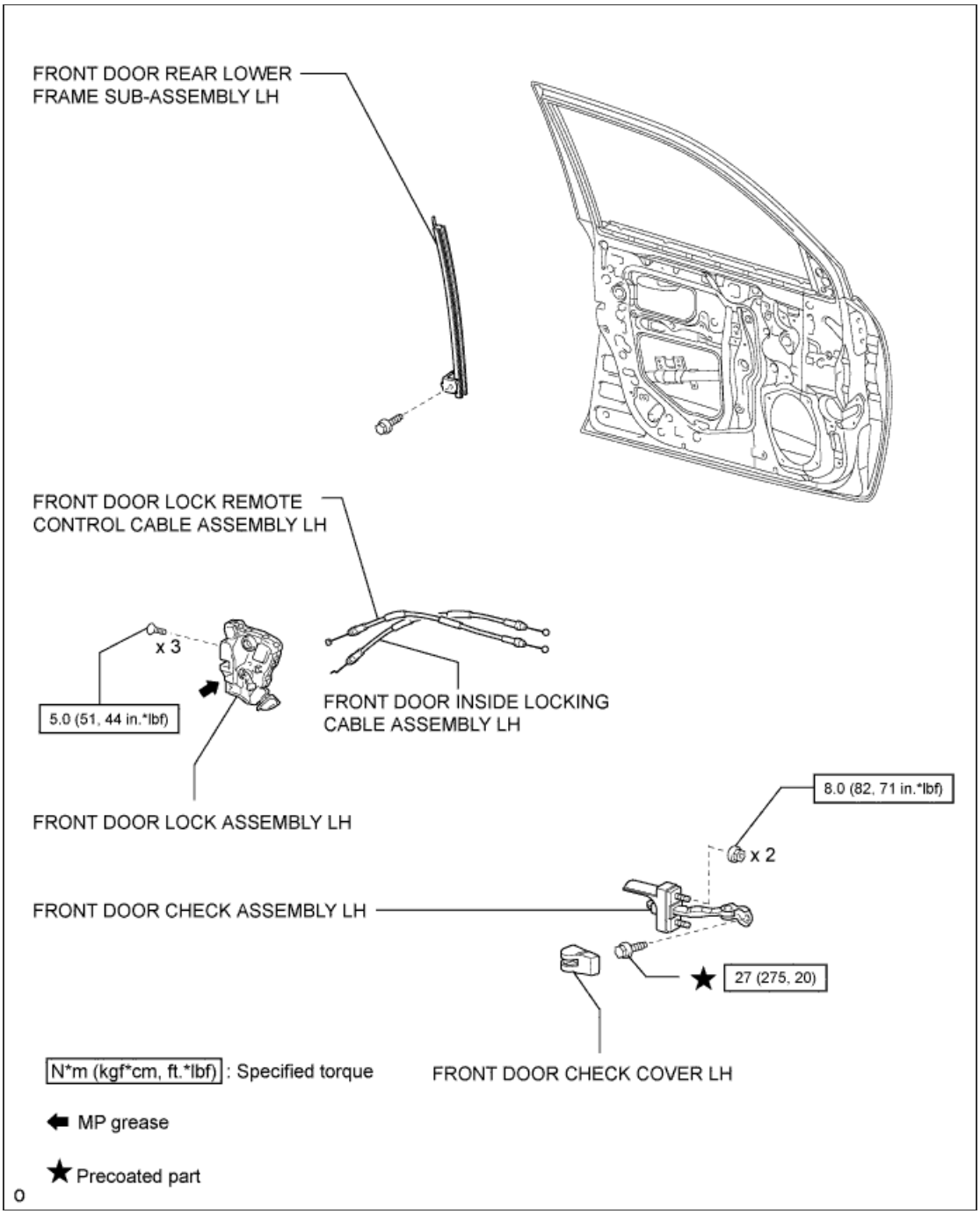


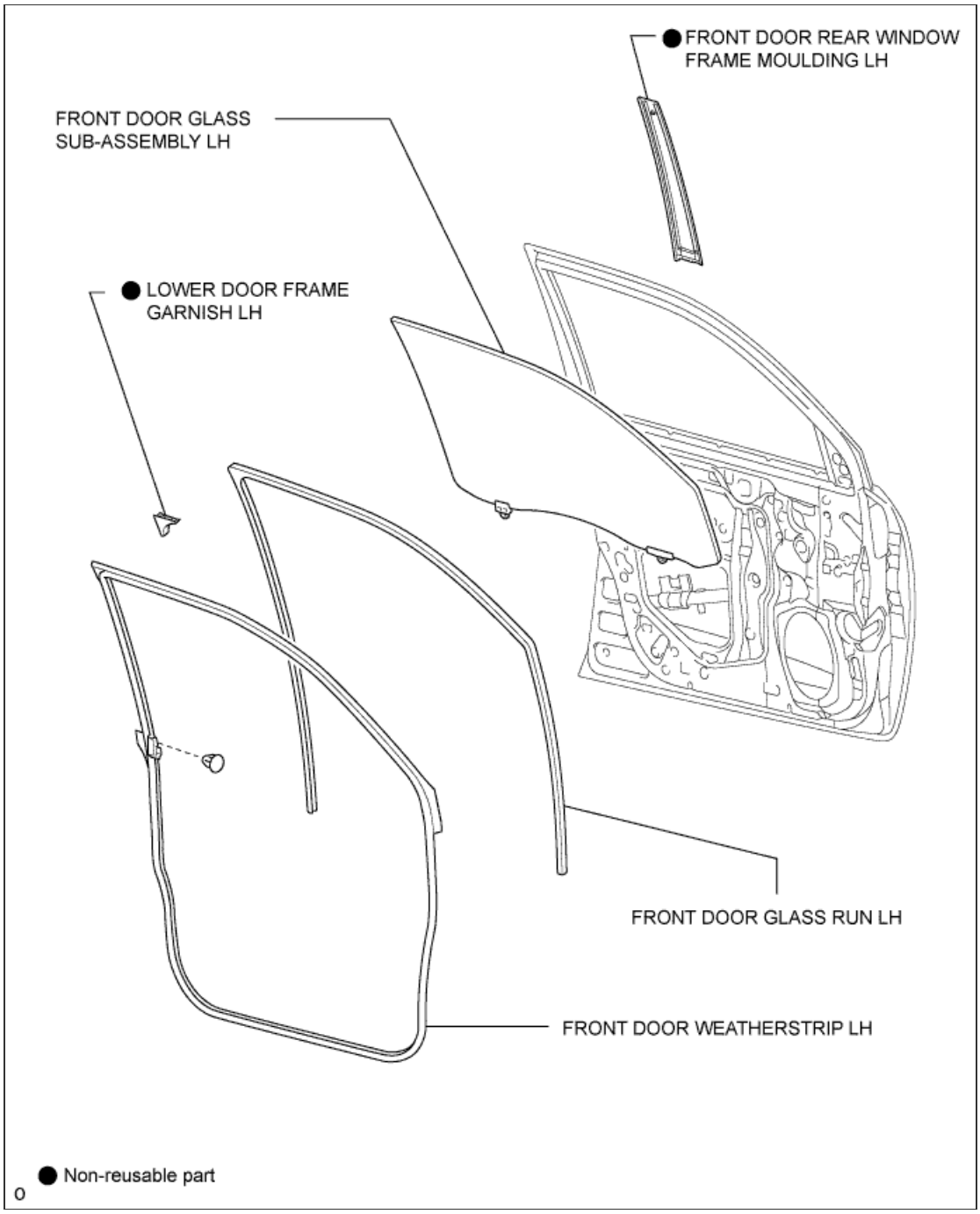

NO. 2 DOOR TRIM BRACKET LH
x 10
x 2
x 2
x 4
x 3
FRONT DOOR INSIDE HANDLE SUB-ASSEMBLY LH
NO. 1 DOOR TRIM BRACKET LH
FRONT DOOR TRIM ORNAMENT LH
x 4
SEAT MEMORY SWITCH
FRONT DOOR WIRING SUB-ASSEMBLY RH
FRONT DOOR ARMREST ASSEMBLY LH
FRONT DOOR INSIDE HANDLE ILLUMINATION LIGHT ASSEMBLY LH

0


FRONT DOOR BELT MOULDING SUB-ASSEMBLY LH
OUTER REAR VIEW MIRROR ASSEMBLY LH
FRONT INNER DOOR GLASS WEATHERSTRIP LH
DOOR TRIM COVER LH
x 3
FRONT DOOR PANEL CUSHION
SIDE AIRBAG SENSOR ASSEMBLY LH
5.4 (55, 48 in.*lbf)
8.0 (82, 71 in.*lbf)
x 2
x 2
OUTER MIRROR CONTROL ECU ASSEMBLY
8.0 (82, 71 in.*lbf)
x 2
x 4
x 3
FRONT DOOR WINDOW REGULATOR SUB-ASSEMBLY LH
8.0 (82, 71 in.*lbf)
FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH
N*m (kgf*cm, ft.*lbf) : Specified torque
MP grease
o


FRONT DOOR HANDLE ASSEMBLY OUTSIDE LH
FRONT DOOR OUTSIDE HANDLE COVER LH
FRONT DOOR LOCK CYLINDER
FRONT DOOR REAR OUTSIDE HANDLE PAD LH
FRONT DOOR FRONT OUTSIDE HANDLE PAD LH
FRONT DOOR LOCK OPEN ROD LH
FRONT DOOR OUTSIDE HANDLE FRAME SUB-ASSEMBLY LH
4.0 (41, 35 in.*lbf)
4.0 (41, 35 in.*lbf)
HOLE PLUG
DOOR ELECTRICAL KEY OSCILLATOR
NO. 2 ELECTRICAL KEY WIRE HARNESS
x 2
FRONT NO. 2 DOOR STIFFENER CUSHION
x 4
FRONT NO. 1 SPEAKER ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
MP grease


FRONT DOOR REAR LOWER FRAME SUB-ASSEMBLY LH
FRONT DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY LH
x 3
5.0 (51, 44 in.*lbf)
FRONT DOOR INSIDE LOCKING CABLE ASSEMBLY LH
FRONT DOOR LOCK ASSEMBLY LH
8.0 (82, 71 in.*lbf)
x 2
FRONT DOOR CHECK ASSEMBLY LH
27 (275, 20)
FRONT DOOR CHECK COVER LH
N*m (kgf*cm, ft.*lbf) : Specified torque
MP grease
Precoated part


● FRONT DOOR REAR WINDOW FRAME MOULDING LH
FRONT DOOR GLASS SUB-ASSEMBLY LH
● LOWER DOOR FRAME GARNISH LH
FRONT DOOR GLASS RUN LH
FRONT DOOR WEATHERSTRIP LH
● Non-reusable part

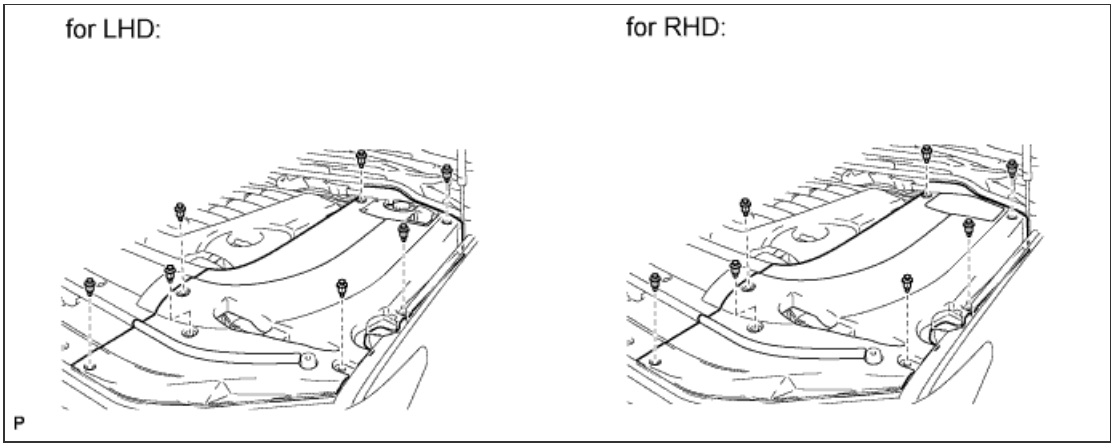
for Preparation Click here

HINT:

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

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

CAUTION:

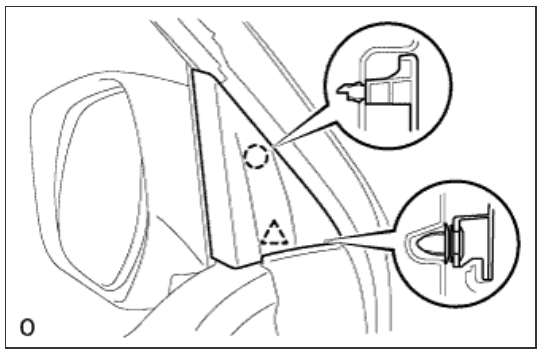
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

NOTICE:

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

3. REMOVE FRONT LOWER DOOR FRAME BRACKET GARNISH LH

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

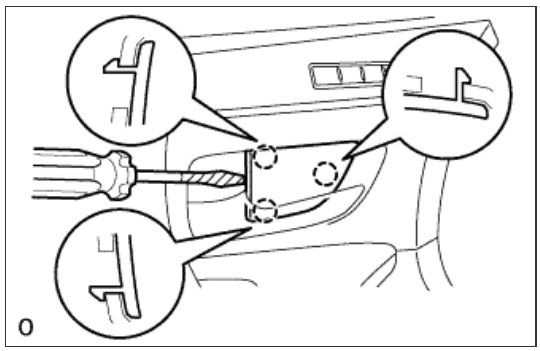


4. REMOVE FRONT DOOR INSIDE HANDLE BEZEL PLUG LH

a. Using a screwdriver, detach the 3 claws and remove the inside handle bezel plug.

HINT:

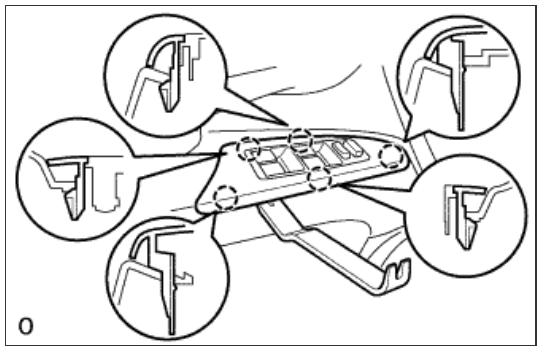
Tape the screwdriver tip before use.



5. REMOVE FRONT UPPER ARMREST BASE PANEL LH

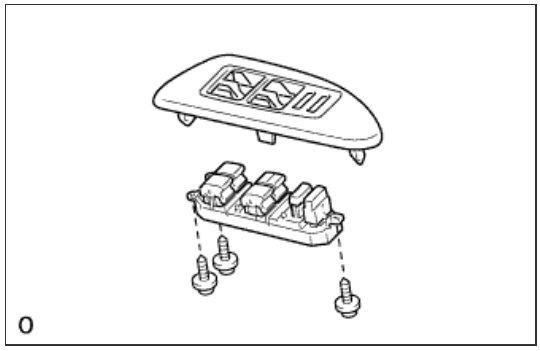
a. Using a moulding remover, detach the 5 claws.

b. Disconnect the connector and remove the front upper armrest base panel and multiplex network master switch.



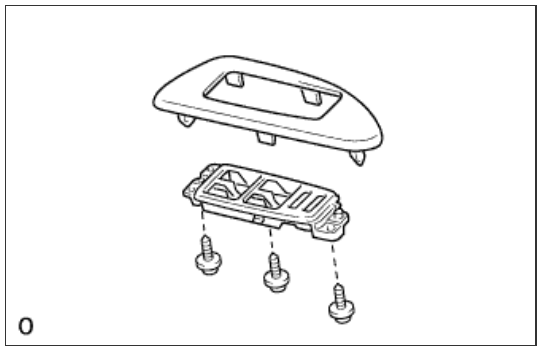
6. REMOVE MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY

a. Remove the 3 screws and multiplex network master switch.



7. REMOVE FRONT LOWER DOOR ARMREST BASE PANEL LH

a. Remove the 3 screws and front lower door armrest base panel LH.

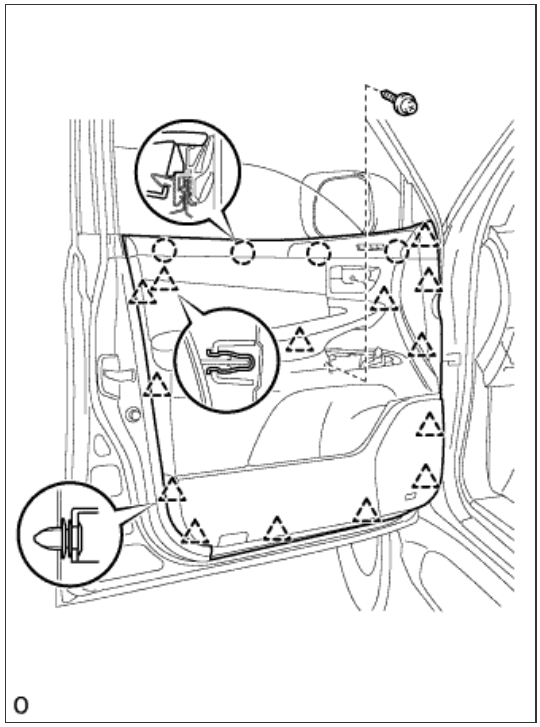


8. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

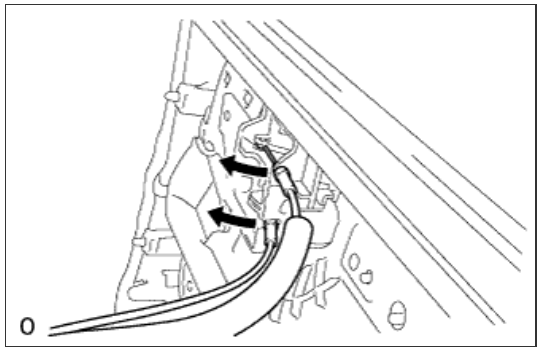
a. Remove the 2 screws.

b. Detach the 14 clips and 4 claws.

c. Disconnect the connector and remove the trim board.



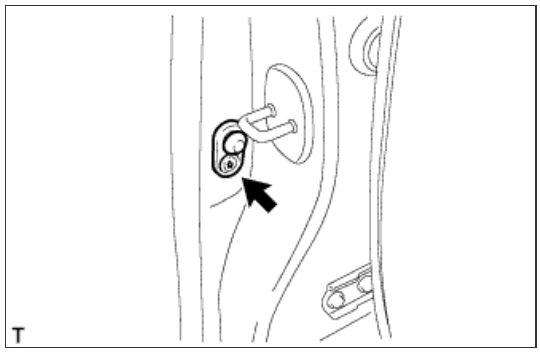
d. Disconnect the 2 cables from the inside handle.



9. REMOVE COURTESY LIGHT ASSEMBLY

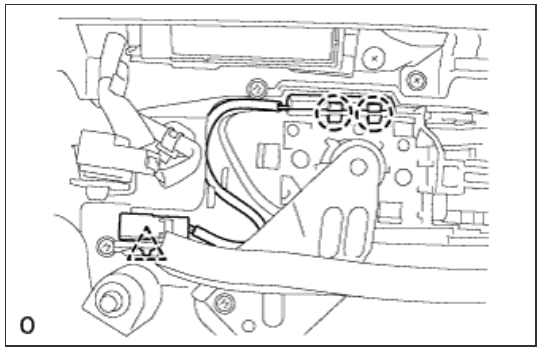
a. Using a T30 "TORX" socket wrench, remove the screw and switch.

b. Disconnect the connector.



10. REMOVE FRONT DOOR INSIDE HANDLE ILLUMINATION LIGHT ASSEMBLY LH

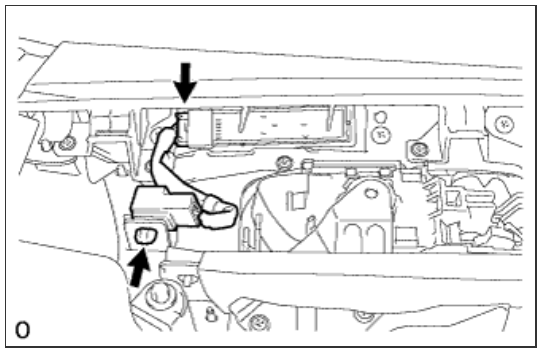
a. Detach the 2 claws and clamp, and remove the light.



11. REMOVE FRONT DOOR WIRING SUB-ASSEMBLY RH

a. Disconnect the connector.

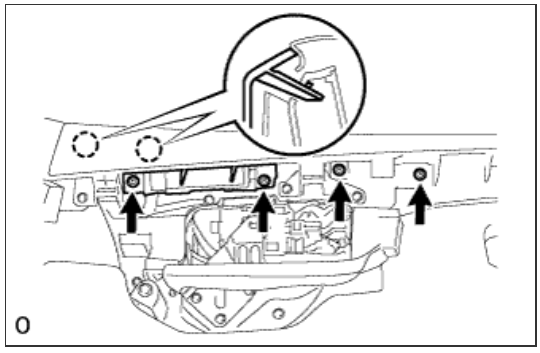
b. Detach the clamp and remove the front door wiring sub-assembly RH.



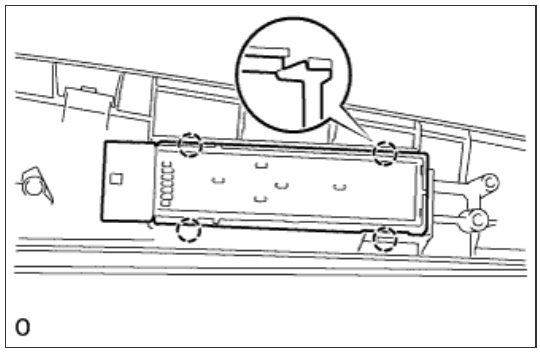
12. REMOVE SEAT MEMORY SWITCH

a. Remove the 4 screws.

b. Detach the 2 claws and remove the front door trim ornament LH from the front door trim board.

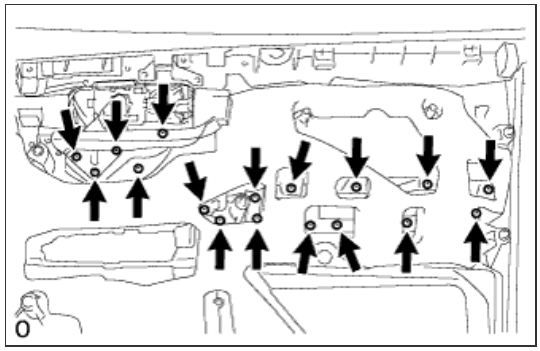


c. Detach the 4 claws and remove the seat memory switch.

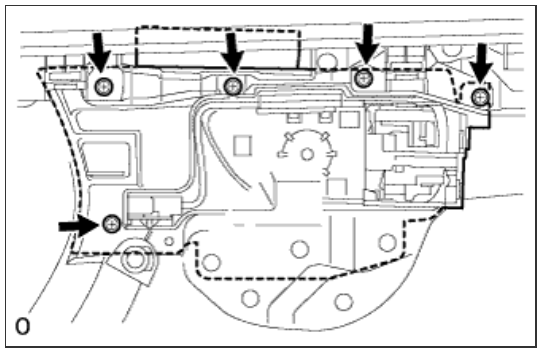


13. REMOVE FRONT DOOR INSIDE HANDLE SUB-ASSEMBLY LH

a. Remove the 17 screws and front door armrest assembly LH.



b. Remove the 5 screws and inside handle.



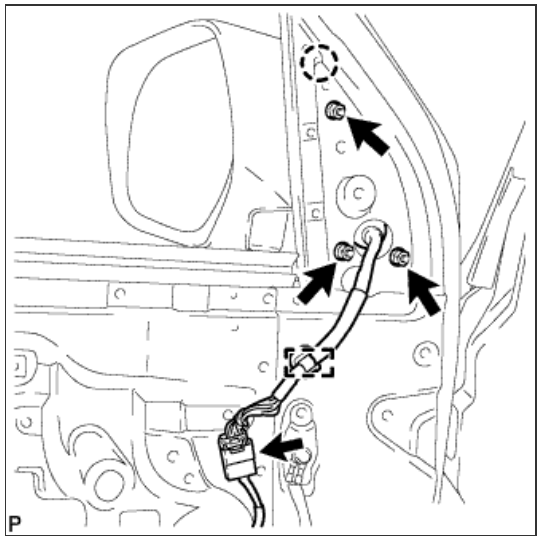
14. REMOVE OUTER REAR VIEW MIRROR ASSEMBLY LH

a. Disconnect the connector.

b. Detach the clamp.

c. Remove the 3 nuts.

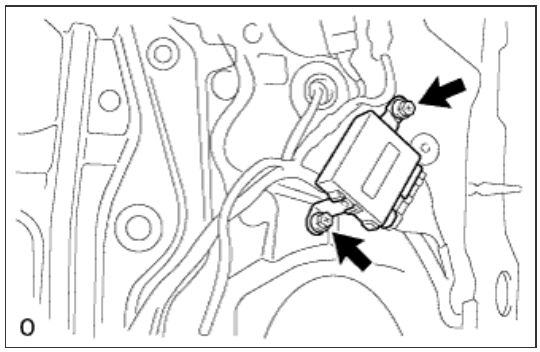
d. Detach the claw and remove the mirror.



15. REMOVE OUTER MIRROR CONTROL ECU ASSEMBLY

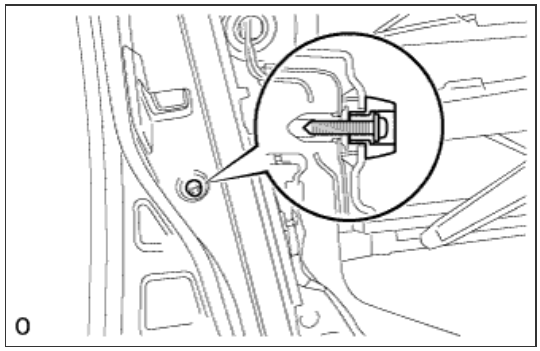
a. Disconnect the 2 connectors.

b. Remove the 2 screws and outer mirror control ECU.



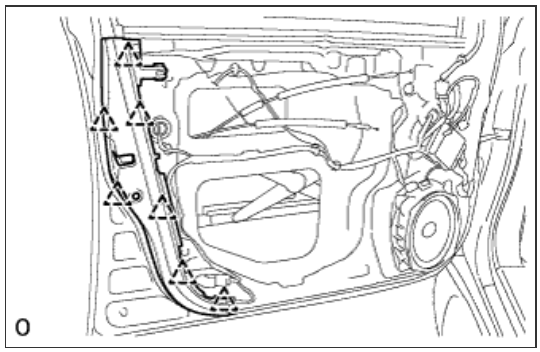
16. REMOVE FRONT DOOR PANEL CUSHION

a. Remove the screw and front door panel cushion.



17. REMOVE DOOR TRIM COVER LH

a. Using a clip remover, detach the 7 clips and remove the door trim cover.



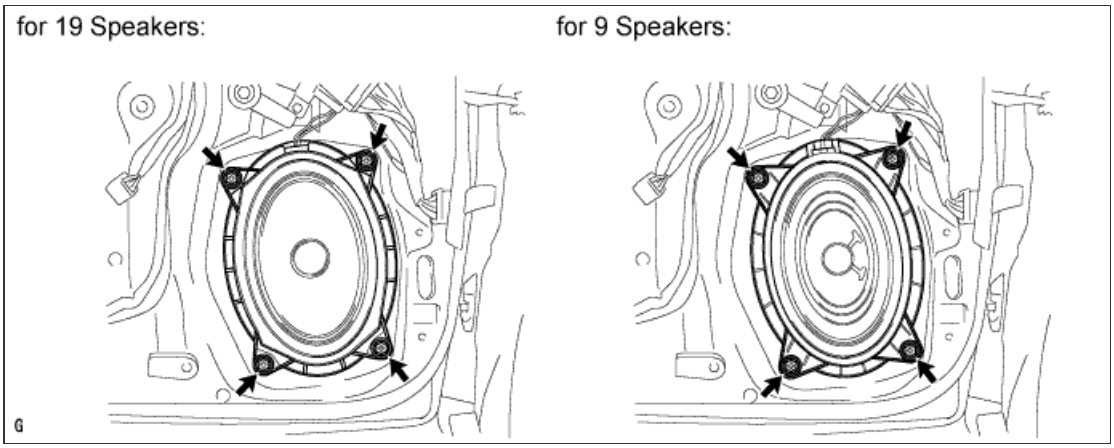
18. REMOVE FRONT NO. 1 SPEAKER ASSEMBLY

a. Disconnect the speaker connector.

b. Remove the 4 screws and speaker.

NOTICE:

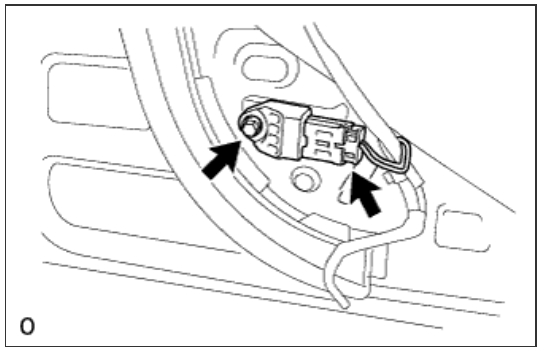
Do not touch the cone part of the speaker.



19. REMOVE SIDE AIRBAG SENSOR ASSEMBLY LH

a. Disconnect the connector.

b. Remove the bolt and side airbag sensor.



20. REMOVE FRONT DOOR SERVICE HOLE COVER LH

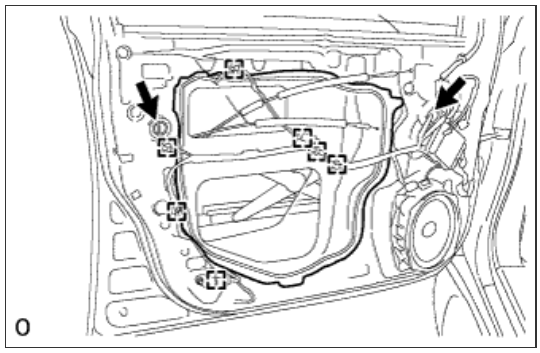
a. Using a clip remover, detach the 7 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the service hole cover.

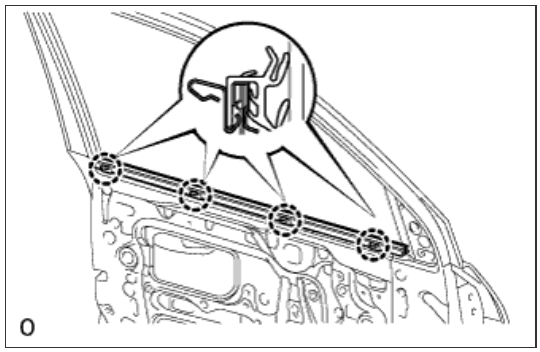
HINT:

Remove the remaining tape on the door.



21. REMOVE FRONT INNER DOOR GLASS WEATHERSTRIP LH

a. Detach the 4 claws by pulling the weatherstrip upward to remove the weatherstrip.



22. REMOVE FRONT DOOR GLASS SUB-ASSEMBLY LH

a. for Driver Side:
Temporarily install the multiplex network master switch.

b. for Passenger Side:
Temporarily install the power window regulator switch assembly.

c. Connect the cable to the negative (-) battery terminal.

d. Move the door glass until the bolts appear in the service holes.

e. Disconnect the cable from the negative (-) battery terminal.

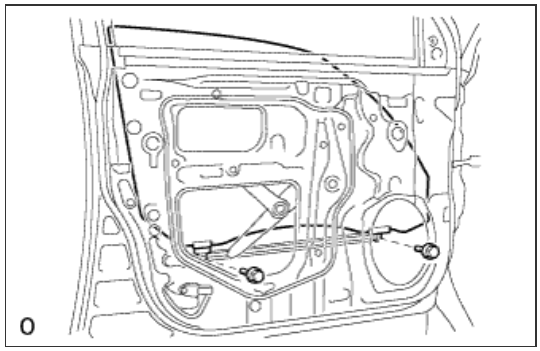
NOTICE:

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

f. Remove the 2 bolts.

NOTICE:

Be careful when removing the bolts as the glass may fall and become damaged.



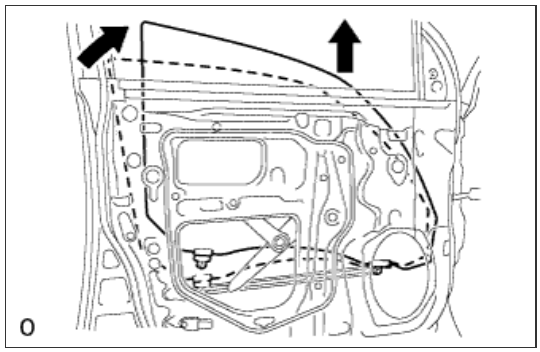
g. Remove the door glass in the direction indicated by the arrows in the illustration.

HINT:

Remove the glass upward.

NOTICE:

Be careful not to damage the glass.

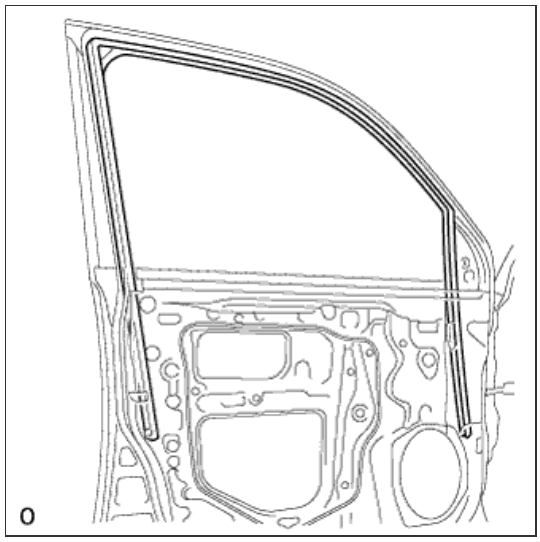


h. for Driver Side:
Remove the multiplex network master switch.

i. for Passenger Side:
Remove the power window regulator switch assembly.

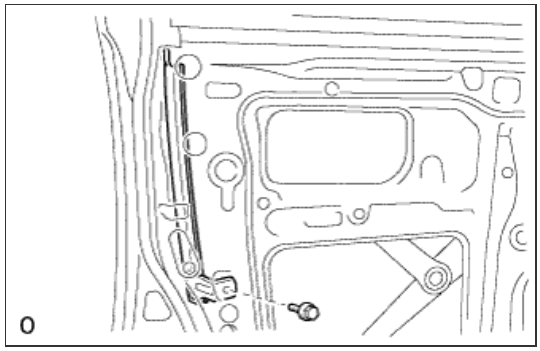
23. REMOVE FRONT DOOR GLASS RUN LH

a. Remove the front door glass run.



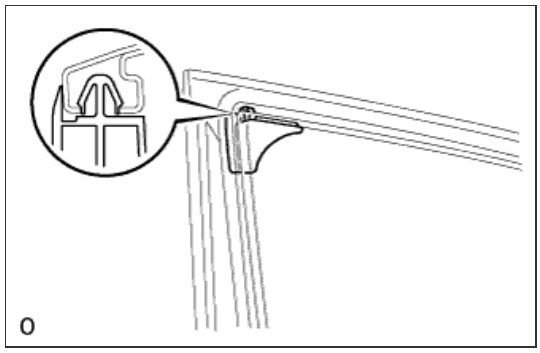
24. REMOVE FRONT DOOR REAR LOWER FRAME SUB-ASSEMBLY LH

a. Remove the bolt and rear lower frame.



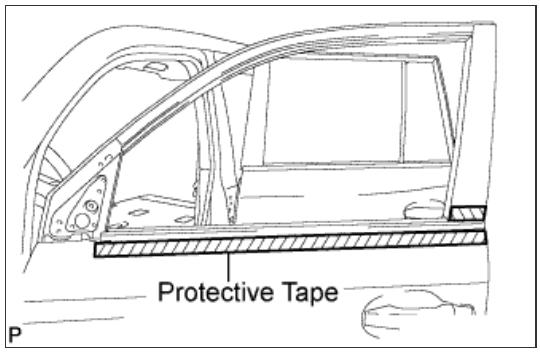
25. REMOVE LOWER DOOR FRAME GARNISH LH

a. Detach the clip and remove the lower door frame garnish.

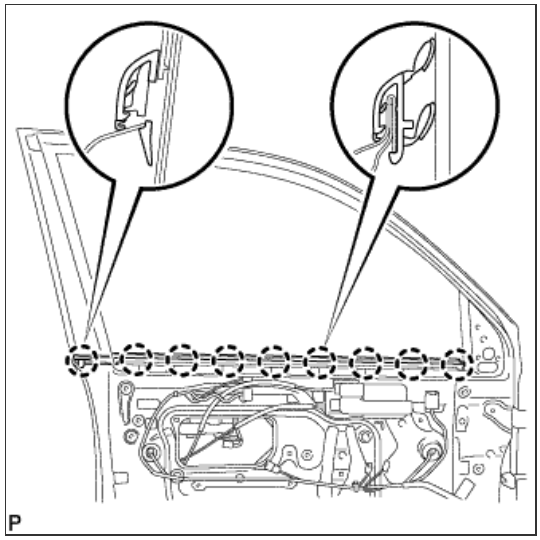


26. REMOVE FRONT DOOR BELT MOULDING SUB-ASSEMBLY LH

a. Put protective tape around the belt moulding.



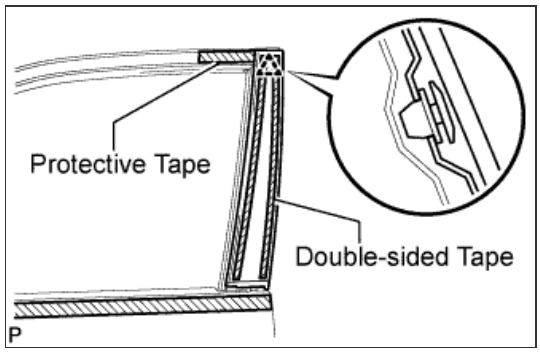
b. Detach the claw and remove the belt moulding.



27. REMOVE FRONT DOOR REAR WINDOW FRAME MOULDING LH

a. Put protective tape around the window frame moulding.

b. Detach the clip and remove the double-sided tape to remove the window frame moulding.



28. REMOVE FRONT DOOR WINDOW REGULATOR SUB-ASSEMBLY LH

a. Loosen the temporary bolt.

b. Remove the 5 bolts.

NOTICE:

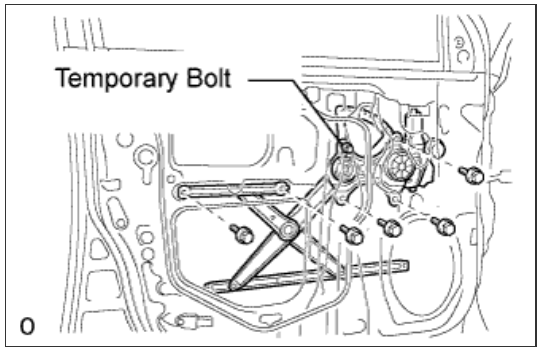
Be careful when removing the bolts as the window regulator may fall and become damaged.

c. Remove the front door window regulator sub-assembly and the front power window regulator motor assembly as a unit.

HINT:

Remove the window regulator through the service hole.

d. Remove the temporary bolt from the front door window regulator sub-assembly.

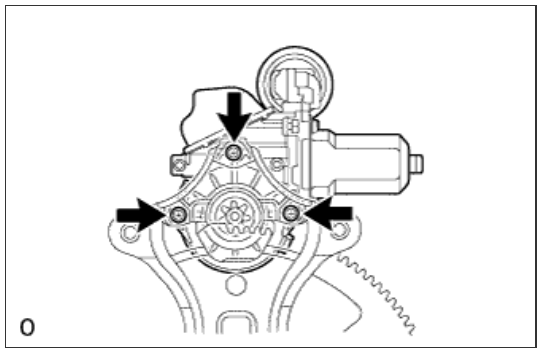


29. REMOVE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH

a. Using a T25 "TORX" driver, remove the 3 screws and motor.

NOTICE:

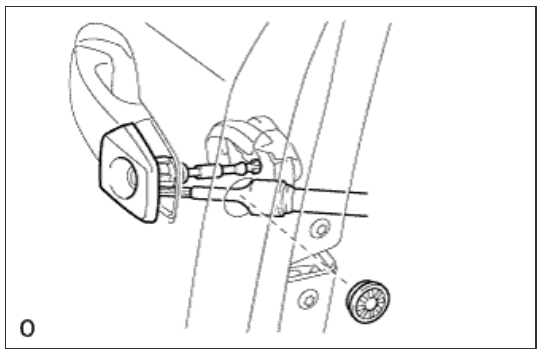
Be careful when removing the screws as the motor may fall and become damaged.



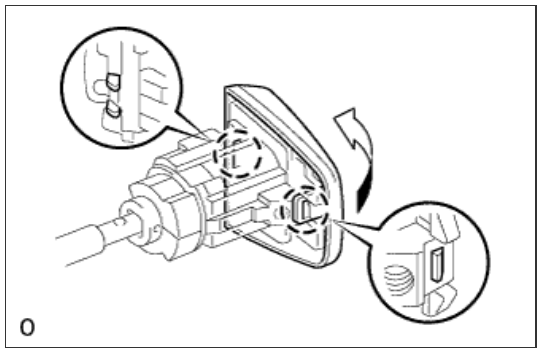
30. REMOVE FRONT DOOR OUTSIDE HANDLE COVER LH

a. Remove the hole plug.

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



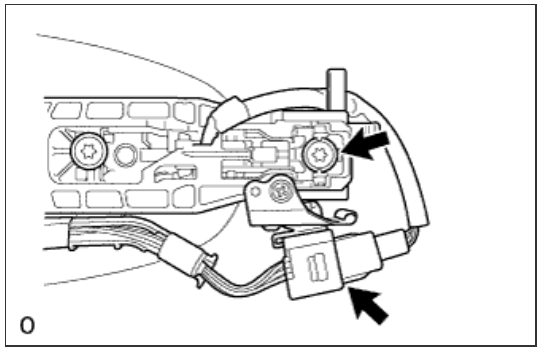
c. Detach the 2 claws and remove the front door outside handle cover.



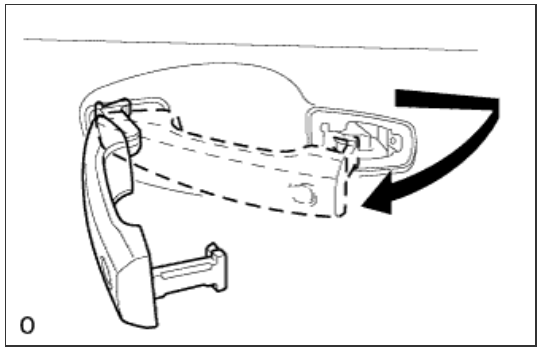
31. REMOVE FRONT DOOR HANDLE ASSEMBLY OUTSIDE LH

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.

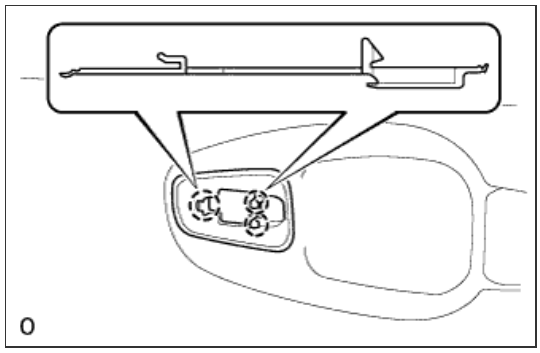


NOTICE:

If the release plate is not pulled and held when removing the handle, the release plate will interfere with the handle and become damaged.

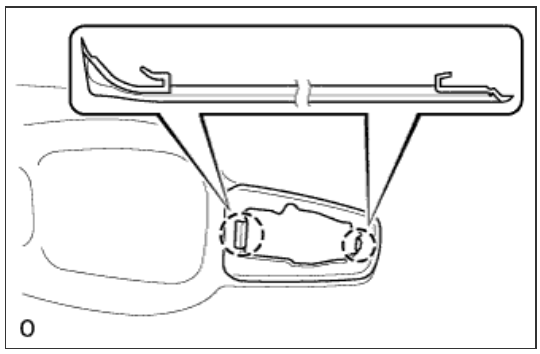
32. REMOVE FRONT DOOR FRONT OUTSIDE HANDLE PAD LH

a. Detach the 3 claws and remove the pad.



33. REMOVE FRONT DOOR REAR OUTSIDE HANDLE PAD LH

a. Detach the 2 claws and remove the pad.



34. REMOVE FRONT DOOR LOCK ASSEMBLY LH

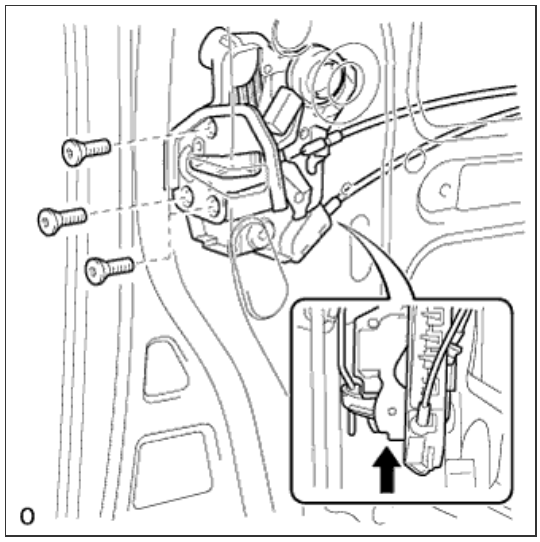
a. Using a T30 "TORX" wrench, remove the 3 screws.

HINT:

Remove the door lock through the service hole.

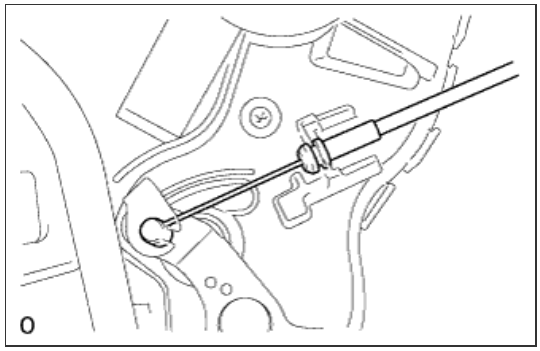
NOTICE:

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



35. REMOVE FRONT DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY LH

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

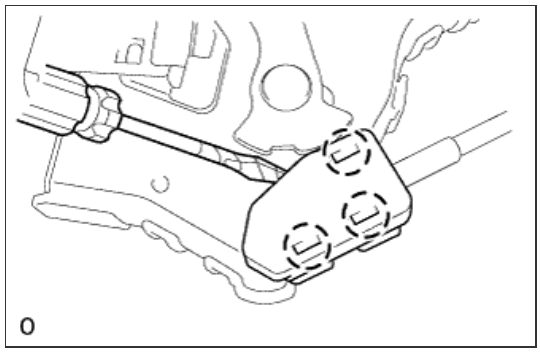


36. REMOVE FRONT DOOR INSIDE LOCKING CABLE ASSEMBLY LH

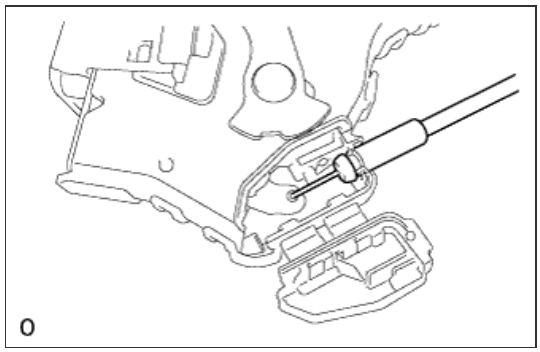
a. Using a screwdriver, detach the 3 claws.

HINT:

Tape the screwdriver tip before use.

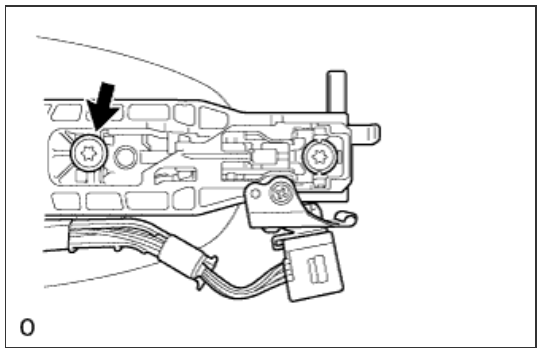


b. Remove the front door inside locking cable assembly.



37. REMOVE FRONT DOOR OUTSIDE HANDLE FRAME SUB-ASSEMBLY LH

a. Using a T30 "TORX" wrench, loosen the screw.

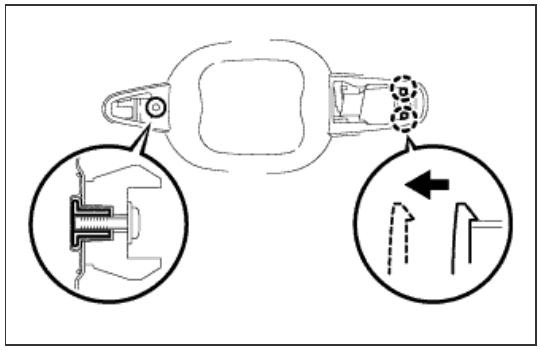


b. Detach the 2 claws. Slide the outside handle frame and No. 2 electrical key wire harness to remove them.

HINT:

Remove the outside handle frame through the service hole.

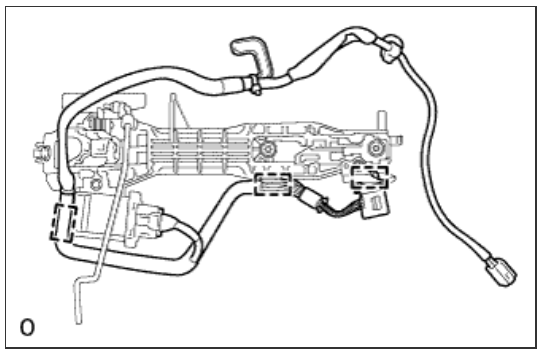
c. Remove the lock open rod from the outside handle frame.



38. REMOVE NO. 2 ELECTRICAL KEY WIRE HARNESS

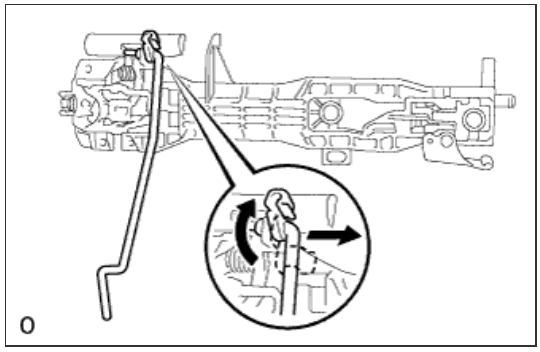
a. Disconnect the connector.

b. Detach the 3 clamps and remove the wire harness from the frame.



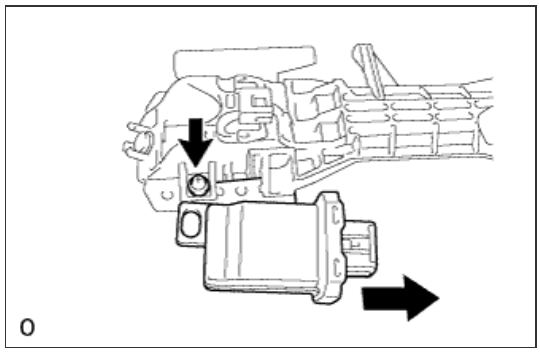
39. REMOVE FRONT DOOR LOCK OPEN ROD LH

a. Remove the front door lock open rod.



40. REMOVE DOOR ELECTRICAL KEY OSCILLATOR

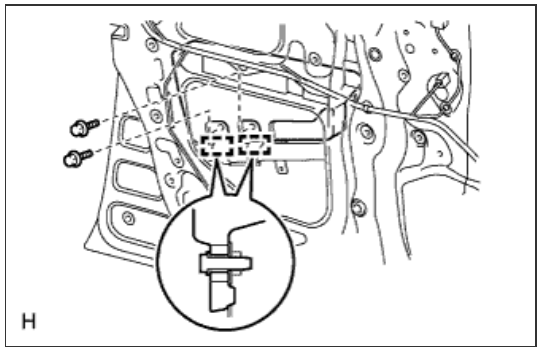
a. Remove the screw and door electrical key oscillator.



41. REMOVE FRONT NO. 2 DOOR STIFFENER CUSHION

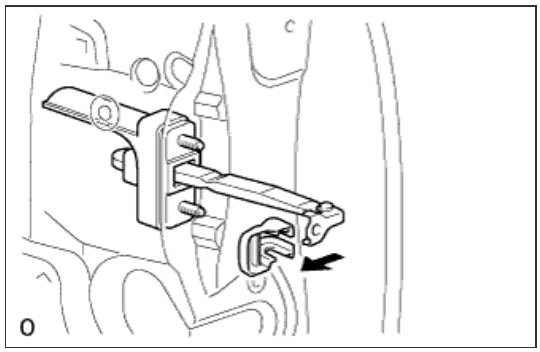
a. Remove the 2 bolts.

b. Detach the 2 clamps and remove the door stiffener cushion.



42. REMOVE FRONT DOOR CHECK COVER LH

a. Remove the cover.



43. REMOVE FRONT DOOR CHECK ASSEMBLY LH

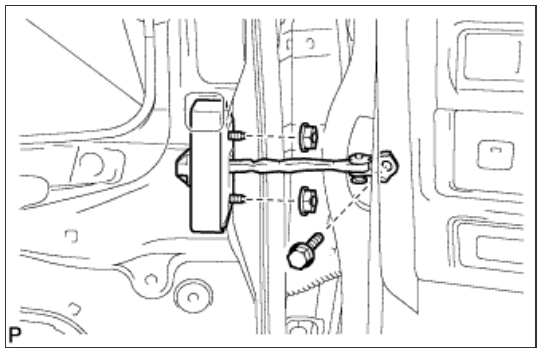
a. Remove the bolt, 2 nuts and door check.

HINT:

Remove the door check through the service hole.

NOTICE:

Be careful when removing the bolt and nuts as the door check may fall and become damaged.

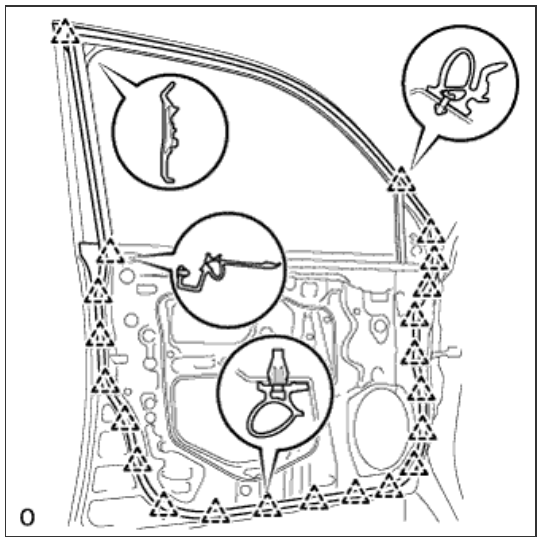


44. REMOVE FRONT DOOR WEATHERSTRIP LH

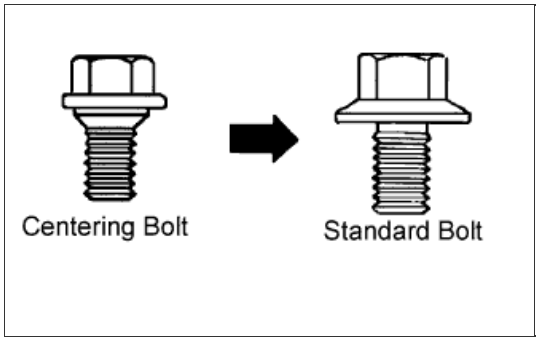
a. Using a clip remover, detach the 22 clips and remove the weatherstrip.

HINT:

If clips are damaged during removal, replace them.



for Preparation Click here

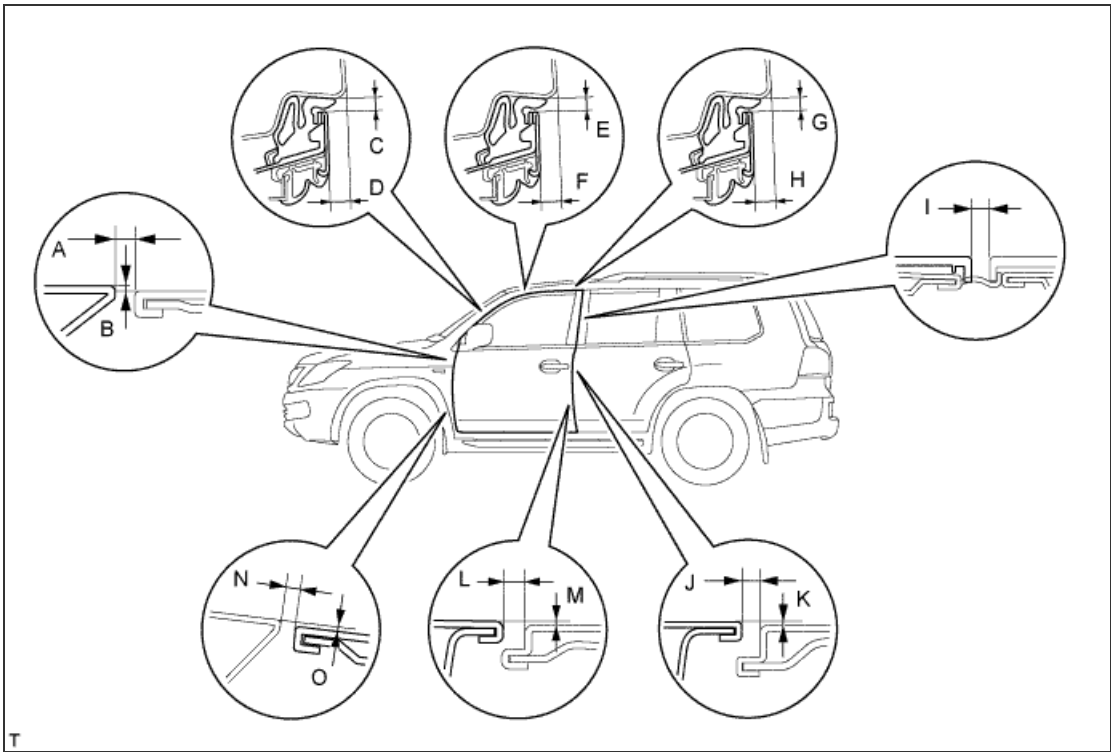


HINT:

- **Before adjusting the door position for vehicles equipped with side airbags and curtain shield airbags, be sure to disconnect the cable from the negative (-) battery terminal.**
- **Use the same procedures for the RH side and LH side.**
- **The procedures listed below are for the LH side.**
- **Centering bolts are used to mount the door hinge to the vehicle body and door. The door cannot be adjusted with the centering bolts on. Substitute the centering bolts with standard bolts (with washers) when making adjustments.**
- **A bolt without a torque specification is shown in the standard bolt chart (Click here).**

1. INSPECT FRONT DOOR

a. Check that the clearance measurements of areas A to O are within the standard range.



Standard:

Area	Specified Condition	Area	Specified Condition
A	2.2 to 5.2 mm (0.087 to 0.205	I	3.5 to 6.5 mm (0.138 to 0.256

	in.)		in.)
B	-1.5 to 1.5 mm (-0.0591 to 0.0591 in.)	J	2.5 to 5.5 mm (0.0984 to 0.217 in.)
C	3.3 to 6.3 mm (0.130 to 0.248 in.)	K	-1.5 to 1.5 mm (-0.0591 to 0.0591 in.)
D	6.0 to 9.0 mm (0.236 to 0.354 in.)	L	2.5 to 5.5 mm (0.0984 to 0.217 in.)
E	3.4 to 6.4 mm (0.134 to 0.252 in.)	M	-1.5 to 1.5 mm (-0.0591 to 0.0591 in.)
F	6.9 to 9.9 mm (0.272 to 0.390 in.)	N	2.2 to 5.2 mm (0.0866 to 0.205 in.)
G	3.4 to 6.4 mm (0.134 to 0.252 in.)	O	-1.5 to 1.5 mm (-0.0591 to 0.0591 in.)
H	6.6 to 9.6 mm (0.260 to 0.378 in.)	-	-

2. ADJUST FRONT DOOR

a. 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).

b. Using SST, loosen the body hinge bolts and adjust the door position.

SST
09812-00010

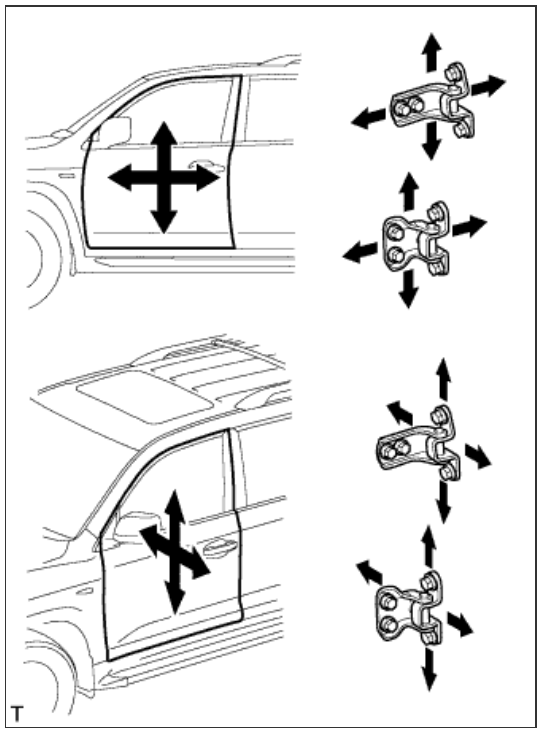
c. Using SST, tighten the body hinge bolts after the adjustment.

Torque:
26 N*m{ 265 kgf*cm , 19 ft.*lbf }

d. Loosen the door hinge bolts and adjust the door position.

e. Tighten the door hinge bolts after the adjustment.

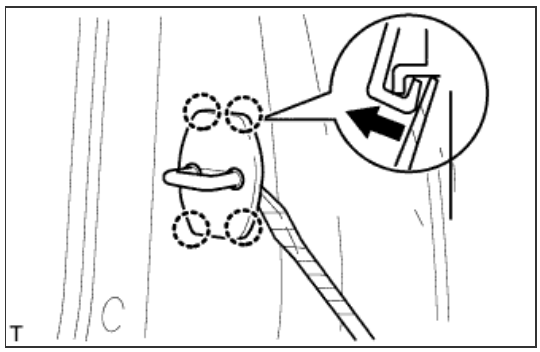
Torque:
26 N*m{ 265 kgf*cm , 19 ft.*lbf }



f. Using a screwdriver, detach the 4 claws and remove the cover.

HINT:

Tape the screwdriver tip before use.

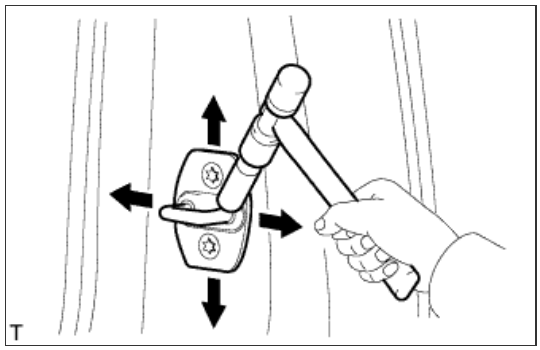


g. Using a T40 "TORX" socket, adjust the striker position by slightly loosening the striker mounting screws and hitting the striker with a plastic-faced hammer.

h. Using a T40 "TORX" socket, tighten the striker mounting screws after the adjustment.

Torque:

23 N*m{ 235 kgf*cm , 17 ft.*lbf }



i. Attach the 4 claws to install the cover.

j. 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).

k. Check the SRS warning light (Click here).

for Preparation Click here

HINT:

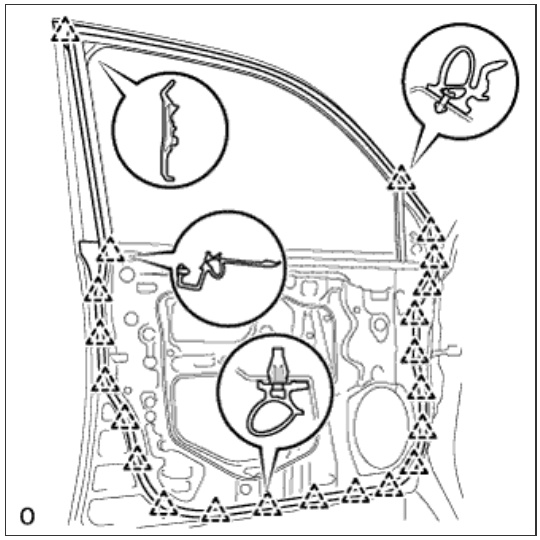
- **Use the same procedures for the RH side and LH side.**
- **The procedures listed below are for the LH side.**

1. INSTALL FRONT DOOR WEATHERSTRIP LH

a. Attach the 22 clips to install the weatherstrip.

HINT:

If clips are damaged during installation, replace them.



2. INSTALL FRONT DOOR CHECK ASSEMBLY LH

a. Apply MP grease to the sliding areas of the door check.

b. Install the door check to the door panel with the 2 nuts.

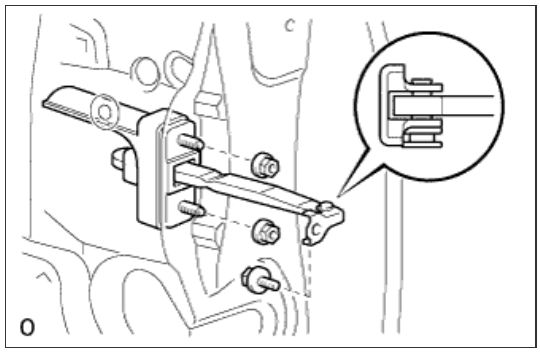
Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }

c. Apply adhesive to the threads of the bolt.

Adhesive:
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

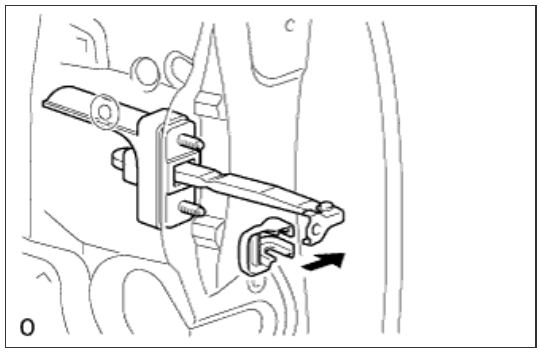
d. Install the bolt.

Torque:
27 N*m{ 275 kgf*cm , 20 ft.*lbf }



3. INSTALL FRONT DOOR CHECK COVER LH

a. Install the door check cover.



4. INSTALL FRONT NO. 2 DOOR STIFFENER CUSHION

a. Clean the installation surface.

i. Using a heat light, heat the installation surface.

HINT:

When installing the door stiffener cushion, heat the vehicle body using a heat light.

Standard Heating Temperature:

Item	Temperature
Door Stiffener Cushion	20 to 30°C (68 to 86°F)
Vehicle Body	40 to 60°C (104 to 140°F)

NOTICE:

Do not heat the door stiffener cushion and vehicle body excessively.

ii. Remove the double-sided tape from the installation surface.

iii. Wipe off any tape adhesive residue with cleaner.

b. Install a new door stiffener cushion.

i. Using a heat light, heat a new door stiffener cushion and the installation surface.

HINT:

When installing the door stiffener cushion, heat the vehicle body and door stiffener cushion using a heat light.

Standard Heating Temperature:

Item	Temperature
Door Stiffener Cushion	20 to 30°C (68 to 86°F)
Vehicle Body	40 to 60°C (104 to 140°F)

NOTICE:

Do not heat the door stiffener cushion and vehicle body excessively.

ii. Remove the peeling paper from the face of the door stiffener cushion.

HINT:

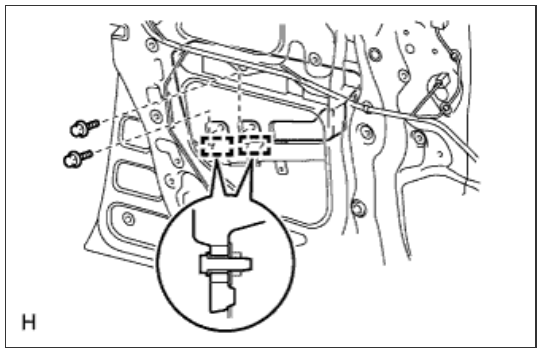
After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Attach the 2 clamps and double-sided tape to install the door stiffener cushion.

HINT:

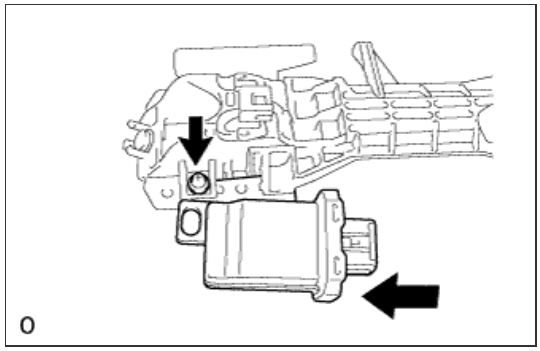
Press the door stiffener cushion firmly to install it.

iv. Install the 2 bolts.



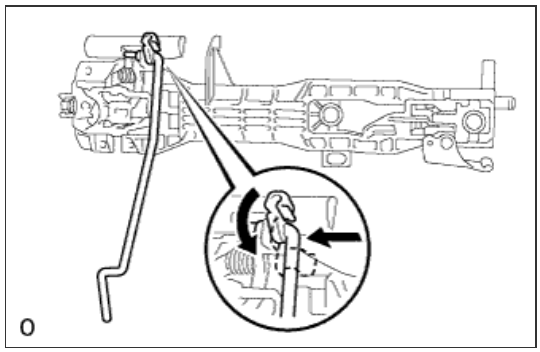
5. INSTALL DOOR ELECTRICAL KEY OSCILLATOR

a. Install the door electrical key oscillator with the screw.



6. INSTALL FRONT DOOR LOCK OPEN ROD LH

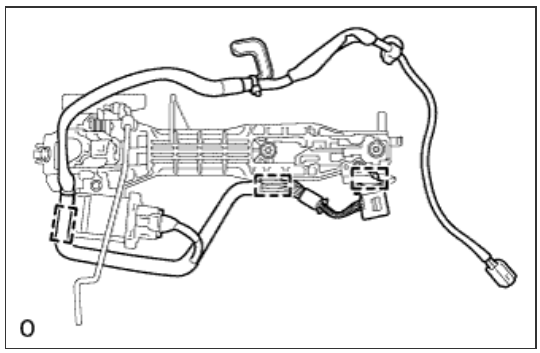
a. Install the front door lock open rod as shown in the illustration.



7. INSTALL NO. 2 ELECTRICAL KEY WIRE HARNESS

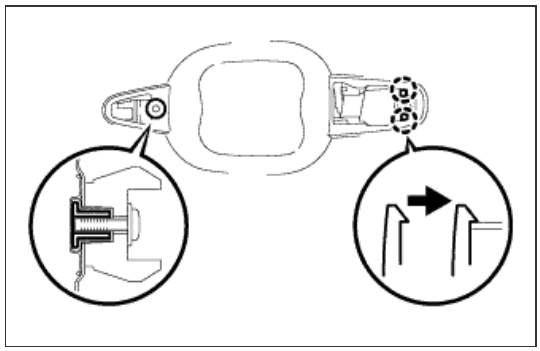
a. Connect the connector.

b. Attach the 3 clamps to install the wire harness to the frame.



8. INSTALL FRONT DOOR OUTSIDE HANDLE FRAME SUB-ASSEMBLY LH

a. Attach the 2 claws to install the front door outside handle frame sub-assembly.

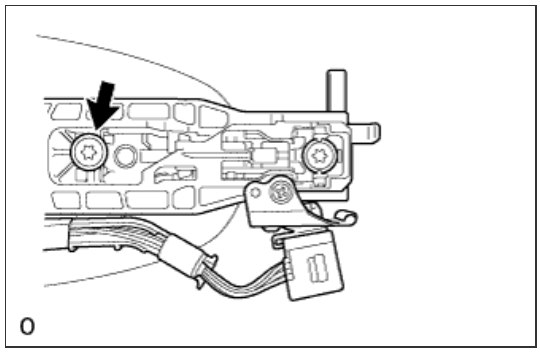


b. Using a T30 "TORX" wrench, tighten the screw.

Torque:
4.0 N*m{ 41 kgf*cm , 35 in.*lbf }

NOTICE:

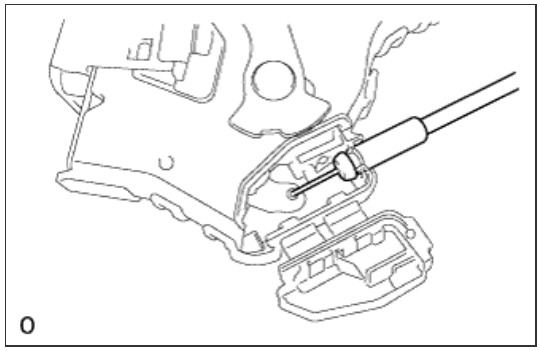
A cover should be inserted between the screw and door panel.



9. INSTALL FRONT DOOR INSIDE LOCKING CABLE ASSEMBLY LH

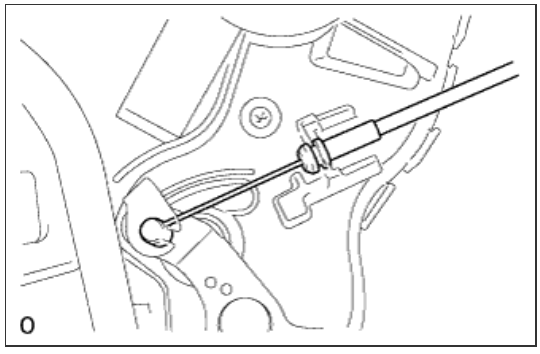
a. Install the front door inside locking cable.

b. Attach the 3 claws.



10. INSTALL FRONT DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY LH

a. Install the front door lock remote control cable.



11. INSTALL FRONT DOOR LOCK ASSEMBLY LH

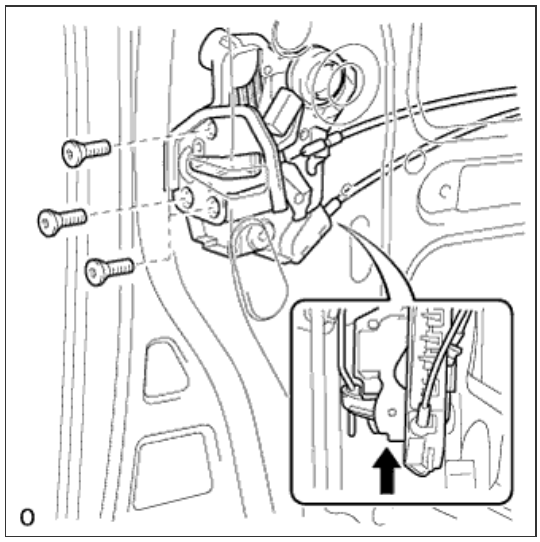
a. Apply MP grease to the sliding parts of the front door lock assembly.

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

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

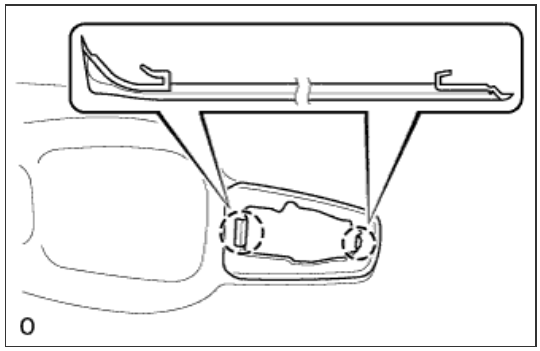
d. Using a T30 "TORX" wrench, install the door lock with the 3 screws.

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



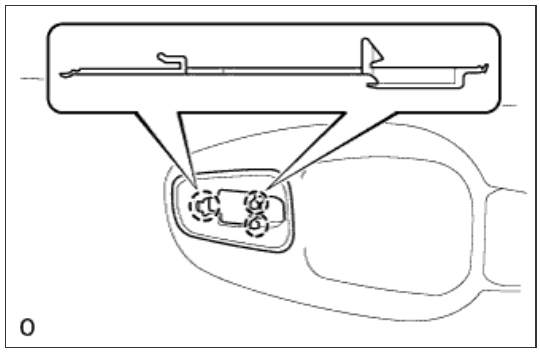
12. INSTALL FRONT DOOR REAR OUTSIDE HANDLE PAD LH

a. Attach the 2 claws to install the pad.



13. INSTALL FRONT DOOR FRONT OUTSIDE HANDLE PAD LH

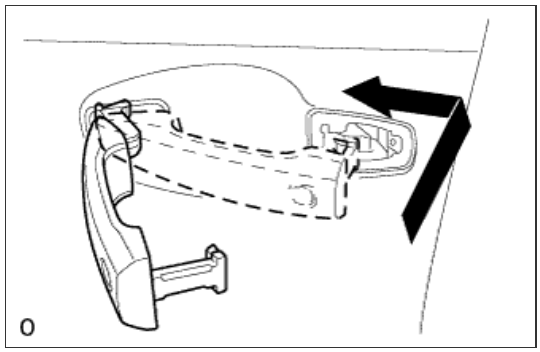
a. Attach the 3 claws to install the pad.



14. INSTALL FRONT DOOR HANDLE ASSEMBLY OUTSIDE LH

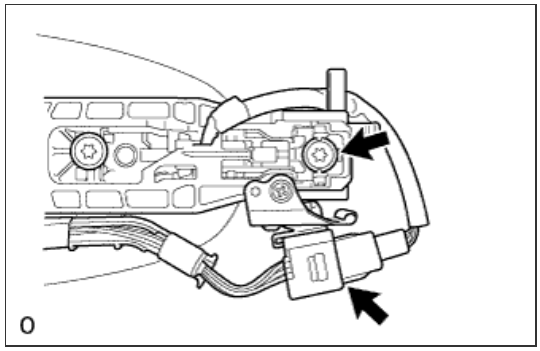
a. Pull and hold the bell crank lever of the frame.

b. Install the handle by pushing it in the direction of the arrow in the illustration.



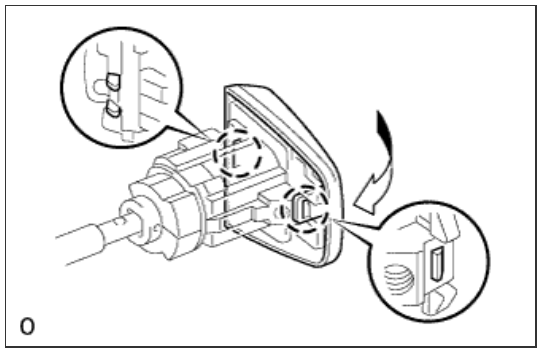
c. Using a T30 "TORX" socket, tighten the screw.

d. Connect the connector.



15. INSTALL FRONT DOOR OUTSIDE HANDLE COVER LH

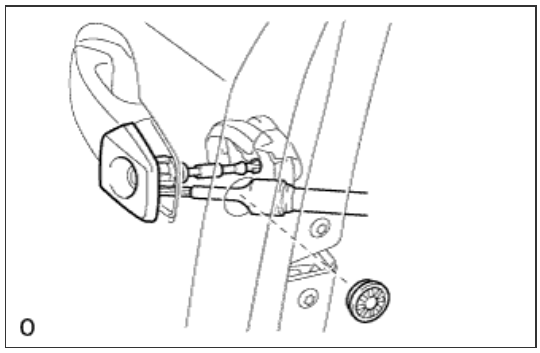
a. Attach the 2 claws to install the front door outside handle cover to the front door lock cylinder.



b. Using a T30 "TORX" socket, install the cover (with the door lock cylinder) with the screw.

Torque:
4.0 N*m{ 41 kgf*cm , 35 in.*lbf }

c. Install the hole plug.



16. INSTALL FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY LH

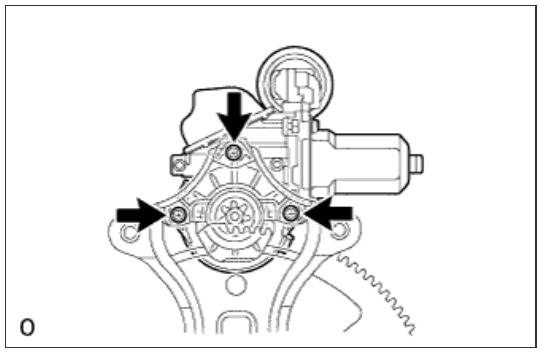
a. Apply MP grease to the sliding and rotating areas of the regulator motor.

b. Using a T25 "TORX" driver, install the motor with the 3 screws.

Torque:
5.4 N*m{ 55 kgf*cm , 48 in.*lbf }

HINT:

A new front window regulator uses self-tapping screws to thread new installation holes when the self-tapping screws are inserted.



17. INSTALL FRONT DOOR WINDOW REGULATOR SUB-ASSEMBLY LH

a. Apply MP grease to the sliding and rotating areas of the window regulator.

NOTICE:

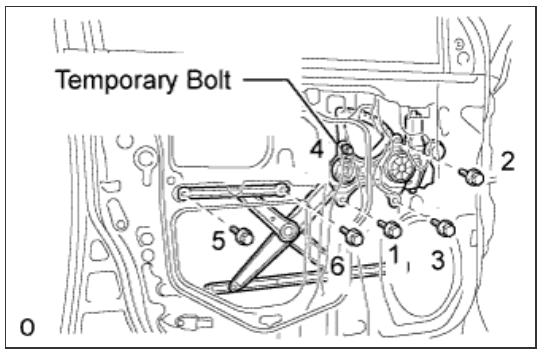
Do not apply grease to the spring of the window regulator.

b. temporarily install the temporary bolt onto the window regulator.

c. Insert the window regulator into the door panel. Use the temporary bolt to hang the window regulator on the door panel.

NOTICE:

Be careful not to drop the window regulator as it may become damaged.



d. Temporarily install the window regulator with the 5 bolts.

e. Tighten the 6 bolts in the order shown in the illustration.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }

18. INSTALL FRONT DOOR REAR WINDOW FRAME MOULDING LH

a. Clean the vehicle body surface.

i. Using a heat light, heat the vehicle body surface.

ii. Remove the double-sided tape from the vehicle body surface.

iii. Wipe off any tape adhesive residue with cleaner.

b. Install a new window frame moulding.

i. Using a heat light, heat a new window frame moulding and the vehicle body surface.

ii. Remove the peeling paper from the face of the window frame moulding.

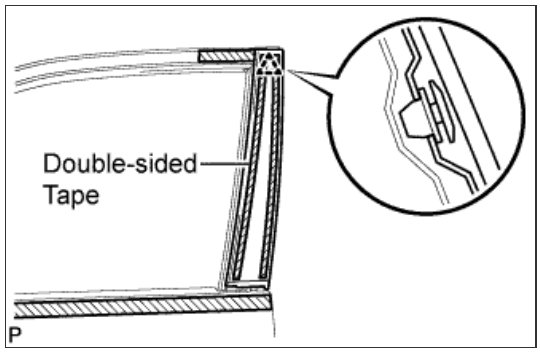
HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Attach the clip and double-sided tape to install the window frame moulding.

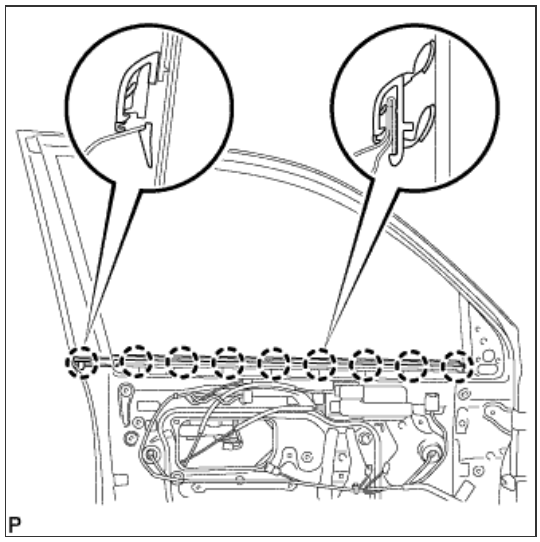
HINT:

Press the window frame moulding firmly to install it.



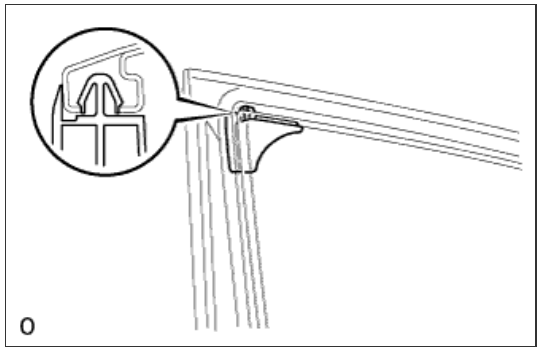
19. INSTALL FRONT DOOR BELT MOULDING SUB-ASSEMBLY LH

a. Attach the claw to install the belt moulding.



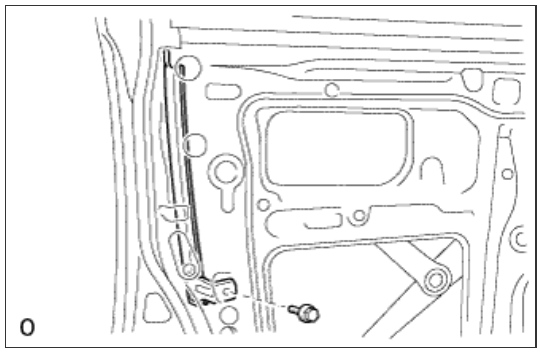
20. INSTALL LOWER DOOR FRAME GARNISH LH

a. Attach the clip to install a new door frame garnish.



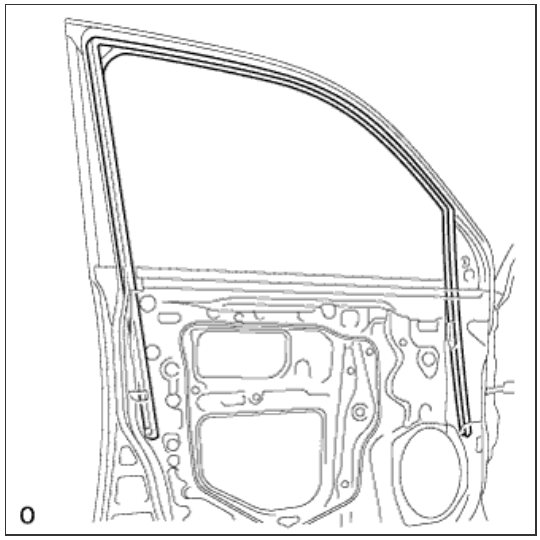
21. INSTALL FRONT DOOR REAR LOWER FRAME SUB-ASSEMBLY LH

a. Install the frame with the bolt.



22. INSTALL FRONT DOOR GLASS RUN LH

a. Install the front door glass run.

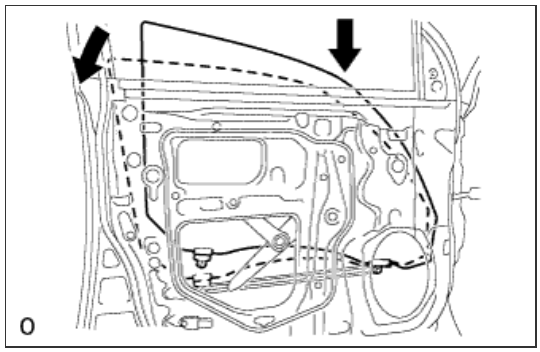


23. INSTALL FRONT DOOR GLASS SUB-ASSEMBLY LH

a. Insert the door glass into the door panel along the glass run as indicated by the arrows in the illustration.

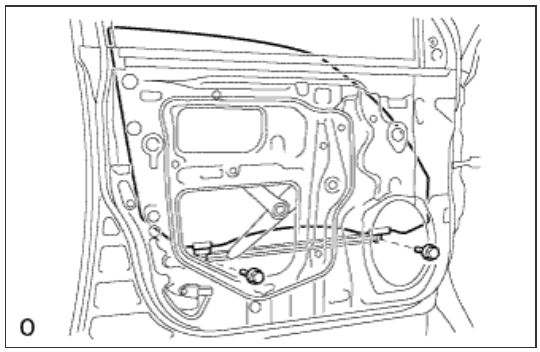
NOTICE:

Be careful not to damage the glass.



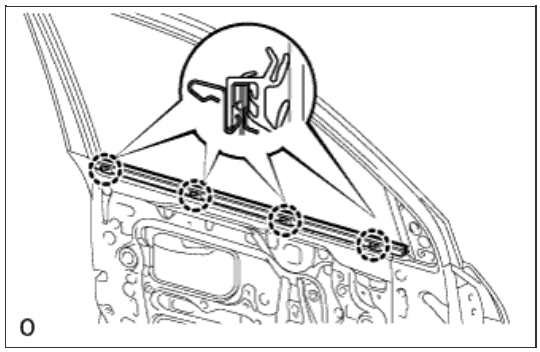
b. Install the door glass to the window regulator with the 2 bolts.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }



24. INSTALL FRONT INNER DOOR GLASS WEATHERSTRIP LH

a. Attach the 4 claws to install the front inner door glass weatherstrip LH.



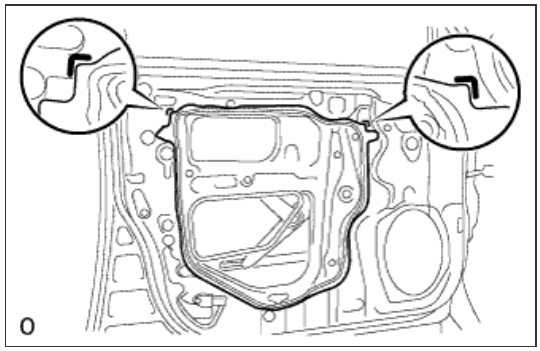
25. INSTALL FRONT DOOR SERVICE HOLE COVER LH

a. Apply butyl tape to the door.

b. Pass the front door lock remote control cable and front door inside locking cable through a new front door service hole cover.

NOTICE:

- **When installing the service hole cover, pull the links and connectors through the service hole cover.**
- **There should be no wrinkles or folds after installing the service hole cover.**
- **After installing the service hole cover, check the sealing quality.**

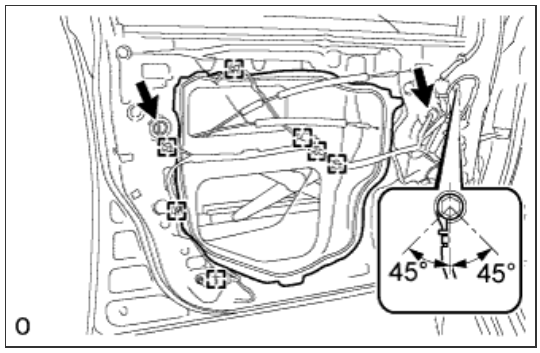


c. Connect the 2 connectors.

d. Attach the 7 clamps.

e. Install the bolt as shown in the illustration.

Torque:
8.4 N*m{ 86 kgf*cm , 74 in.*lbf }



26. INSTALL SIDE AIRBAG SENSOR ASSEMBLY LH

a. Check that the engine switch is off.

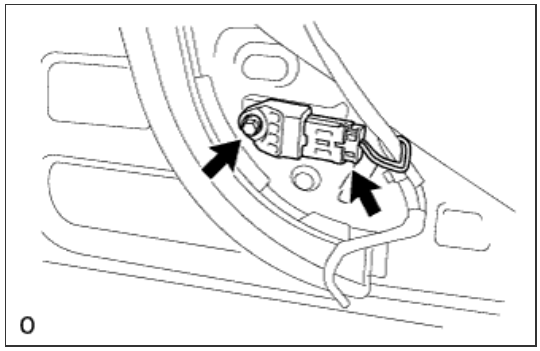
b. Check that the cable is disconnected from the battery negative (-) terminal.

CAUTION:

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

NOTICE:

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



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.

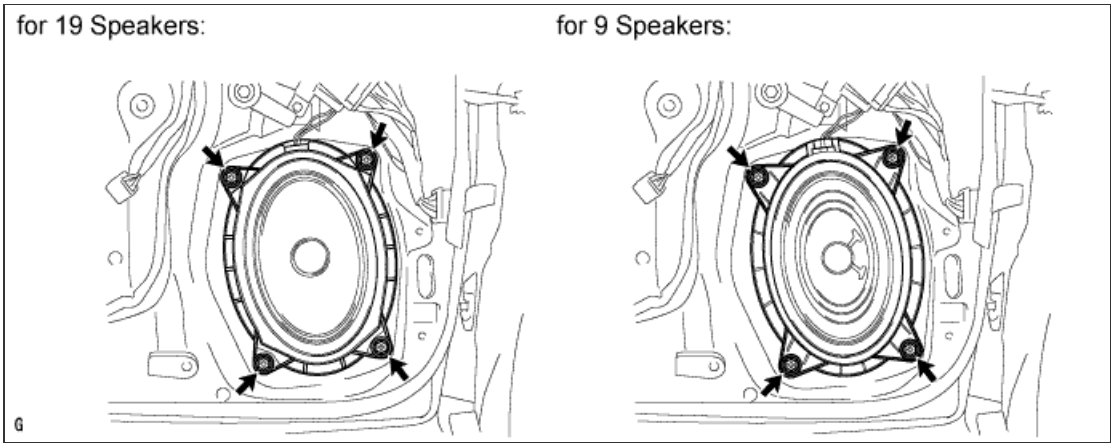
27. INSTALL FRONT NO. 1 SPEAKER ASSEMBLY

a. Connect the speaker connector.

b. Install the speaker with the 4 screws.

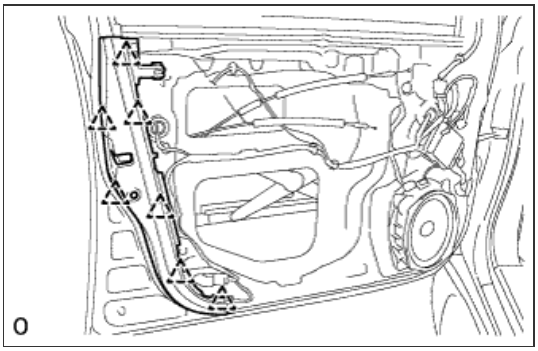
NOTICE:

Do not touch the cone part of the speaker.



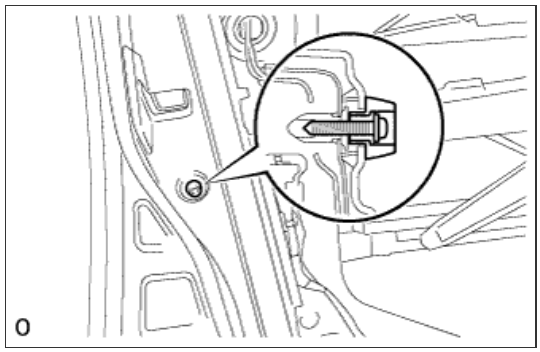
28. INSTALL DOOR TRIM COVER LH

a. Attach the 7 clips to install the door trim cover.



29. INSTALL FRONT DOOR PANEL CUSHION

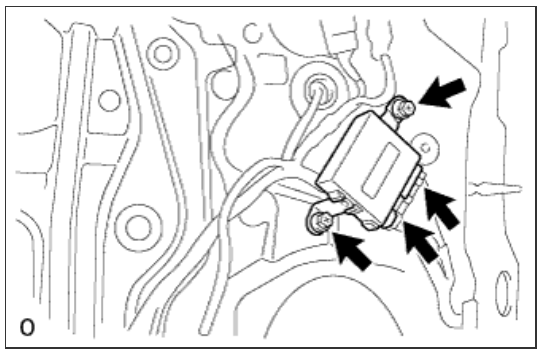
a. Install the front door panel cushion with the screw.



30. INSTALL OUTER MIRROR CONTROL ECU ASSEMBLY

a. Connect the 2 connectors.

b. Install the outer mirror control ECU with the 2 screws.



31. INSTALL OUTER REAR VIEW MIRROR ASSEMBLY LH

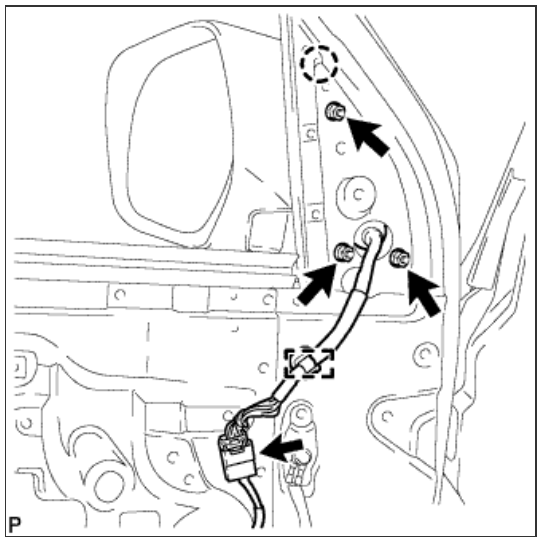
a. Attach the claw to install the mirror.

b. Install the 3 nuts.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }

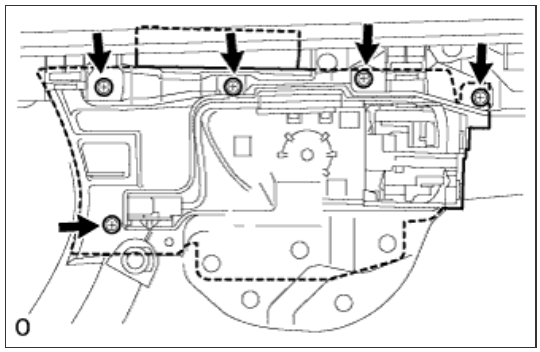
c. Attach the clamp.

d. Connect the connector.

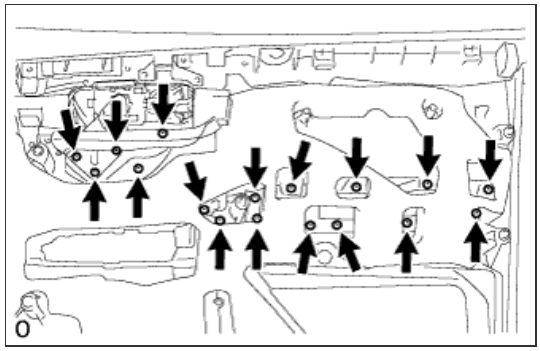


32. INSTALL FRONT DOOR INSIDE HANDLE SUB-ASSEMBLY LH

a. Install the inside handle to the trim board with the 5 screws.

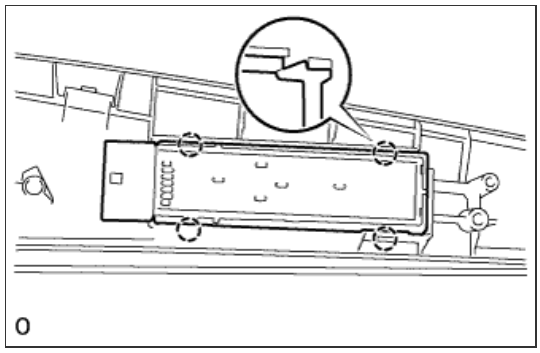


b. Install the front door armrest assembly to the trim board with the 17 screws.



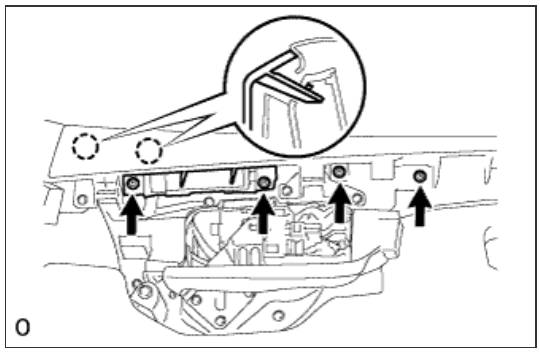
33. INSTALL SEAT MEMORY SWITCH

a. Attach the 4 claws to install the seat memory switch.



b. Attach the 2 claws to install the front door trim ornament LH to front door trim board.

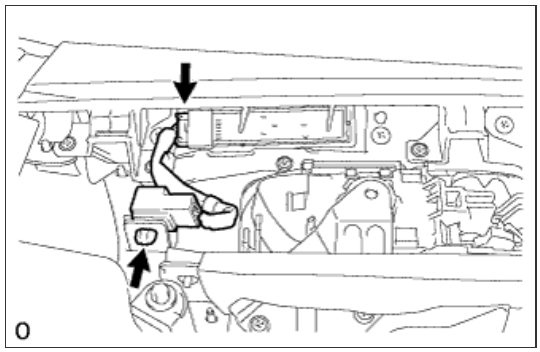
c. Install the 4 screws.



34. INSTALL FRONT DOOR WIRING SUB-ASSEMBLY RH

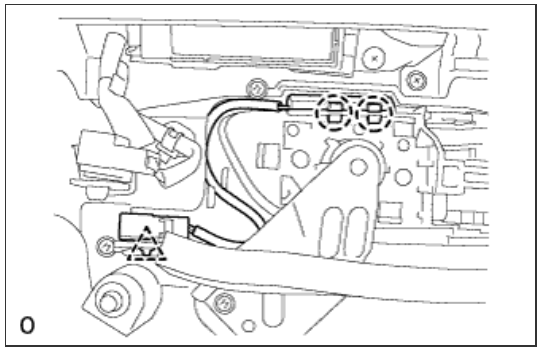
a. Connect the connector.

b. Attach the clamp to install the front door wiring sub-assembly.



35. INSTALL FRONT DOOR INSIDE HANDLE ILLUMINATION LIGHT ASSEMBLY LH

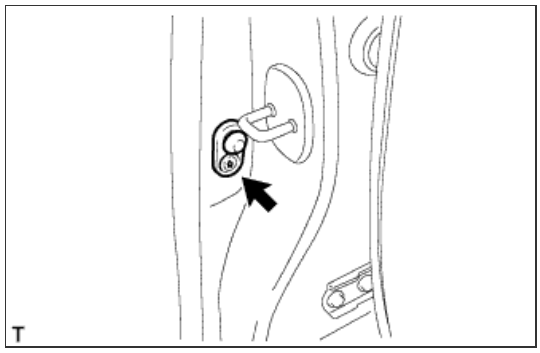
a. Attach the 2 claws and clamp to install the light.



36. INSTALL COURTESY LIGHT ASSEMBLY

a. Using a T30 "TORX" socket wrench, remove the screw and switch.

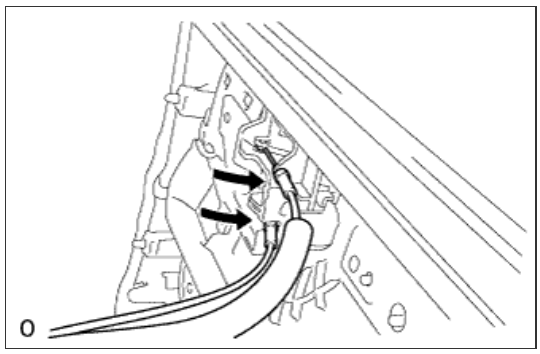
b. Disconnect the connector.



37. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

a. Connect the connector.

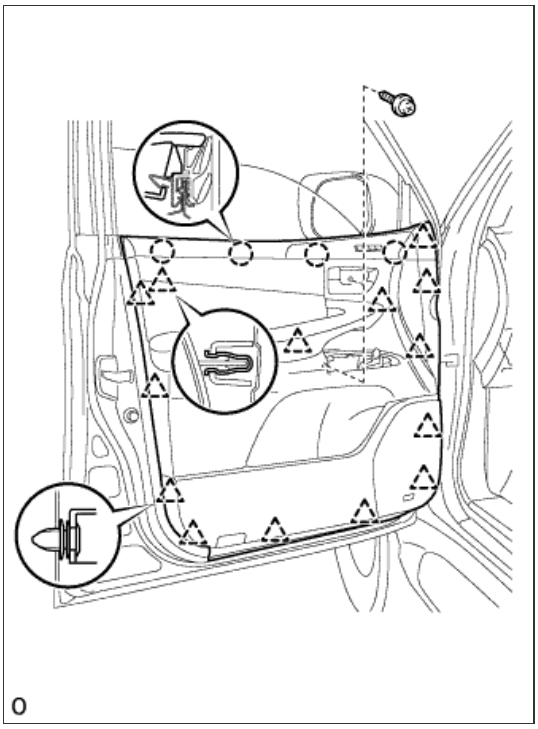
b. Connect the front door lock remote control cable and front door inside locking cable to the front door inside handle sub-assembly.



c. Attach the 4 claws and 14 clips to install the trim board.

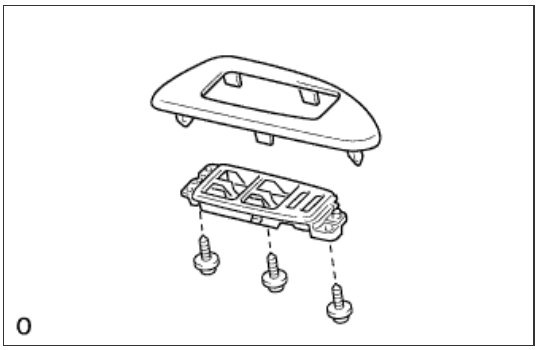
c. Attach the 4 claws and 11 clips to install the trim board.

d. Install the 2 screws.



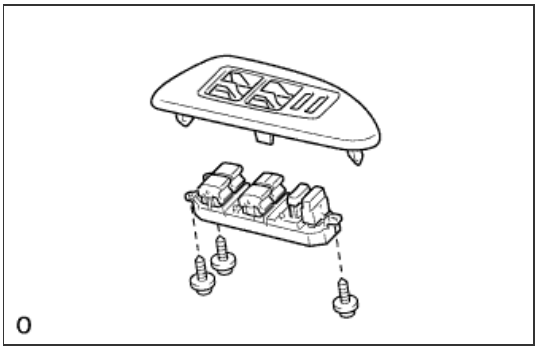
38. INSTALL FRONT LOWER DOOR ARMREST BASE PANEL LH

a. Install the front lower door armrest base panel with the 3 screws.



39. INSTALL MULTIPLEX NETWORK MASTER SWITCH ASSEMBLY

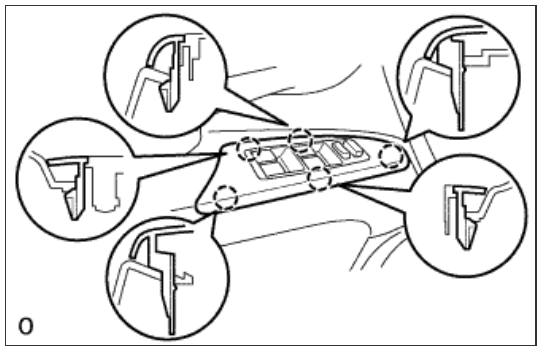
a. Install the multiplex network master switch assembly with the 3 screws.



40. INSTALL FRONT UPPER ARMREST BASE PANEL LH

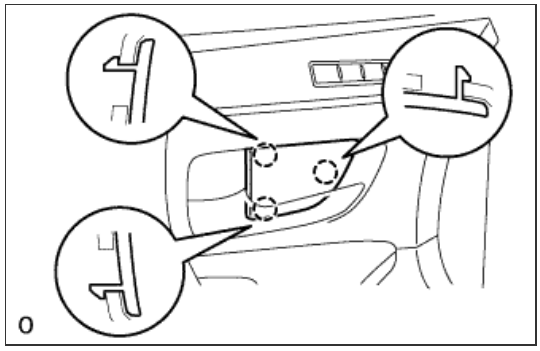
a. Connect the connector.

b. Attach the 5 claws to install the front upper armrest base panel.



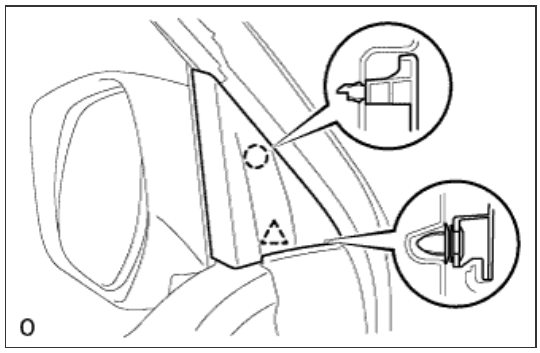
41. INSTALL FRONT DOOR INSIDE HANDLE BEZEL PLUG LH

a. Attach the 3 claws to install the inside handle bezel plug.



42. INSTALL FRONT LOWER DOOR FRAME BRACKET GARNISH LH

a. Attach the clip and claw to install the front door lower frame bracket garnish.



43. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

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

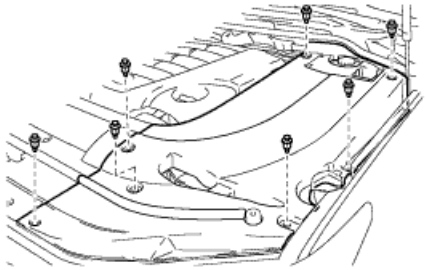
44. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

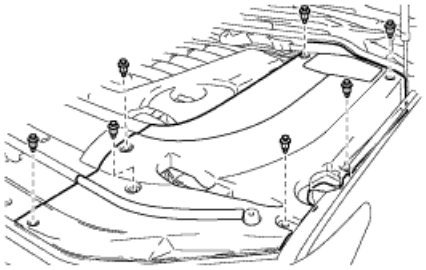
45. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

for LHD:

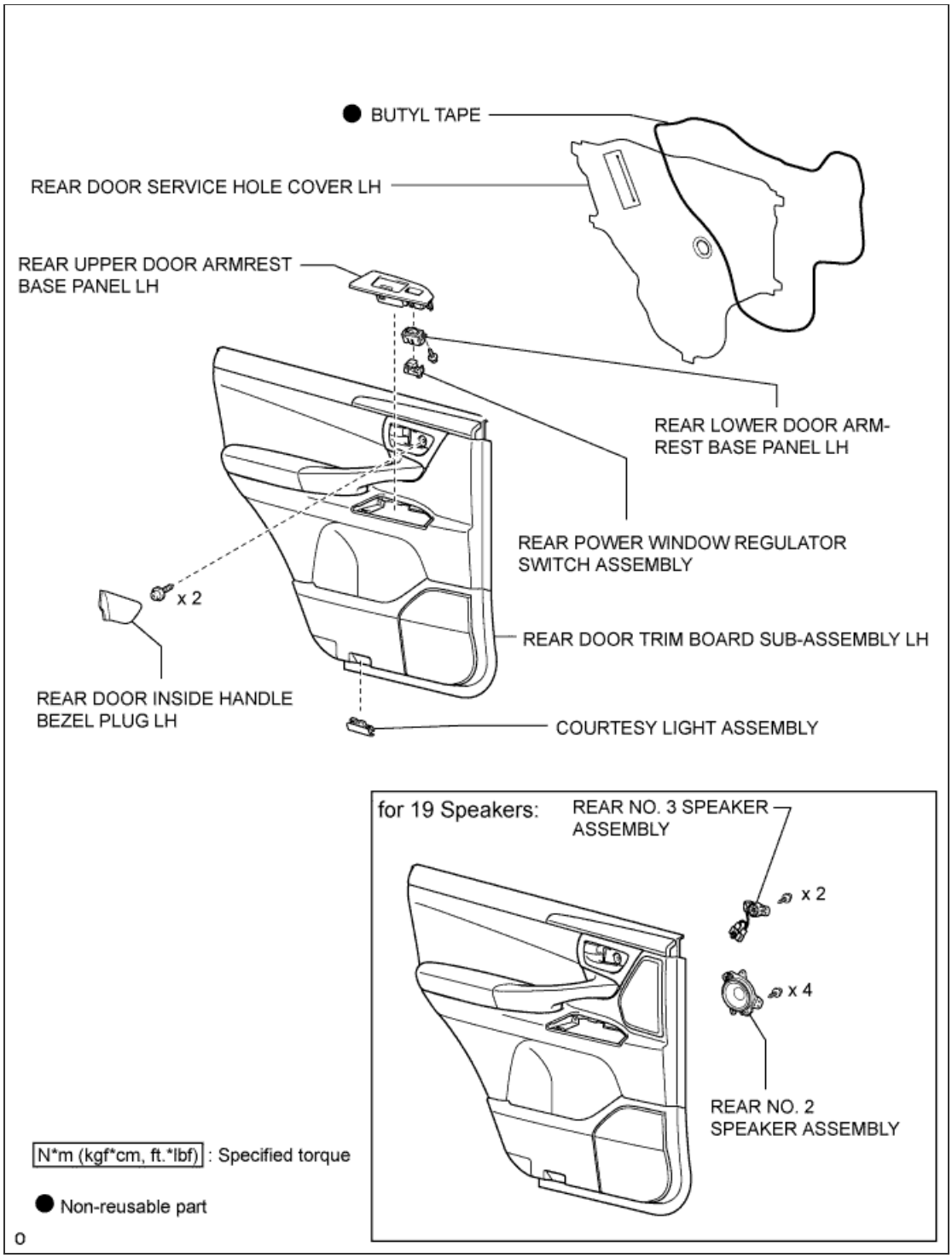


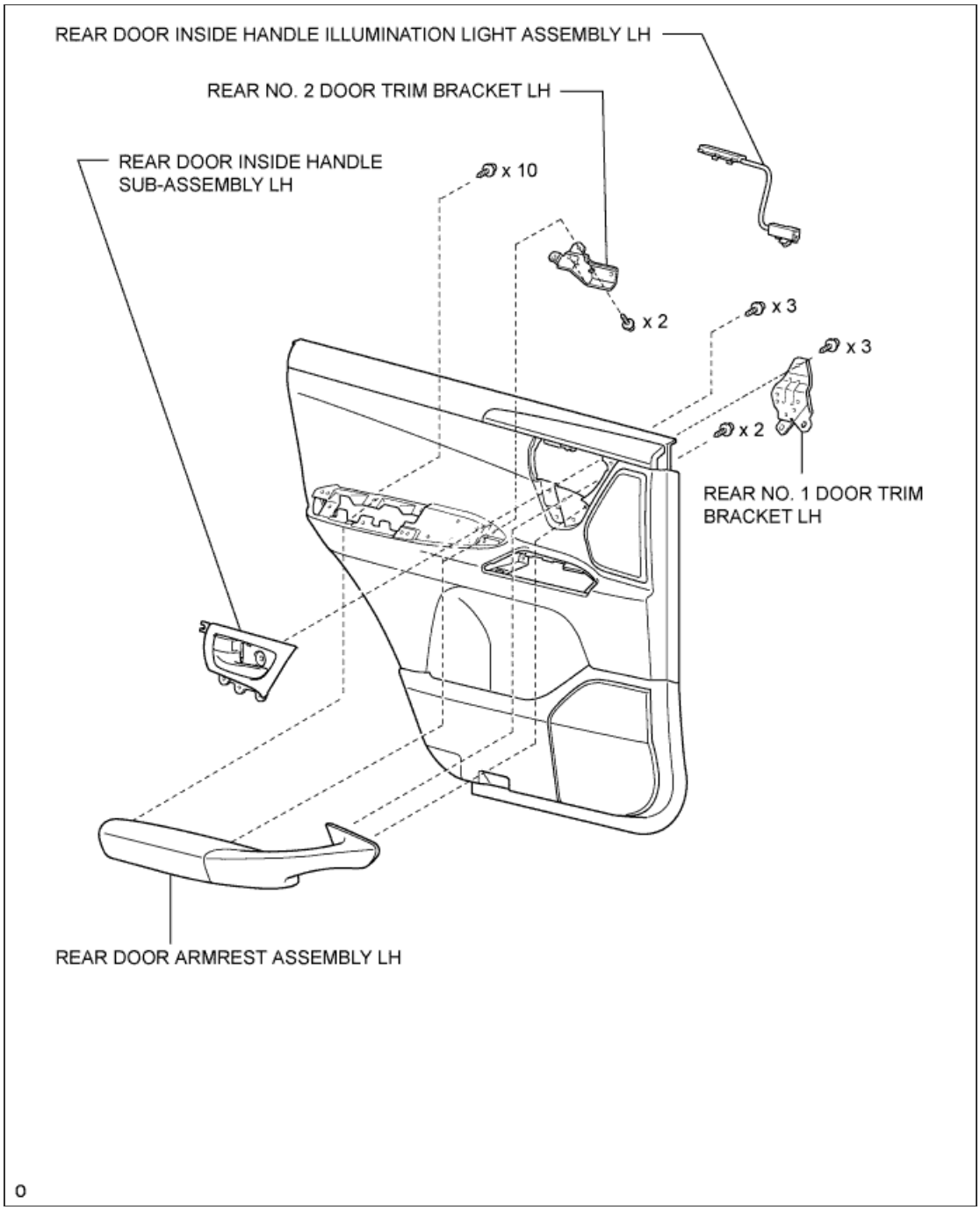
for RHD:

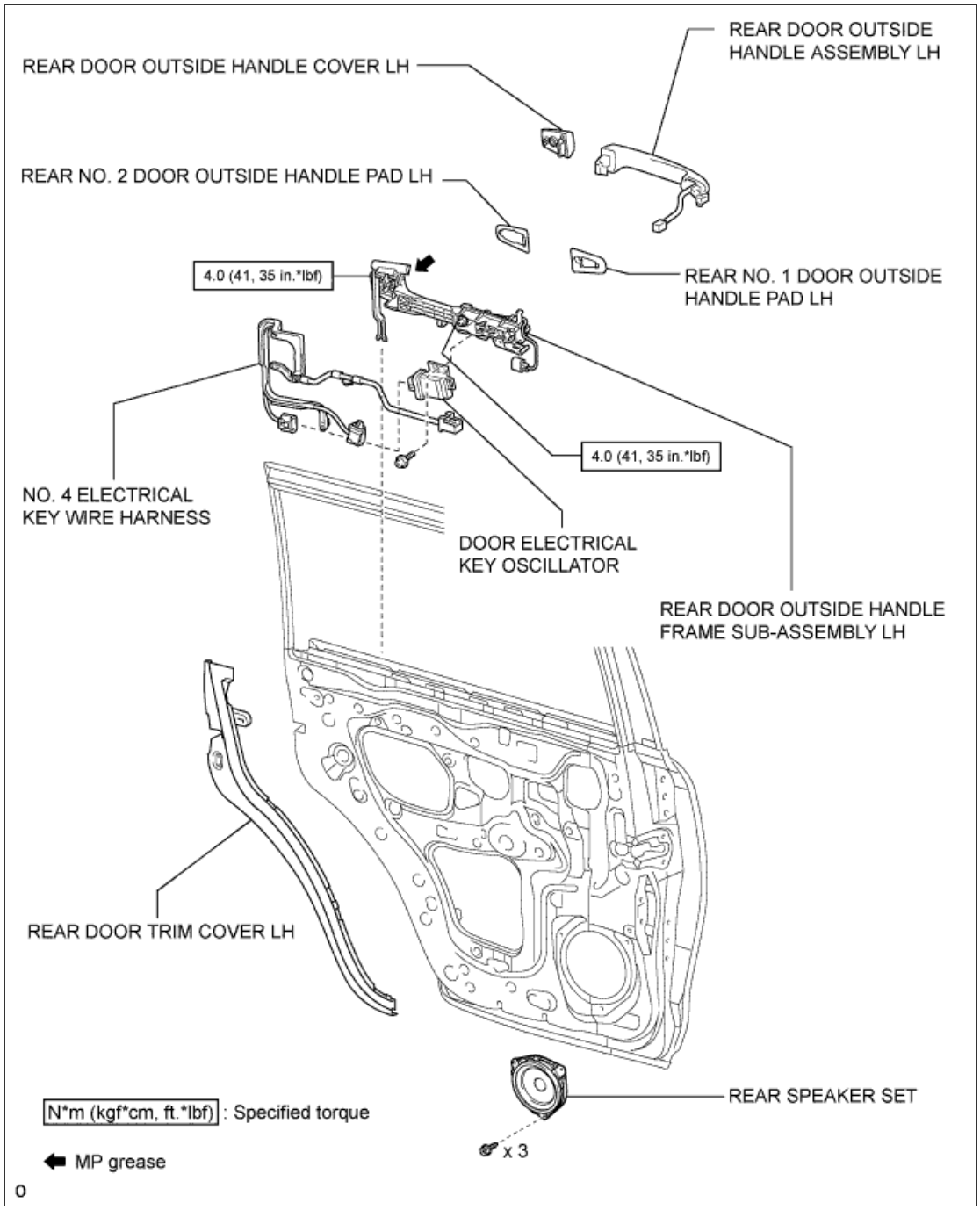


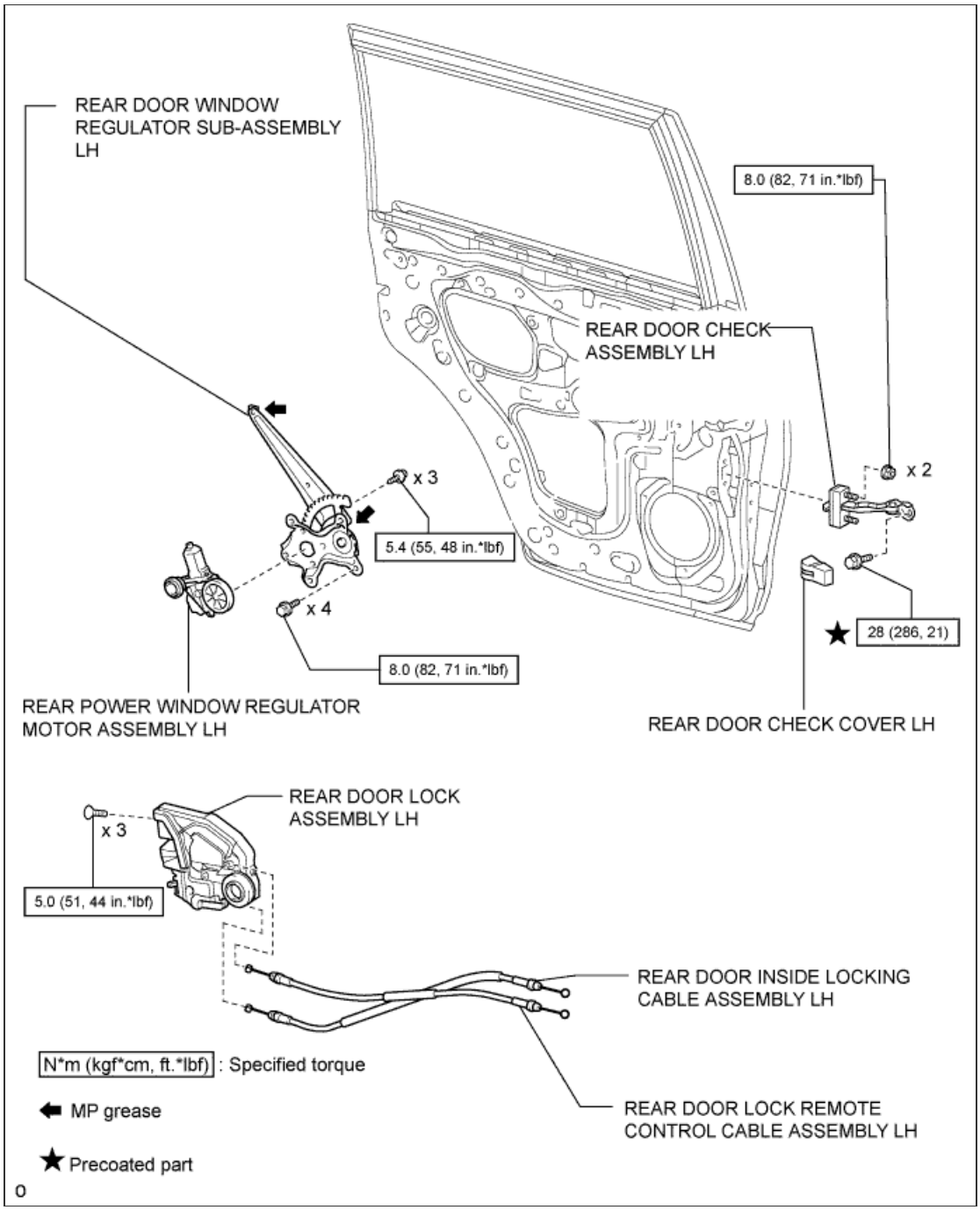
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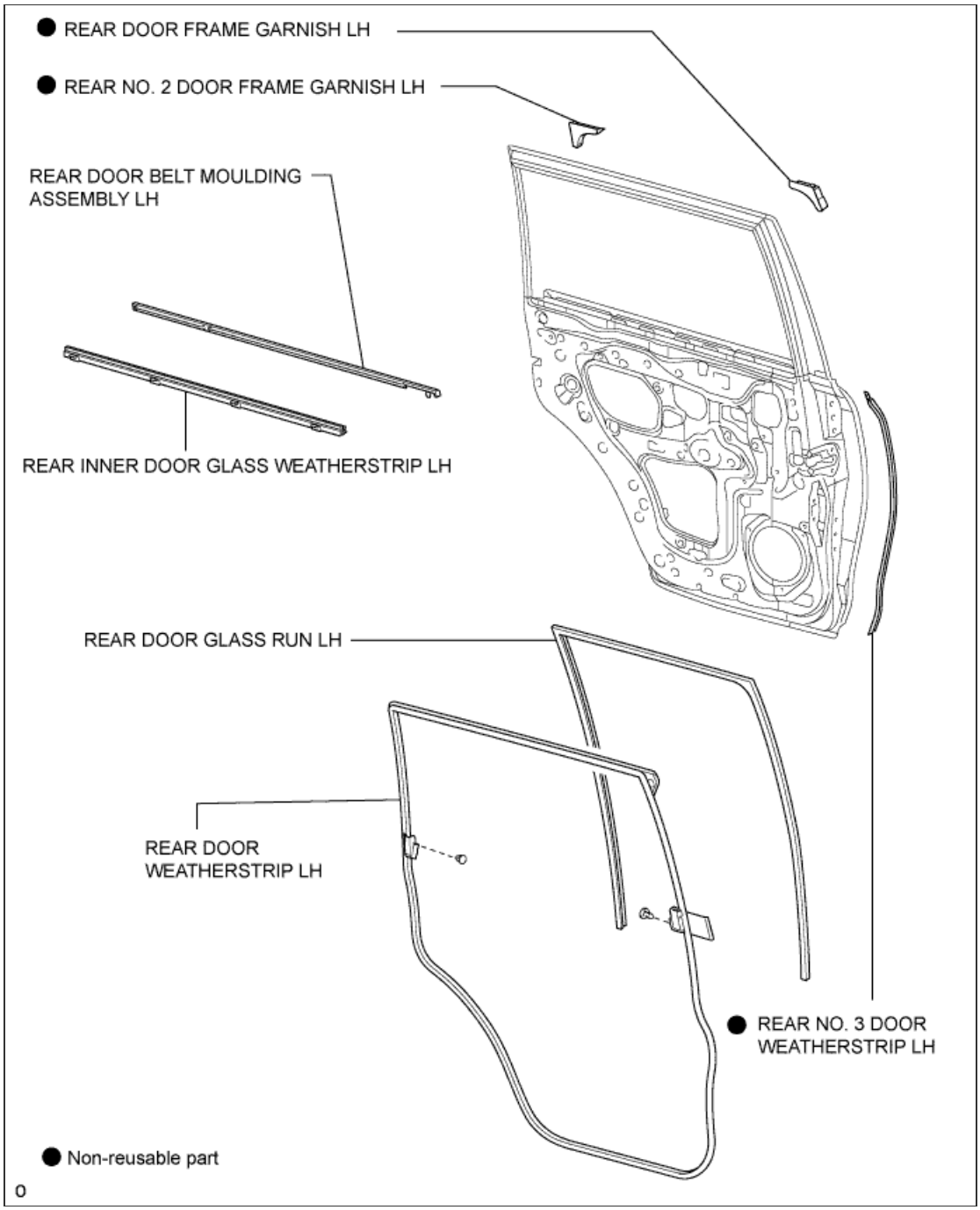
for Preparation Click here



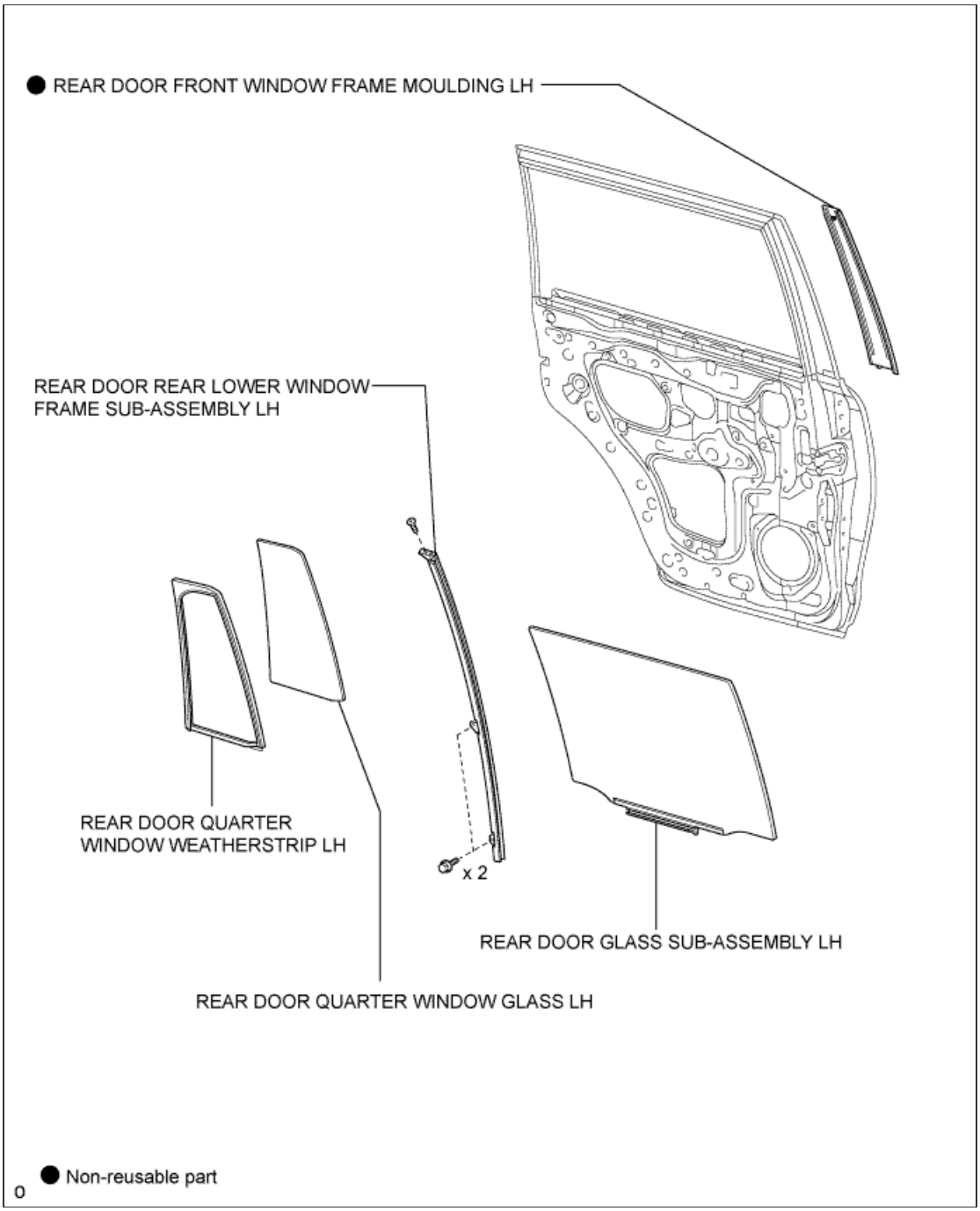

REAR DOOR INSIDE HANDLE ILLUMINATION LIGHT ASSEMBLY LH
REAR NO. 2 DOOR TRIM BRACKET LH
REAR DOOR INSIDE HANDLE SUB-ASSEMBLY LH
x 10
x 2
x 3
x 3
x 2
REAR NO. 1 DOOR TRIM BRACKET LH
REAR DOOR ARMREST ASSEMBLY LH
o


REAR DOOR OUTSIDE HANDLE COVER LH
REAR DOOR OUTSIDE HANDLE ASSEMBLY LH
REAR NO. 2 DOOR OUTSIDE HANDLE PAD LH
4.0 (41, 35 in.*lbf)
REAR NO. 1 DOOR OUTSIDE HANDLE PAD LH
4.0 (41, 35 in.*lbf)
NO. 4 ELECTRICAL KEY WIRE HARNESS
DOOR ELECTRICAL KEY OSCILLATOR
REAR DOOR OUTSIDE HANDLE FRAME SUB-ASSEMBLY LH
REAR DOOR TRIM COVER LH
REAR SPEAKER SET
x 3
N*m (kgf*cm, ft.*lbf) : Specified torque
MP grease


REAR DOOR WINDOW REGULATOR SUB-ASSEMBLY LH
8.0 (82, 71 in.*lbf)
REAR DOOR CHECK ASSEMBLY LH
x 3
5.4 (55, 48 in.*lbf)
x 2
x 4
8.0 (82, 71 in.*lbf)
28 (286, 21)
REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH
REAR DOOR CHECK COVER LH
REAR DOOR LOCK ASSEMBLY LH
x 3
5.0 (51, 44 in.*lbf)
REAR DOOR INSIDE LOCKING CABLE ASSEMBLY LH
N*m (kgf*cm, ft.*lbf) : Specified torque
REAR DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY LH
MP grease
Precoated part


● REAR DOOR FRAME GARNISH LH
● REAR NO. 2 DOOR FRAME GARNISH LH
REAR DOOR BELT MOULDING ASSEMBLY LH
REAR INNER DOOR GLASS WEATHERSTRIP LH
REAR DOOR GLASS RUN LH
REAR DOOR WEATHERSTRIP LH
● REAR NO. 3 DOOR WEATHERSTRIP LH
● Non-reusable part

0


● REAR DOOR FRONT WINDOW FRAME MOULDING LH
REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY LH
REAR DOOR QUARTER WINDOW WEATHERSTRIP LH
x 2
REAR DOOR GLASS SUB-ASSEMBLY LH
REAR DOOR QUARTER WINDOW GLASS LH
● Non-reusable part

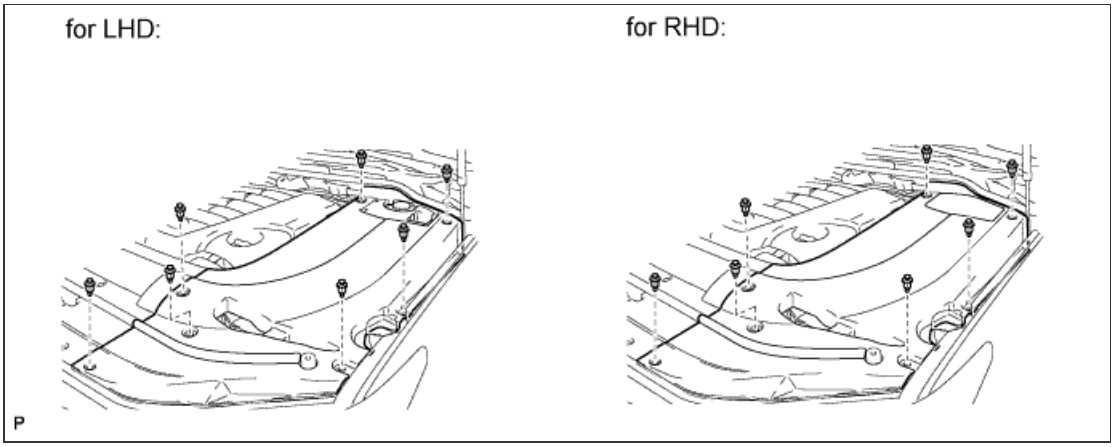
for Preparation Click here

HINT:

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

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

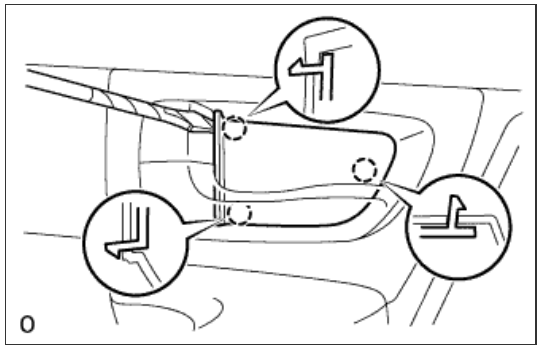
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

3. REMOVE REAR DOOR INSIDE HANDLE BEZEL PLUG LH

a. Using a screwdriver, detach the 3 claws and remove the inside handle bezel plug.

HINT:

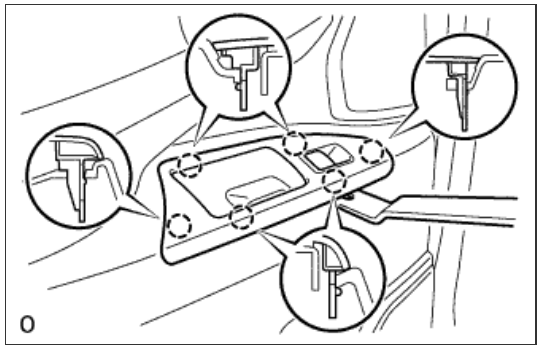
Tape the screwdriver tip before use.



4. REMOVE REAR UPPER DOOR ARMREST BASE PANEL LH

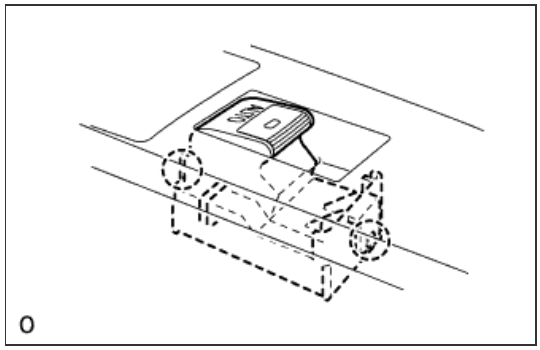
a. Using a moulding remover, detach the 6 claws.

b. Disconnect the connector and remove the rear upper door armrest base panel and rear power window regulator switch assembly.



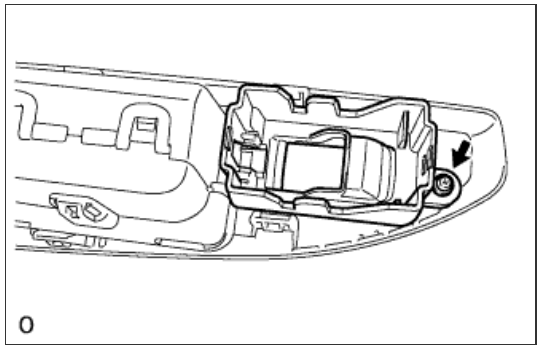
5. REMOVE REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY

a. Detach the 2 claws and remove the regulator switch.



6. REMOVE REAR LOWER DOOR ARMREST BASE PANEL LH

a. Remove the screw and rear lower door armrest base panel.

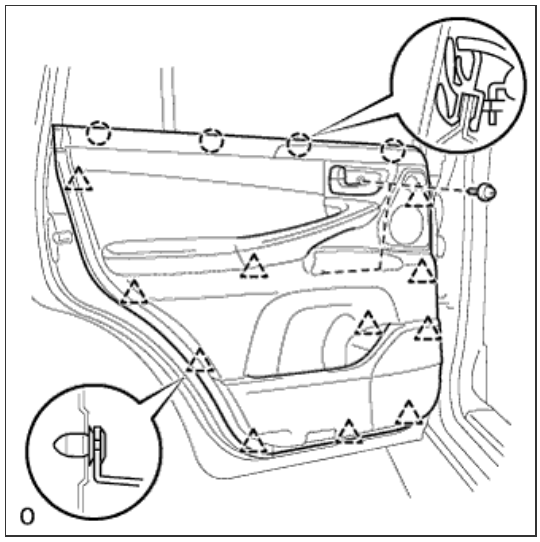


7. REMOVE REAR DOOR TRIM BOARD SUB-ASSEMBLY LH

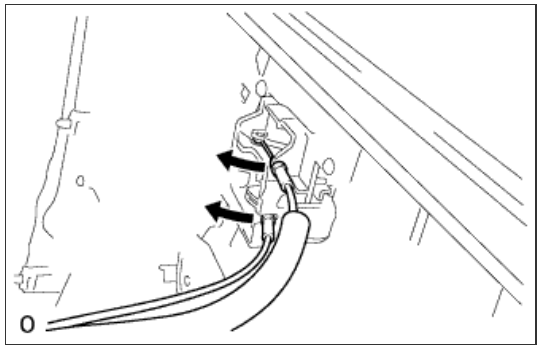
a. Remove the 2 screws.

b. Detach the 11 clips and 4 claws.

c. Disconnect the connector and remove the trim board.

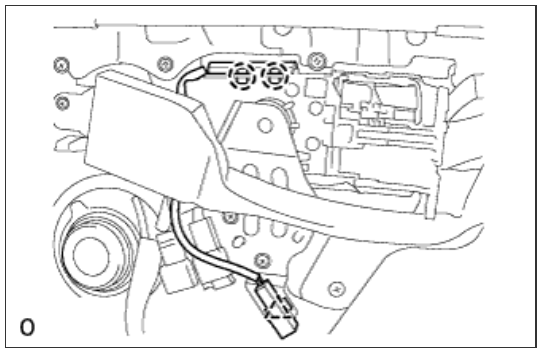


d. Disconnect the 2 cables from the inside handle.



8. REMOVE REAR DOOR INSIDE HANDLE ILLUMINATION LIGHT ASSEMBLY LH

a. Detach the 2 claws and remove the light.



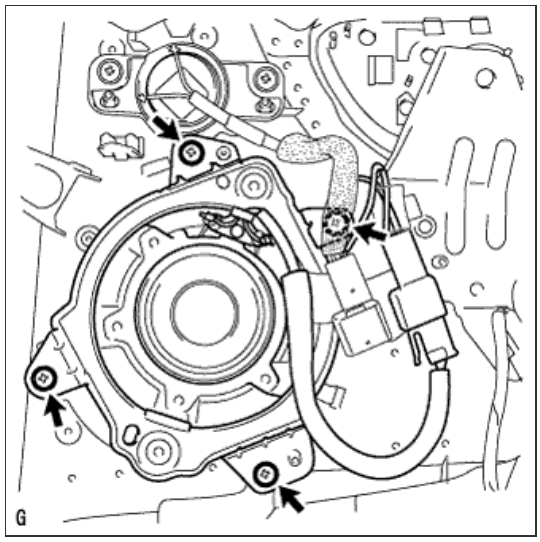
9. REMOVE REAR NO. 2 SPEAKER ASSEMBLY (for 19 Speakers)

a. Disconnect the connector.

b. Remove the 4 screws and speaker.

NOTICE:

Do not touch the cone part of the speaker.



10. REMOVE REAR NO. 3 SPEAKER ASSEMBLY (for 19 Speakers)

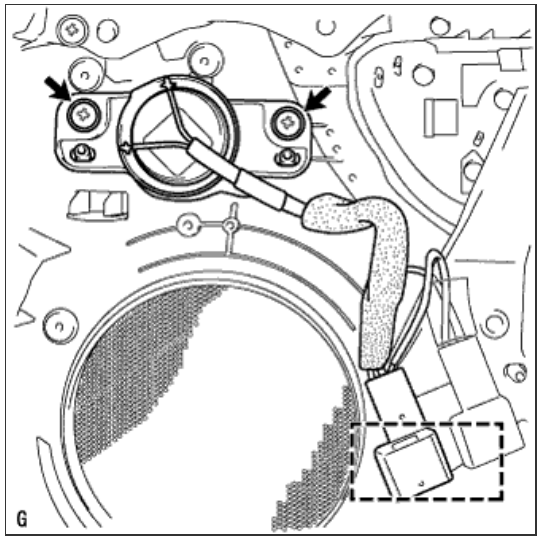
a. Disconnect the connector.

b. Detach the clamp.

c. Remove the 2 screws and speaker.

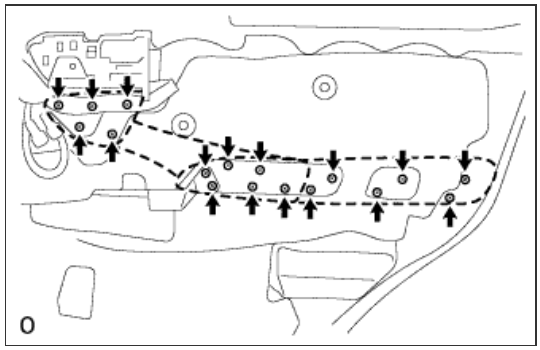
NOTICE:

Do not touch the cone part of the speaker.

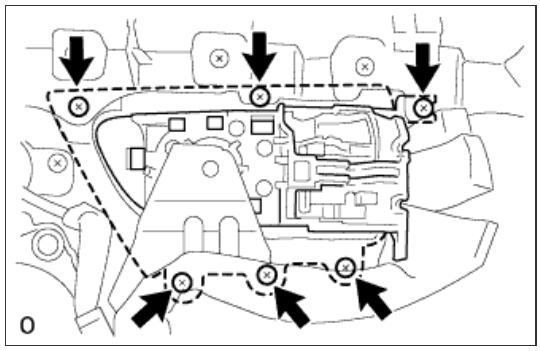


11. REMOVE REAR DOOR INSIDE HANDLE SUB-ASSEMBLY LH

a. Remove the 17 screws and rear door armrest assembly LH.



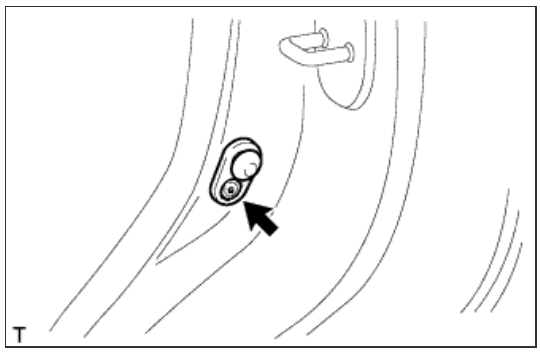
b. Remove the 6 screws and inside handle.



12. REMOVE COURTESY LIGHT ASSEMBLY

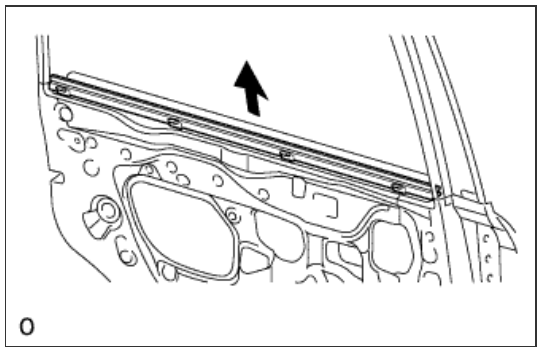
a. Using a T30 "TORX" socket wrench, remove the screw and switch.

b. Disconnect the connector.



13. REMOVE REAR INNER DOOR GLASS WEATHERSTRIP LH

a. Remove the weatherstrip by pulling it upward in the direction indicated by the arrow in the illustration.



14. REMOVE REAR SPEAKER SET

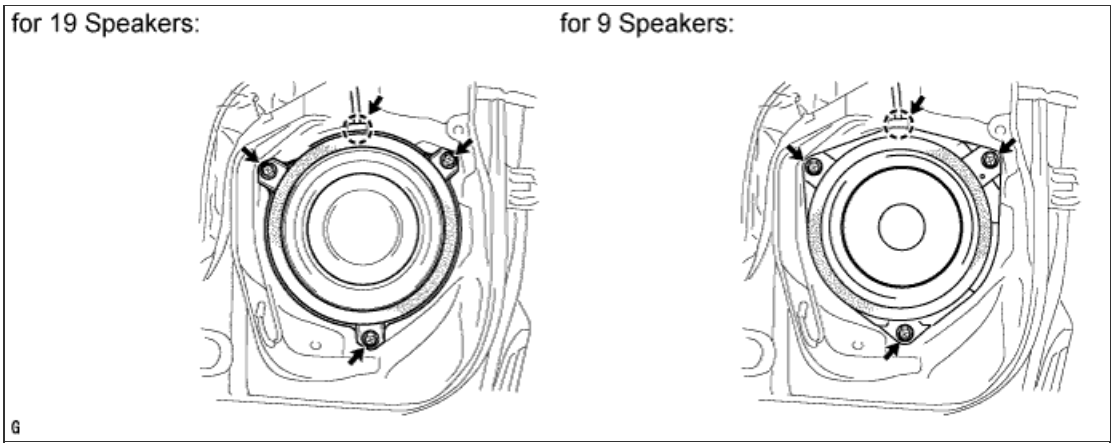
a. Disconnect the speaker connector.

b. Remove the 3 screws.

c. Detach the claw and remove the speaker.

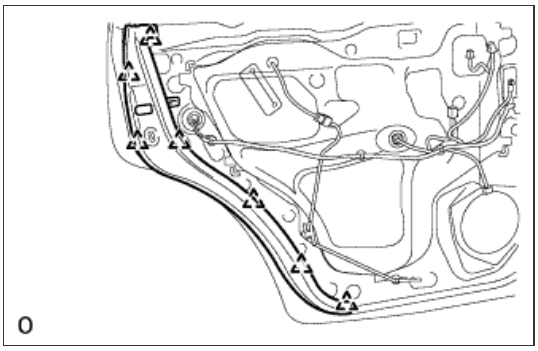
NOTICE:

Do not touch the cone part of the speaker.



15. REMOVE REAR DOOR TRIM COVER LH

a. Detach the 7 clips and remove the door trim cover.



16. REMOVE REAR DOOR SERVICE HOLE COVER LH

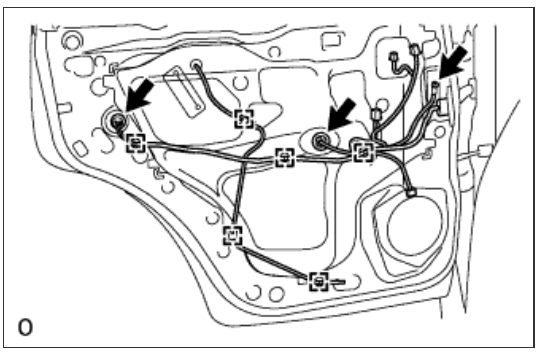
a. Using a clip remover, detach the 6 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the service hole cover.

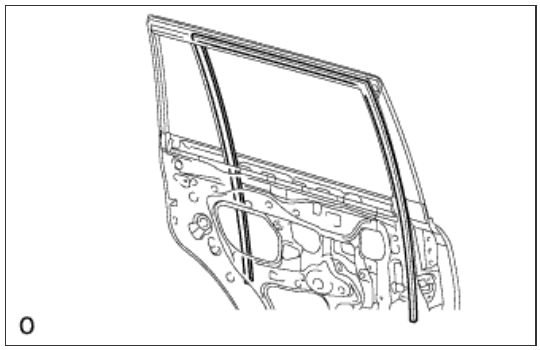
HINT:

Remove the remaining tape on the door.



17. REMOVE REAR DOOR GLASS RUN LH

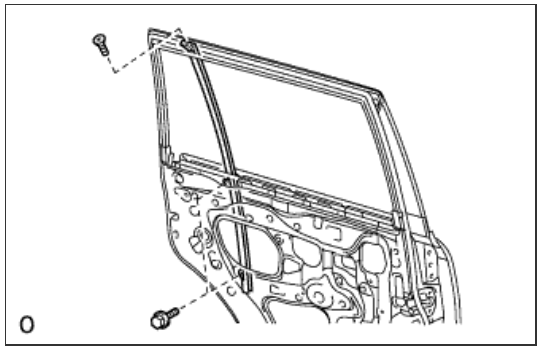
a. Remove the rear door glass run from the window frame.



18. REMOVE REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY LH

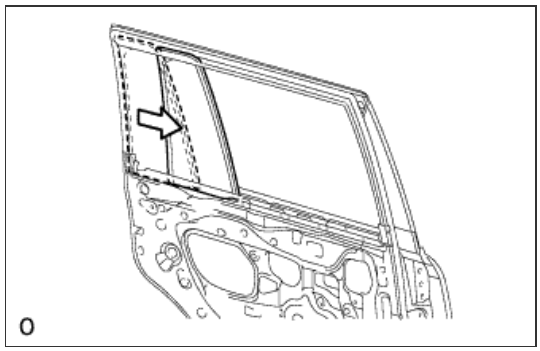
a. Remove the 2 bolts.

b. Remove the screw and window frame.



19. REMOVE REAR DOOR QUARTER WINDOW GLASS LH

a. Remove the rear door quarter window glass and rear door quarter window weatherstrip as a unit as shown in the illustration.



20. REMOVE REAR DOOR QUARTER WINDOW WEATHERSTRIP LH

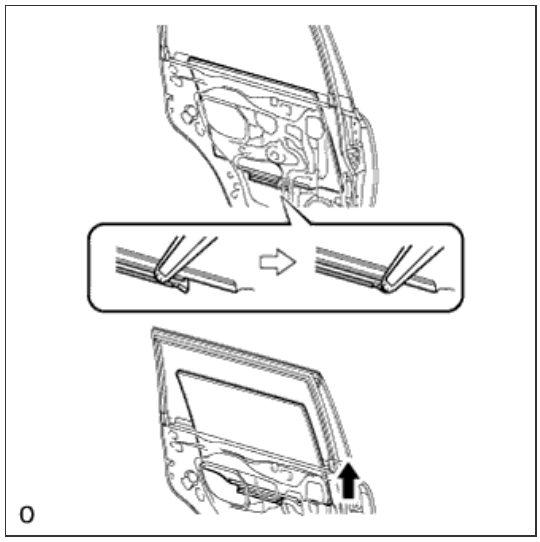
a. Remove the quarter window weatherstrip.

21. REMOVE REAR DOOR GLASS SUB-ASSEMBLY LH

a. Remove the rear door glass sub-assembly from the rear door window regulator sub-assembly as shown in the illustration.

NOTICE:

Do not damage the door glass.

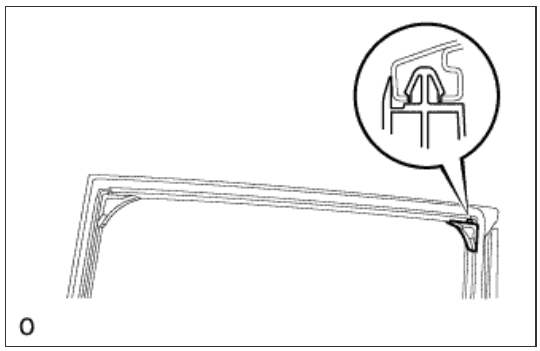


22. REMOVE REAR DOOR FRAME GARNISH LH

a. Detach the clip and remove the rear door frame garnish.

HINT:

The rear door frame garnish needs to be replaced with a new one because the clip will break when removing the rear door frame garnish.

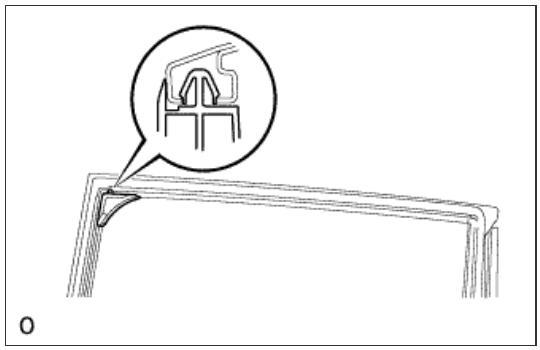


23. REMOVE REAR NO. 2 DOOR FRAME GARNISH LH

a. Detach the clip and remove the rear door frame garnish.

HINT:

The rear door frame garnish needs to be replaced with a new one because the clip will break when removing the rear door frame garnish.



24. REMOVE REAR DOOR WINDOW REGULATOR SUB-ASSEMBLY LH

a. Loosen the temporary bolt.

NOTICE:

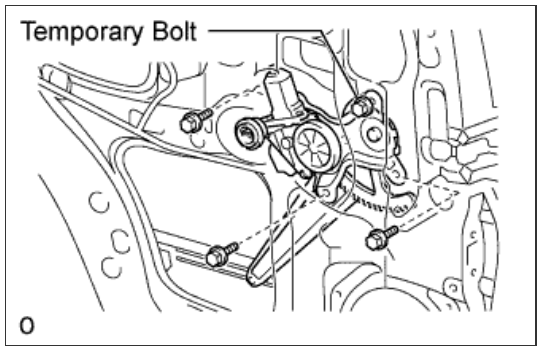
Do not remove the temporary bolt. If the temporary bolt is removed, the rear door window regulator may fall and become damaged.

b. Remove the 3 bolts and regulator.

NOTICE:

Be careful when removing the bolts as the regulator may fall and become damaged.

c. Remove the temporary bolt from the rear door window regulator sub-assembly.

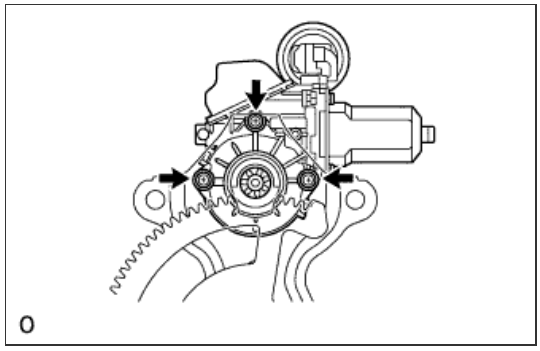


25. REMOVE REAR NO. 1 POWER WINDOW REGULATOR MOTOR ASSEMBLY LH

a. Using a T25 "TORX" driver, remove the 3 screws and motor.

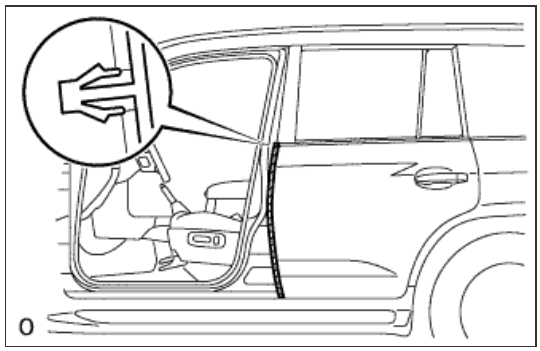
NOTICE:

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



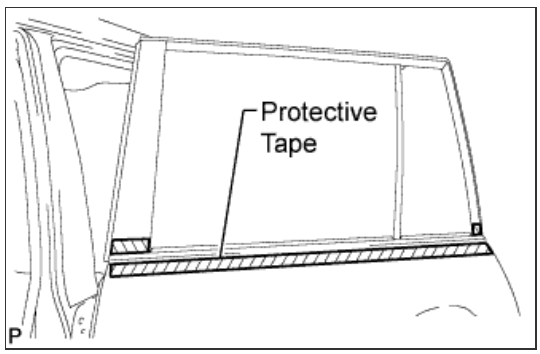
26. REMOVE REAR NO. 3 DOOR WEATHERSTRIP LH

a. Detach the claw and remove the rear No. 3 door weatherstrip.

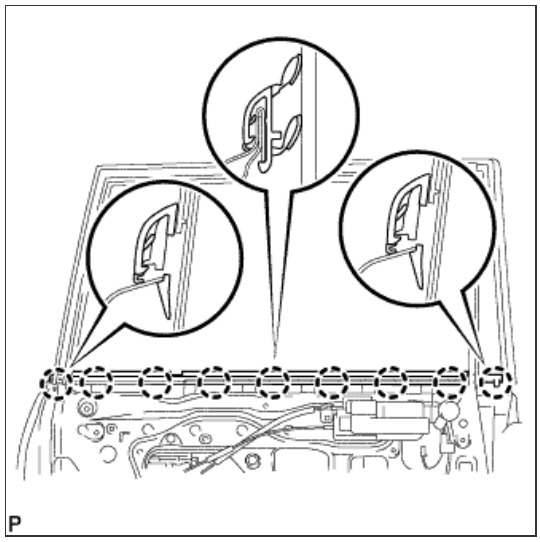


27. REMOVE REAR DOOR BELT MOULDING ASSEMBLY LH

a. Put protective tape around the belt moulding.



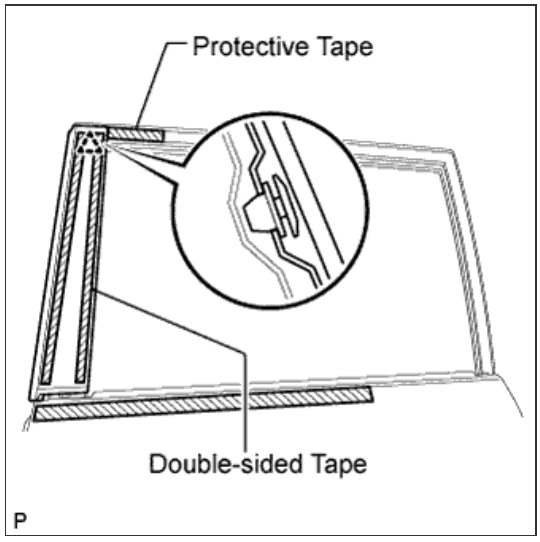
b. Detach the claw and remove the belt moulding.



28. REMOVE REAR DOOR FRONT WINDOW FRAME MOULDING LH

a. Put protective tape around the window frame moulding.

b. Detach the clip and remove the double-sided tape to remove the window frame moulding.



29. REMOVE REAR DOOR LOCK ASSEMBLY LH

a. Disconnect the connector.

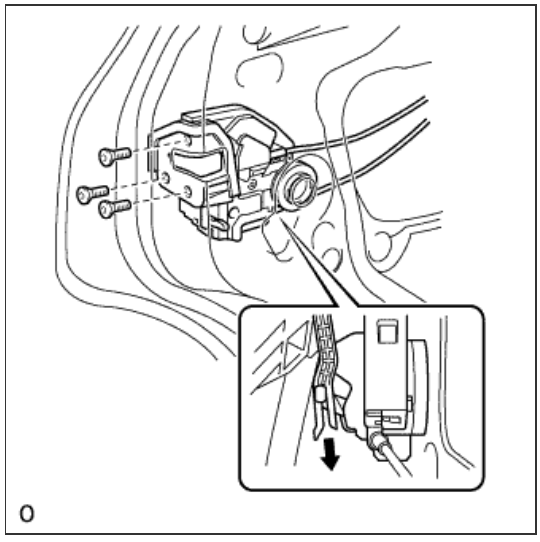
b. Using a T30 "TORX" socket, remove the 3 screws and door lock.

NOTICE:

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

HINT:

Remove the door lock through the service hole.

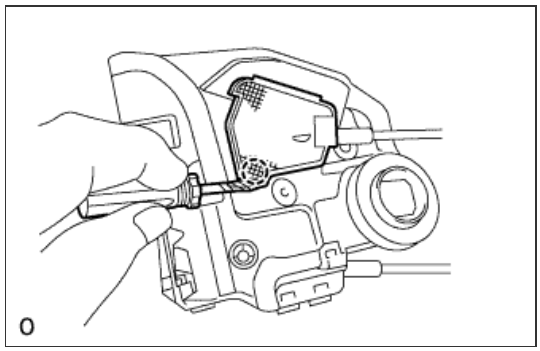


30. REMOVE REAR DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY LH

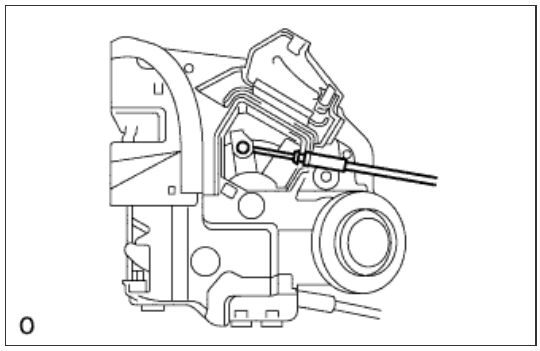
a. Using a screwdriver, detach the claw.

HINT:

Tape the screwdriver tip before use.



b. Remove the rear door lock remote control cable.

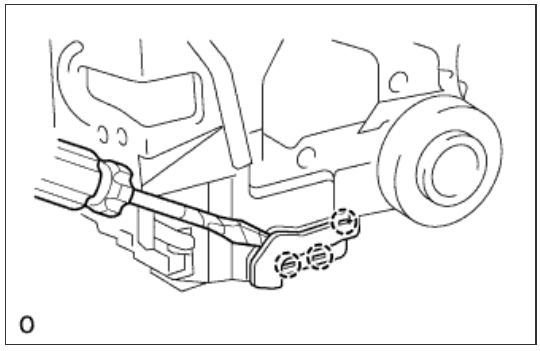


31. REMOVE REAR DOOR INSIDE LOCKING CABLE ASSEMBLY LH

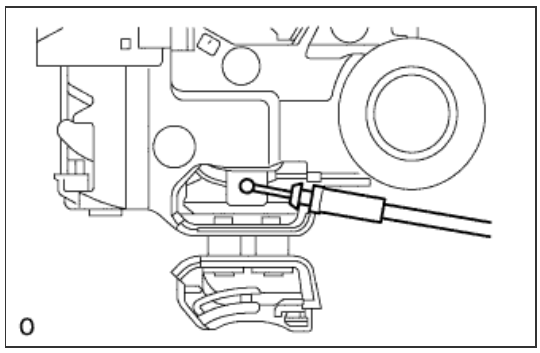
a. Using a screwdriver, detach the 3 claws.

HINT:

Tape the screwdriver tip before use.

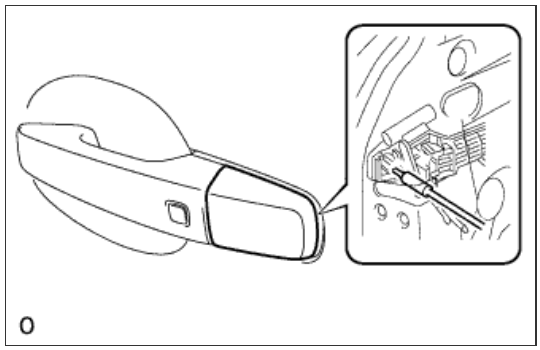


b. Remove the rear door inside locking cable.

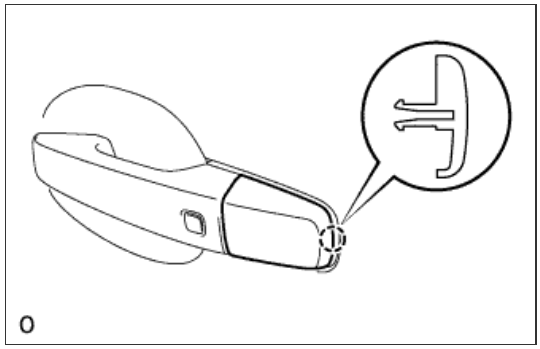


32. REMOVE REAR DOOR OUTSIDE HANDLE COVER LH

a. Using a T30 "TORX" socket, loosen the screw.

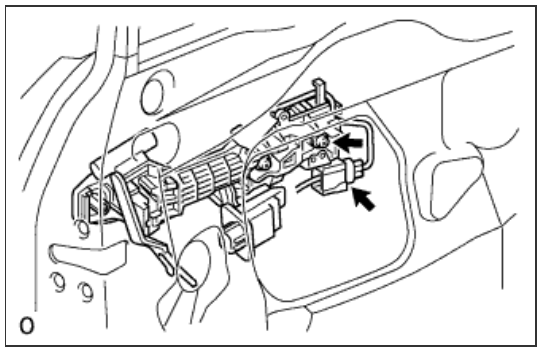


b. Detach the claw and remove the rear door outside handle cover.



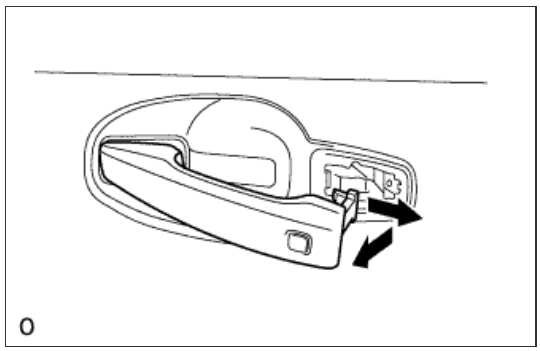
33. REMOVE REAR DOOR OUTSIDE HANDLE ASSEMBLY LH

a. Using a T30 "TORX" wrench, loosen the screw.



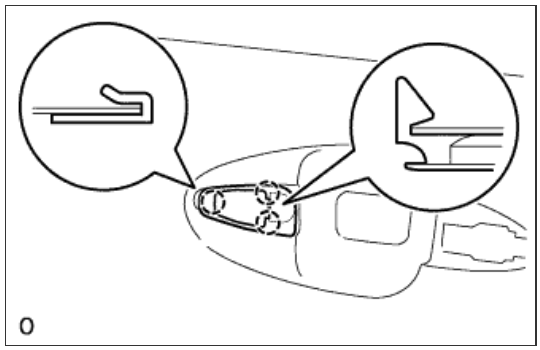
b. Disconnect the connector.

c. Remove the handle by sliding and pulling it in the direction indicated by the arrow in the illustration.



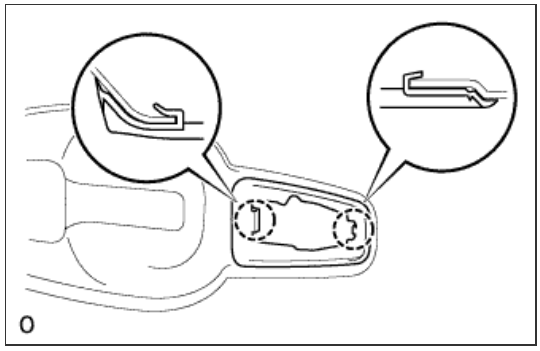
34. REMOVE REAR NO. 1 DOOR OUTSIDE HANDLE PAD LH

a. Detach the 3 claws and remove the pad.



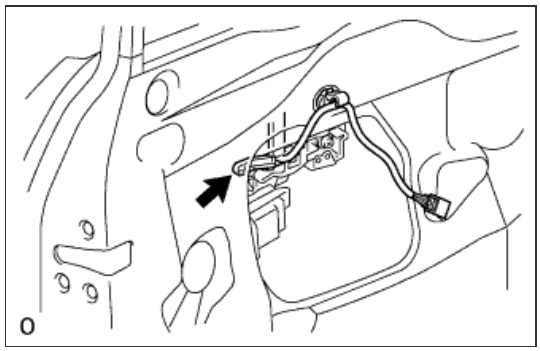
35. REMOVE REAR NO. 2 DOOR OUTSIDE HANDLE PAD LH

a. Detach the 2 claws and remove the pad.



36. REMOVE REAR DOOR OUTSIDE HANDLE FRAME SUB-ASSEMBLY LH

a. Detach the clamp.

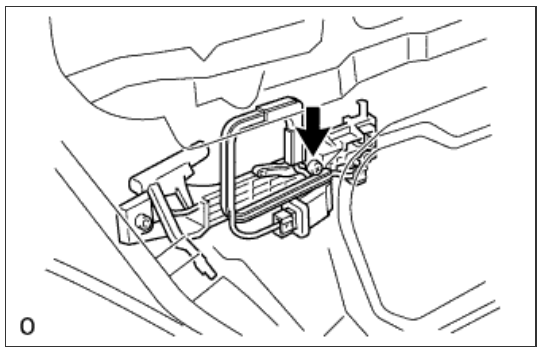


b. Using a T30 "TORX" socket, loosen the screw.

c. Slide the outside handle frame and No. 4 electrical key wire harness to remove them.

HINT:

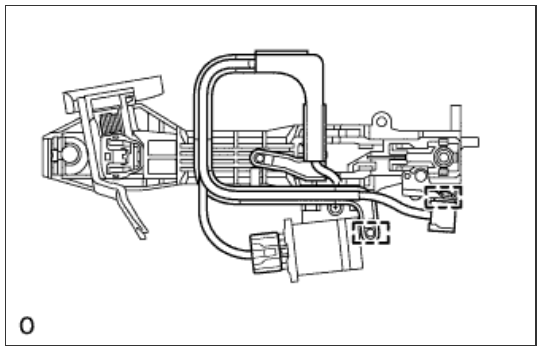
Remove the outside handle frame through the service hole.



37. REMOVE NO. 4 ELECTRICAL KEY WIRE HARNESS

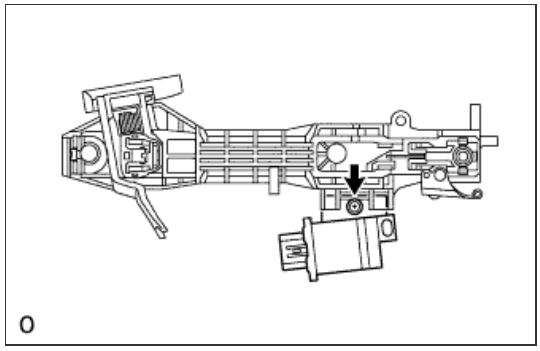
a. Disconnect the connector.

b. Detach the 2 clamps, and remove the wire harness from the frame.



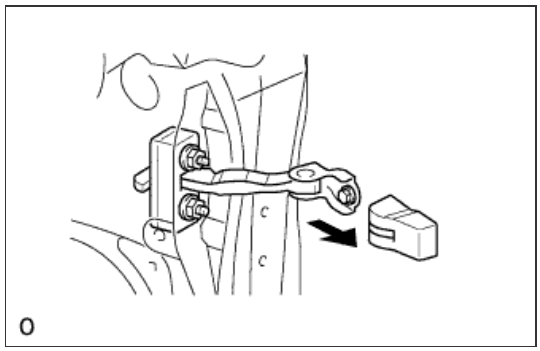
38. REMOVE DOOR ELECTRICAL KEY OSCILLATOR

a. Remove the screw and door electrical key oscillator.



39. REMOVE REAR DOOR CHECK COVER LH

a. Remove the cover.



40. REMOVE REAR DOOR CHECK ASSEMBLY LH

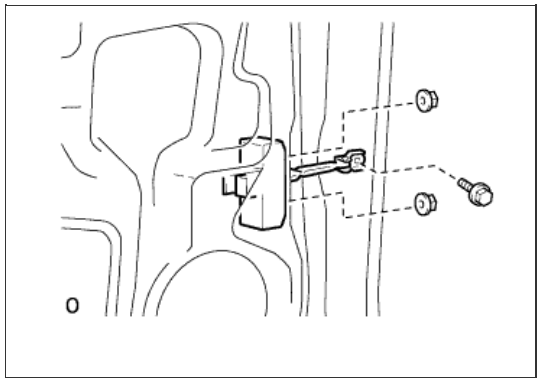
a. Remove the bolt, 2 nuts and door check.

HINT:

Remove the door check through the service hole.

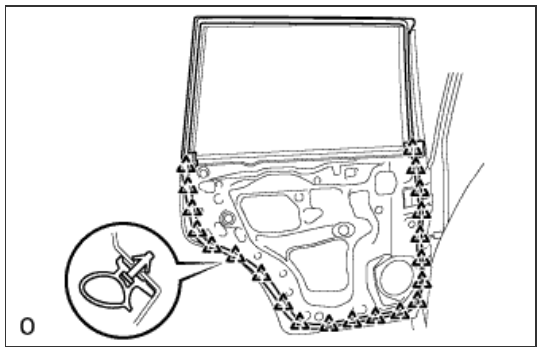
NOTICE:

Be careful when removing the bolt and nuts as the door check may fall and become damaged.



41. REMOVE REAR DOOR WEATHERSTRIP LH

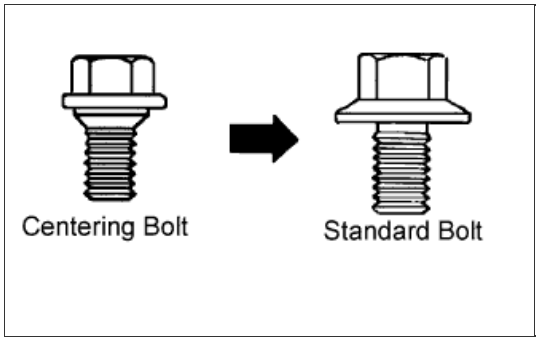
a. Detach the 21 clips and remove the rear door weatherstrip.



HINT:

If clips are damaged during removal, replace them.

for Preparation Click here

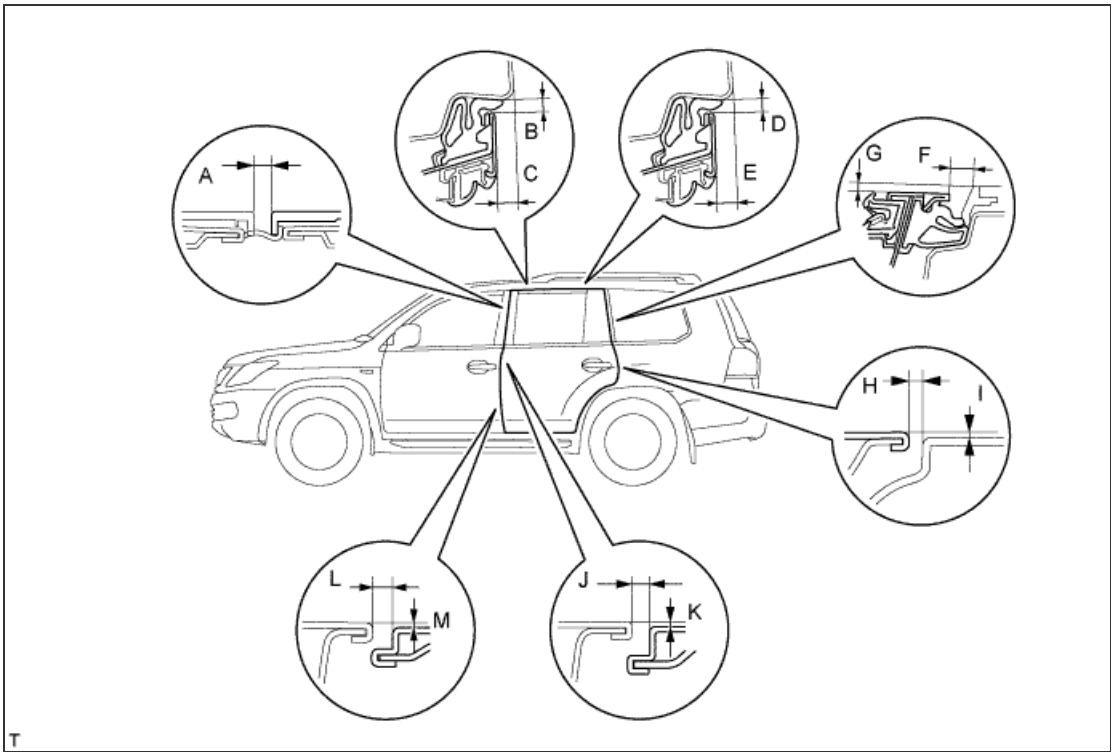


HINT:

- **Before adjusting the door position for vehicles equipped with side airbags and curtain shield airbags, be sure to disconnect the cable from the negative (-) battery terminal.**
- **Use the same procedures for the RH side and LH side.**
- **The procedures listed below are for the LH side.**
- **Centering bolts are used to mount the door hinge to the vehicle body and door. The door cannot be adjusted with the centering bolts on. Substitute the centering bolts with standard bolts (with washers) when making adjustments.**
- **A bolt without a torque specification is shown in the standard bolt chart (Click here).**

1. INSPECT REAR DOOR

a. Check that the clearance measurements of areas A to M are within the standard range.



Standard:

Area	Specified Condition	Area	Specified Condition
A	3.5 to 6.5 mm (0.139 to 0.256	H	2.2 to 5.2 mm (0.0866 to

	in.)		0.205 in.)
B	3.4 to 6.4 mm (0.134 to 0.252 in.)	I	-1.5 to 1.5 mm (-0.0591 to 0.0591 in.)
C	6.5 to 9.5 mm (0.256 to 0.374 in.)	J	2.5 to 5.5 mm (0.0984 to 0.217 in.)
D	3.4 to 6.4 mm (0.134 to 0.252 in.)	K	-1.5 to 1.5 mm (-0.0591 to 0.0591 in.)
E	5.6 to 8.6 mm (0.221 to 0.339 in.)	L	2.5 to 5.5 mm (0.0984 to 0.217 in.)
F	5.0 to 8.0 mm (0.197 to 0.315 in.)	M	-1.5 to 1.5 mm (-0.0591 to 0.0591 in.)
G	1.2 to 4.2 mm (0.0472 to 0.165 in.)	-	-

2. ADJUST REAR DOOR

a. Loosen the body hinge bolts and adjust the door position.

SST
09812-00010

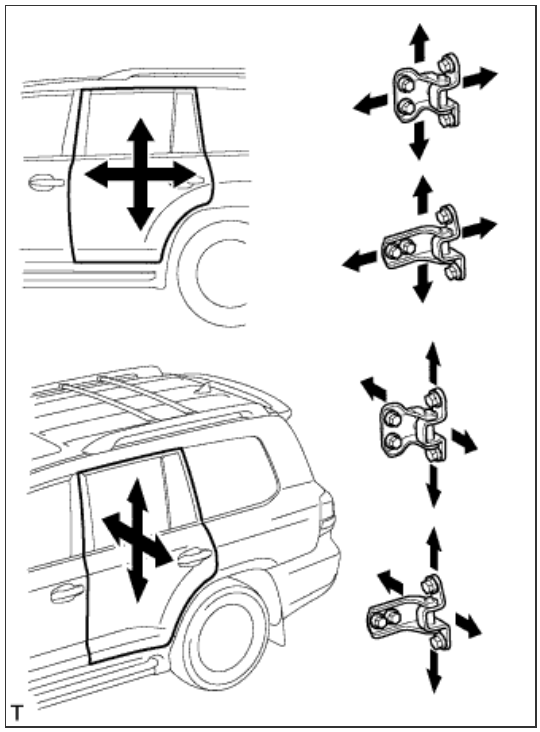
b. Tighten the body hinge bolts after the adjustment.

Torque:
26 N*m{ 265 kgf*cm , 19 ft.*lbf }

c. Loosen the door hinge bolts and adjust the door position.

d. Tighten the door hinge bolts after the adjustment.

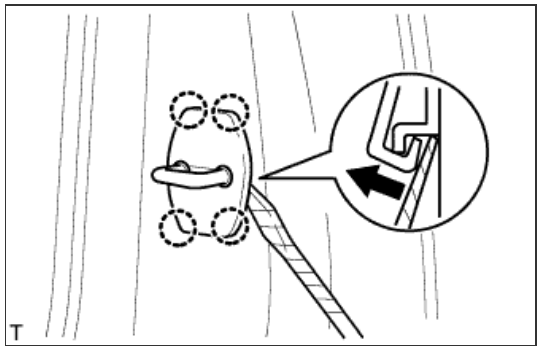
Torque:
26 N*m{ 265 kgf*cm , 19 ft.*lbf }



e. Using a screwdriver, detach the 4 claws and remove the cover.

HINT:

Tape the screwdriver tip before use.

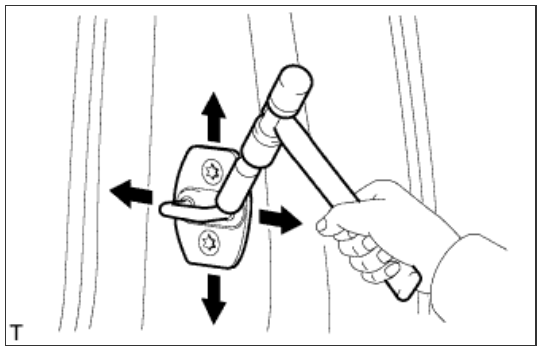


f. Using a T40 "TORX" socket, adjust the striker position by slightly loosening the striker mounting screws and hitting the striker with a plastic-faced hammer.

g. Using a T40 "TORX" socket, tighten the striker mounting screws after the adjustment.

Torque:
23 N*m{ 235 kgf*cm , 17 ft.*lbf }

h. Attach the 4 claws to install the cover.



for Preparation Click here

HINT:

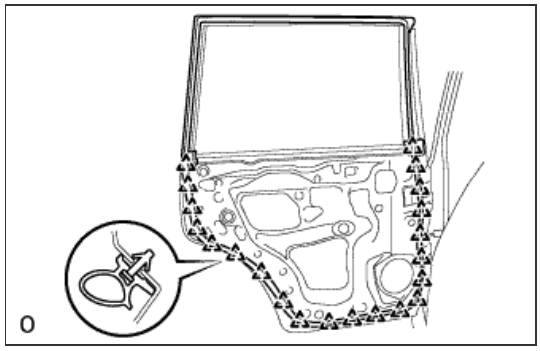
- **Use the same procedures for the RH side and LH side.**
- **The procedures listed below are for the LH side.**
- **A bolt without a torque specification is shown in the standard bolt chart (Click here).**

1. INSTALL REAR DOOR WEATHERSTRIP LH

a. Attach the 21 clips to install the weatherstrip.

HINT:

If clips are damaged during installation, replace them.



2. INSTALL REAR DOOR CHECK ASSEMBLY LH

a. Apply MP grease to the sliding areas of the door check.

b. Install the door check to the door panel with the 2 nuts.

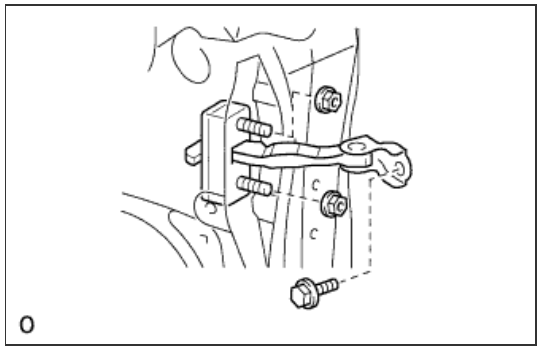
Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }

c. Apply adhesive to the threads of the bolt.

Adhesive:
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

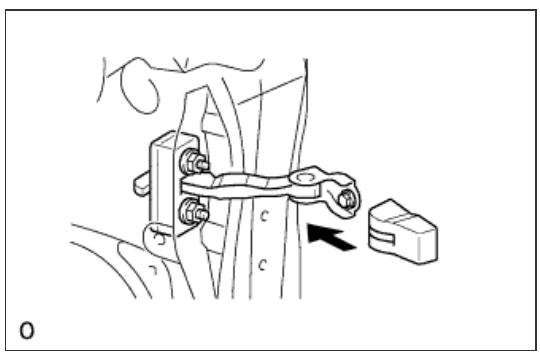
d. Install the bolt.

Torque:
27 N*m{ 275 kgf*cm , 20 ft.*lbf }



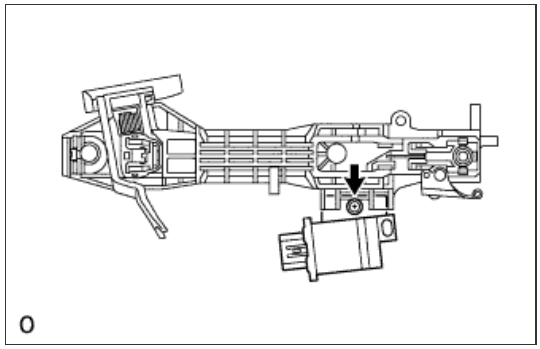
3. INSTALL REAR DOOR CHECK COVER LH

a. Install the door check cover.



4. INSTALL DOOR ELECTRICAL KEY OSCILLATOR

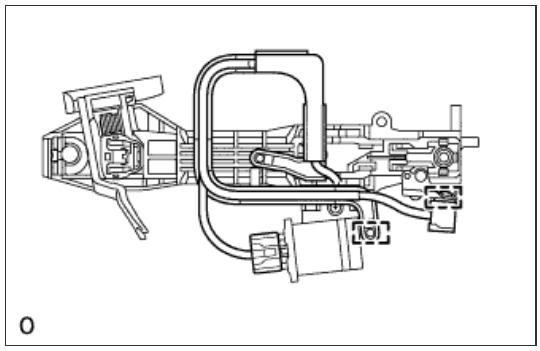
a. Install the door electrical key oscillator with the screw.



5. INSTALL NO. 4 ELECTRICAL KEY WIRE HARNESS

a. Connect the connector.

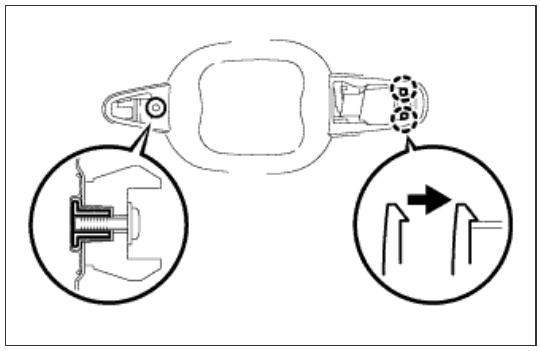
b. Attach the 2 clamps to install the wire harness to the frame.



6. INSTALL REAR DOOR OUTSIDE HANDLE FRAME SUB-ASSEMBLY LH

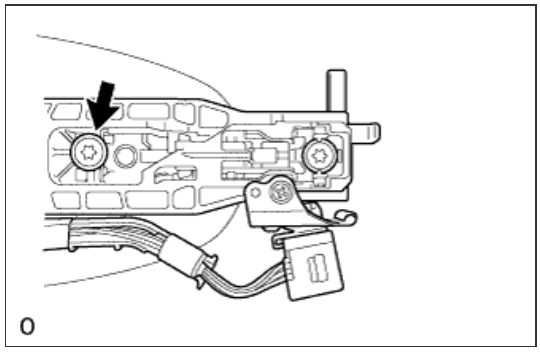
a. Apply MP grease to the sliding parts on the rear door outside handle frame sub-assembly.

b. Attach the 2 claws to install the rear door outside handle frame sub-assembly.

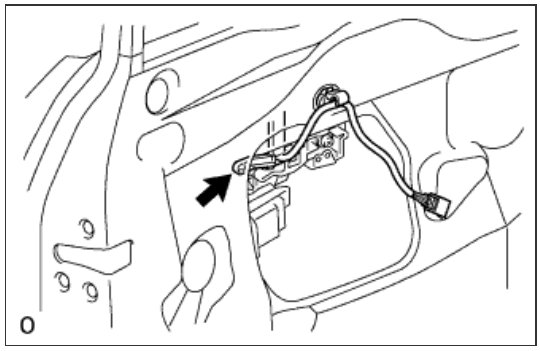


c. Using a T30 "TORX" wrench, tighten the screw.

Torque:
4.0 N*m{ 41 kgf*cm , 35 in.*lbf }

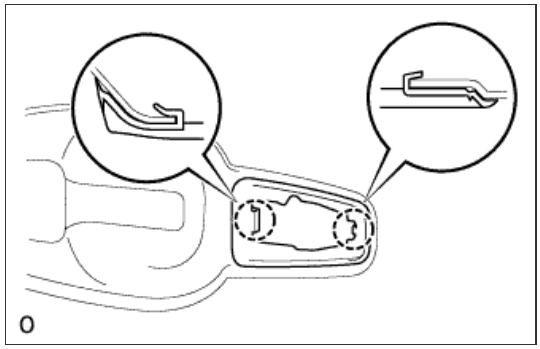


d. Attach the clamp.



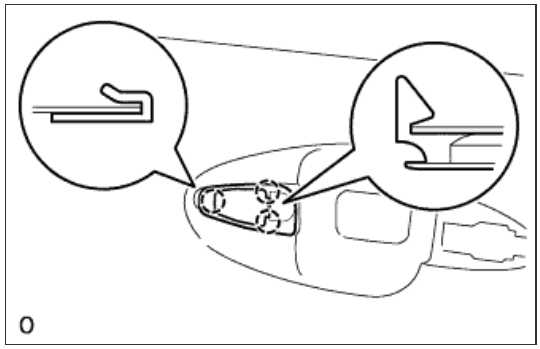
7. INSTALL REAR NO. 2 DOOR OUTSIDE HANDLE PAD LH

a. Attach the 2 claws to install the rear No. 2 door outside handle pad.



8. INSTALL REAR NO. 1 DOOR OUTSIDE HANDLE PAD LH

a. Attach the 3 claws to install the rear No. 1 door outside handle pad.



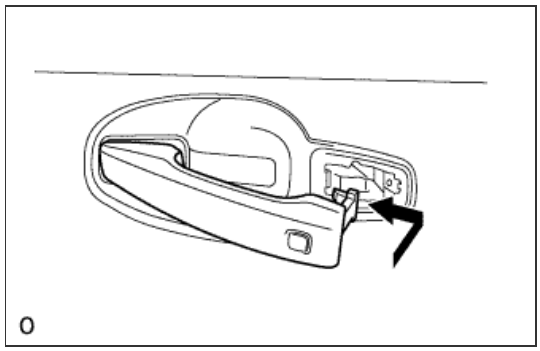
9. INSTALL REAR DOOR OUTSIDE HANDLE ASSEMBLY LH

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.

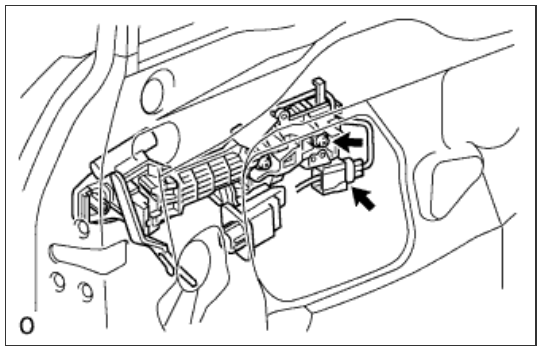
b. Insert the rear end of the rear door outside handle assembly into the rear door outside handle frame. Next, slide the rear door outside handle assembly toward the front of the vehicle to install it.



c. Using a T30 "TORX" socket, tighten the screw

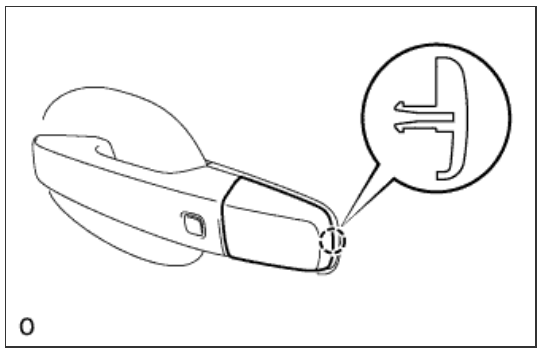
c. Using a T30 "TORX" socket, tighten the screw.

d. Connect the connector.

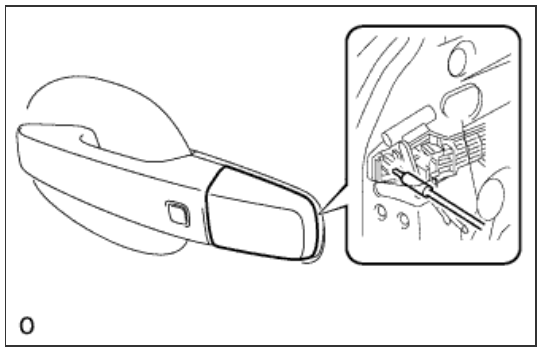


10. INSTALL REAR DOOR OUTSIDE HANDLE COVER LH

a. Attach the claw to install the rear door outside handle cover.

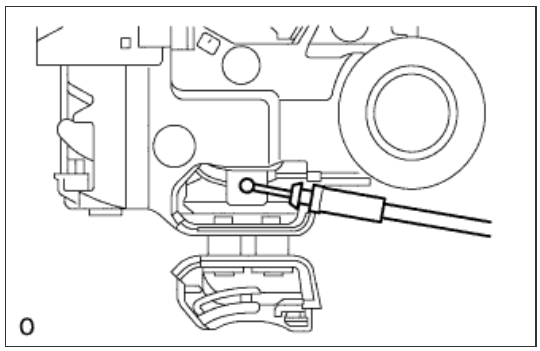


b. Using a T30 "TORX" socket, tighten the screw.

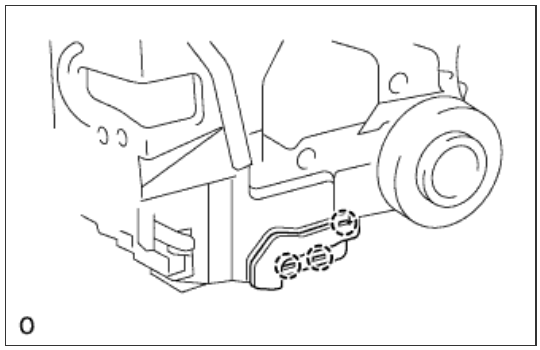


11. INSTALL REAR DOOR INSIDE LOCKING CABLE ASSEMBLY LH

a. Install the rear door inside locking cable assembly.

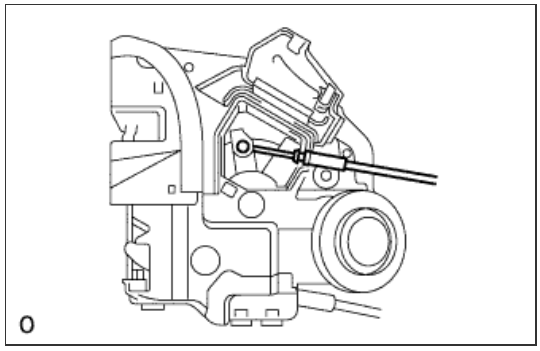


b. Attach the 3 claws.

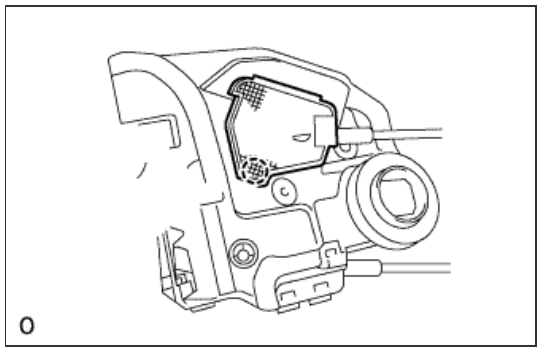


12. INSTALL REAR DOOR LOCK REMOTE CONTROL CABLE ASSEMBLY LH

a. Install the rear door lock remote control cable assembly.



b. Attach the claw.



13. INSTALL REAR DOOR LOCK ASSEMBLY LH

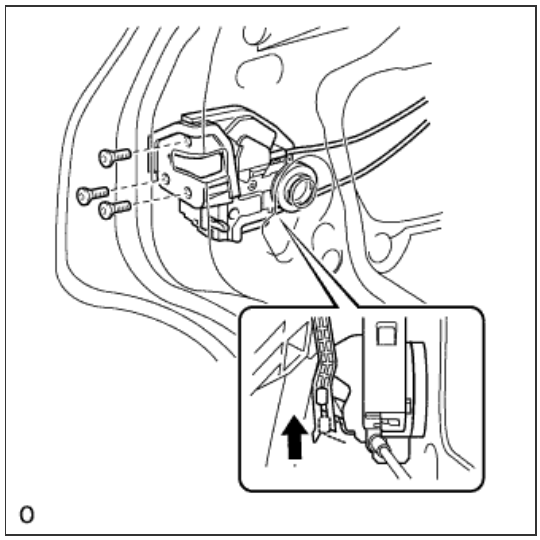
a. Apply MP grease to the sliding parts of the rear door lock assembly.

b. Insert the rear door lock assembly into 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, install the door lock with the 3 screws.

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



14. INSTALL REAR DOOR FRONT WINDOW FRAME MOULDING LH

a. Clean the vehicle body surface.

i. Using a heat light, heat the vehicle body surface.

ii. Remove the double-sided tape from the vehicle body surface.

iii. Wipe off any tape adhesive residue with cleaner.

b. Install a new window frame moulding.

i. Using a heat light, heat a new window frame moulding and the vehicle body surface.

ii. Remove the peeling paper from the face of the window frame moulding.

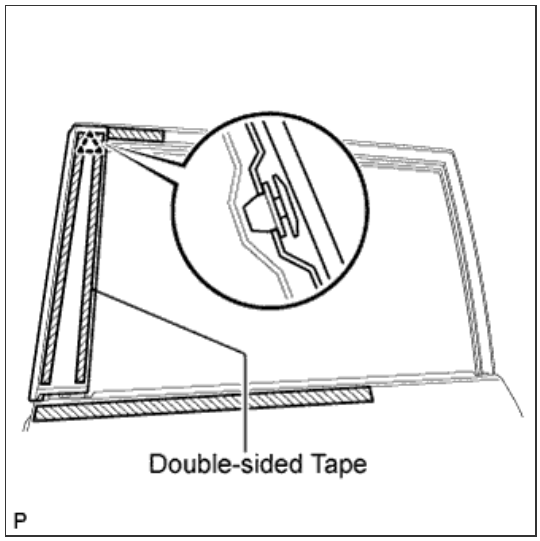
HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Attach the clip and double-sided tape to install the window frame moulding.

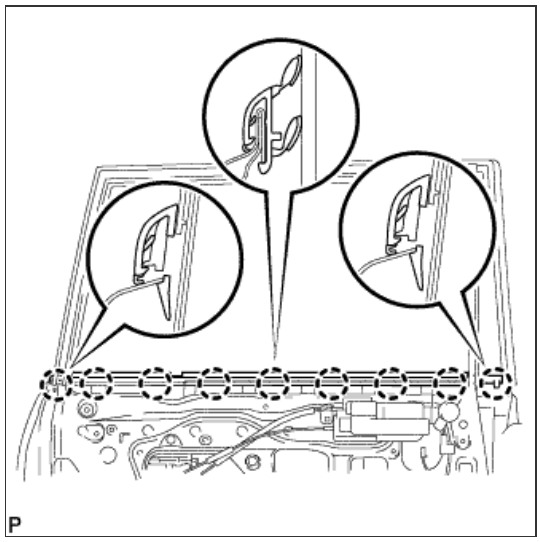
HINT:

Press the window frame moulding firmly to install it.



15. INSTALL REAR DOOR BELT MOULDING ASSEMBLY LH

a. Attach the claw to install the belt moulding.



16. INSTALL REAR NO. 3 DOOR WEATHERSTRIP LH

a. Clean the vehicle body surface.

i. Using a heat light, heat the vehicle body surface.

ii. Remove the double-sided tape from the vehicle body surface.

iii. Wipe off any tape adhesive residue with cleaner.

b. Install a new rear No. 3 door weatherstrip.

i. Using a heat light, heat a new rear No. 3 door weatherstrip and the vehicle body surface.

ii. Remove the peeling paper from the face of the rear No. 3 door weatherstrip.

HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Attach the claw and double-sided tape to install the rear No. 3 door weatherstrip.

HINT:

Press the rear No. 3 door weatherstrip firmly to install it.



17. INSTALL REAR NO. 1 POWER WINDOW REGULATOR MOTOR ASSEMBLY LH

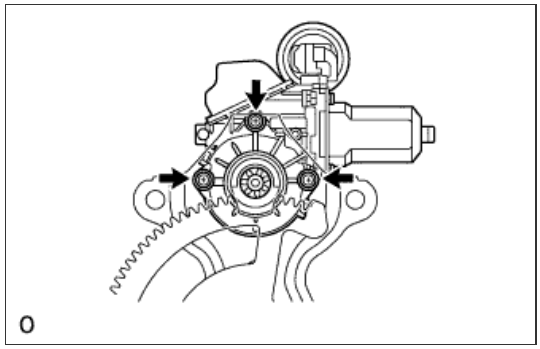
a. Apply MP grease to the sliding and rotating areas of the regulator motor.

b. Using a T25 "TORX" driver, install the motor with the 3 screws.

Torque:
5.4 N*m{ 55 kgf*cm , 48 in.*lbf }

HINT:

A new rear window regulator uses self-tapping screws to thread new installation holes when the self-tapping screws are inserted.



18. INSTALL REAR DOOR WINDOW REGULATOR SUB-ASSEMBLY LH

a. Apply MP grease to the sliding parts of the rear door window regulator sub-assembly.

b. Temporarily install the temporary bolt onto the window regulator.

c. Insert the window regulator into the door panel. Use the temporary bolt to hang the window regulator on the door panel.

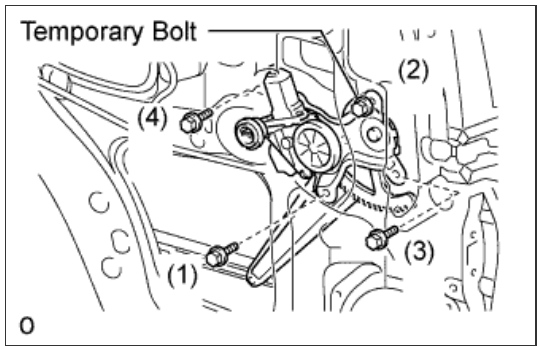
NOTICE:

Be careful not to drop the window regulator as it may become damaged.

d. Temporarily install the window regulator with the 3 bolts.

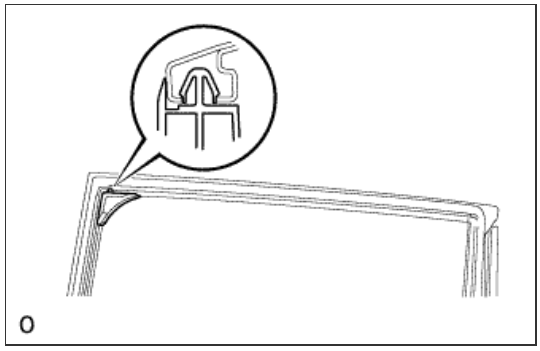
e. Tighten the 4 bolts in the order shown in the illustration.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }



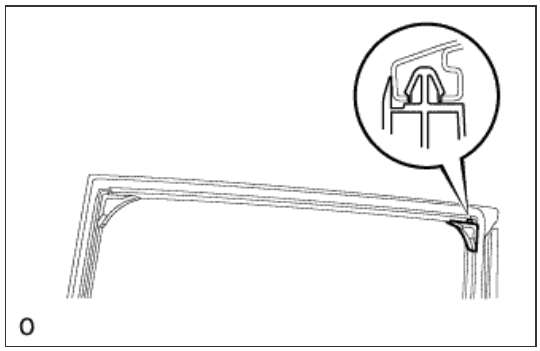
19. INSTALL REAR NO. 2 DOOR FRAME GARNISH LH

a. Attach the clip to install a new rear door frame garnish.



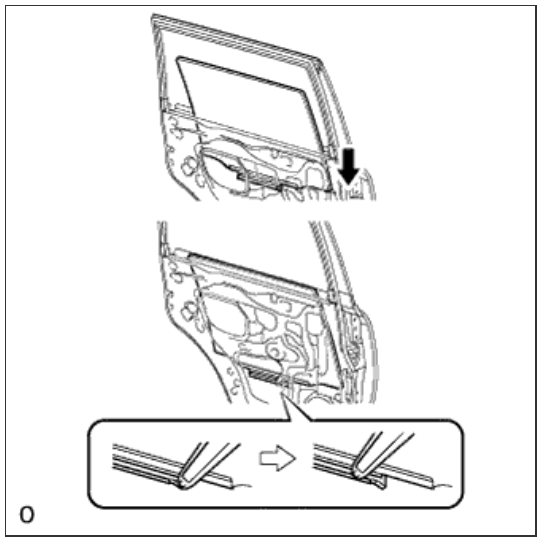
20. INSTALL REAR DOOR FRAME GARNISH LH

a. Attach the clip to install a new rear door frame garnish.



21. INSTALL REAR DOOR GLASS SUB-ASSEMBLY LH

a. Slide the rear door glass sub-assembly as shown in the illustration to install it.

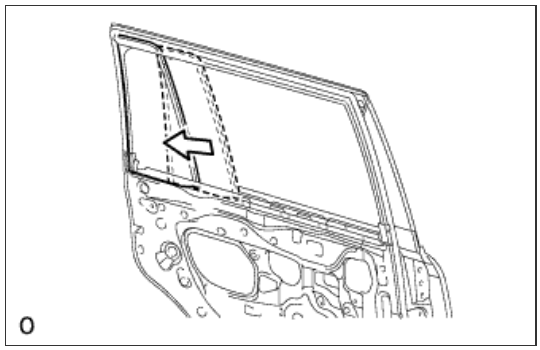


22. INSTALL REAR DOOR QUARTER WINDOW WEATHERSTRIP LH

a. Install the rear door quarter window weatherstrip to the rear door quarter window glass.

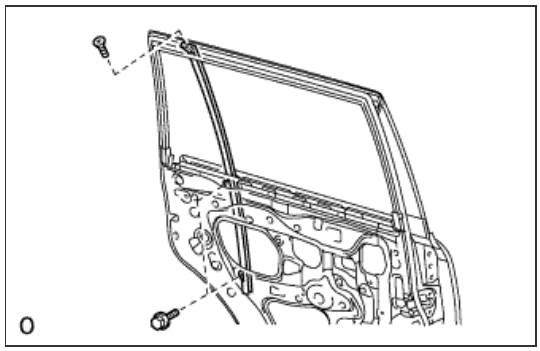
23. INSTALL REAR DOOR QUARTER WINDOW GLASS LH

a. Install the quarter glass together with the rear door quarter window weatherstrip in the direction indicated by the arrow in the illustration.



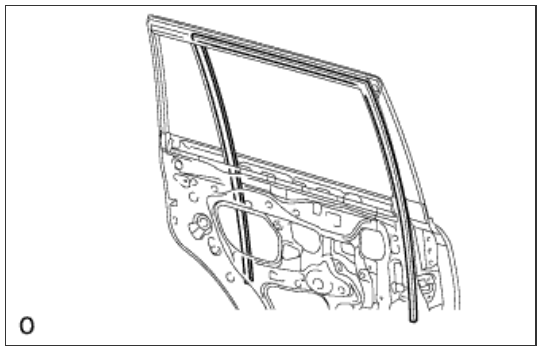
24. INSTALL REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY LH

a. Install the rear door rear lower window frame with the 2 bolts and screw.



25. INSTALL REAR DOOR GLASS RUN LH

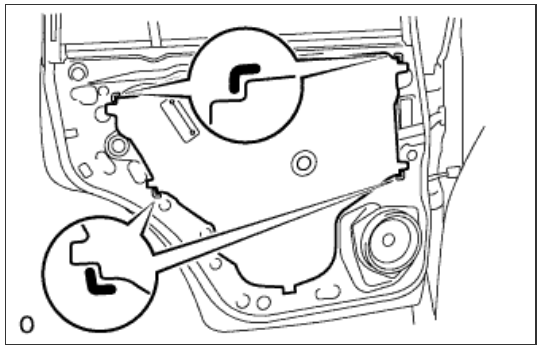
a. Install the rear door glass run.



26. INSTALL REAR DOOR SERVICE HOLE COVER LH

a. Apply butyl tape to the door.

b. Pass the rear door lock remote control cable and rear door inside locking cable through a new rear door service hole cover.

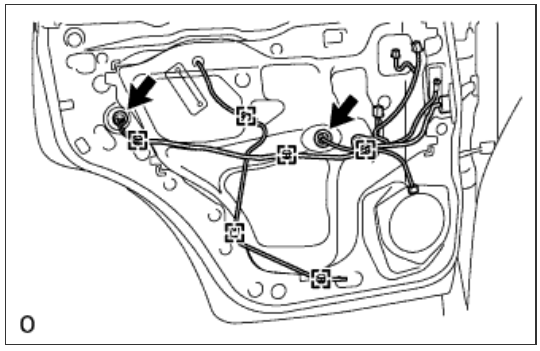


NOTICE:

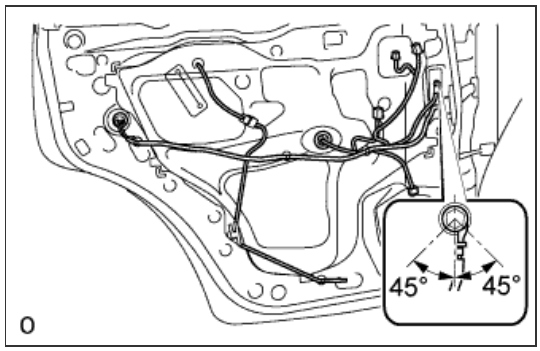
- **When installing the service hole cover, pull the links and connectors through the service hole cover.**
- **There should be no wrinkles or folds after installing the service hole cover.**
- **After installing the service hole cover, check the sealing quality.**

c. Connect the 2 connectors.

d. Attach the 6 clamps.



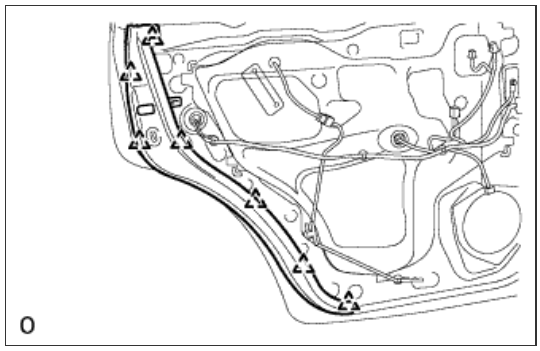
e. Install the bolt as shown in the illustration.



Torque:
8.4 N*m{ 86 kgf*cm , 74 in.*lbf }

27. INSTALL REAR DOOR TRIM COVER LH

a. Attach the 7 clips to install the door trim cover.



28. INSTALL REAR SPEAKER SET

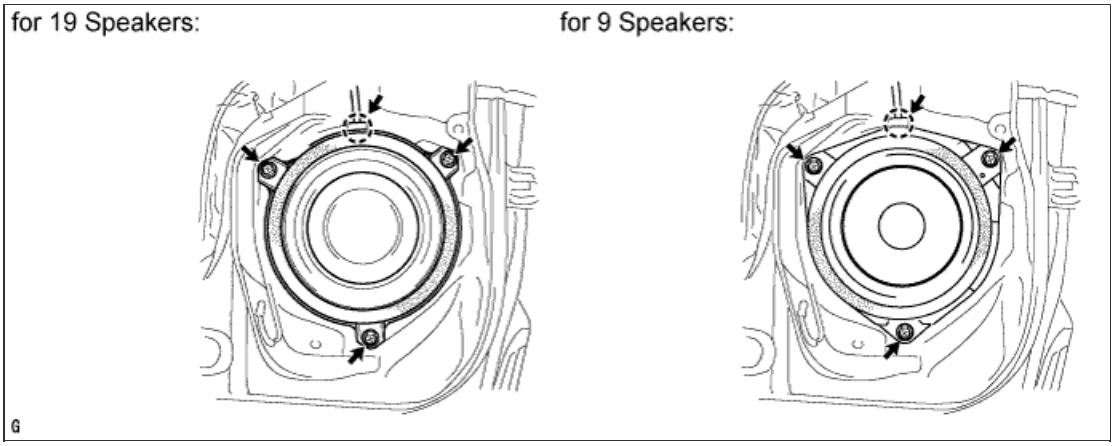
a. Temporarily install the speaker by attaching the claw of the speaker to the door panel.

b. Install the speaker with the 3 screws.

NOTICE:

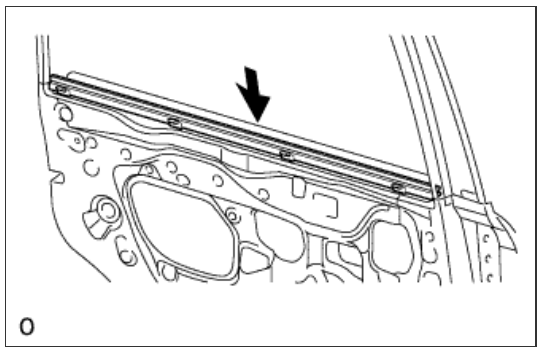
Do not touch the cone part of the speaker.

c. Connect the connector.



29. INSTALL REAR INNER DOOR GLASS WEATHERSTRIP LH

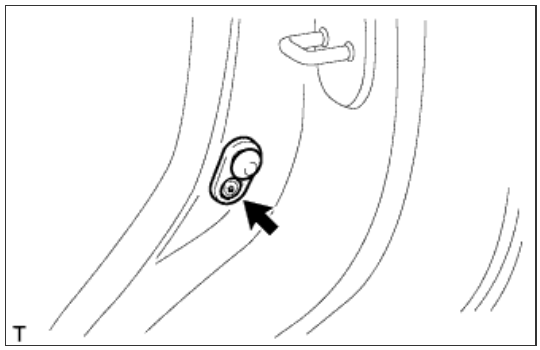
a. Install the rear inner door glass weatherstrip to the door panel.



30. INSTALL COURTESY LIGHT ASSEMBLY

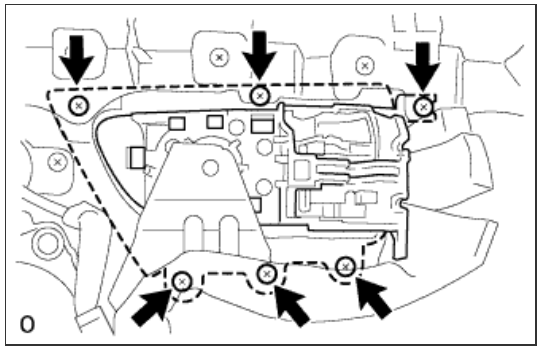
a. Connect the connector.

b. Using a T30 "TORX" socket wrench, install the switch with the screw.

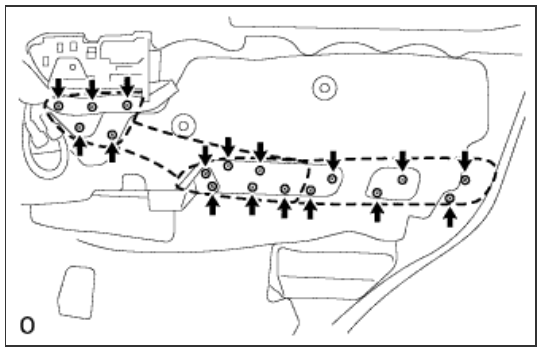


31. INSTALL REAR DOOR INSIDE HANDLE SUB-ASSEMBLY LH

a. Install the inside handle to the trim board with the 6 screws.



b. Install the rear door armrest assembly to the trim board with the 17 screws.



32. INSTALL REAR NO. 3 SPEAKER ASSEMBLY (for 19 Speakers)

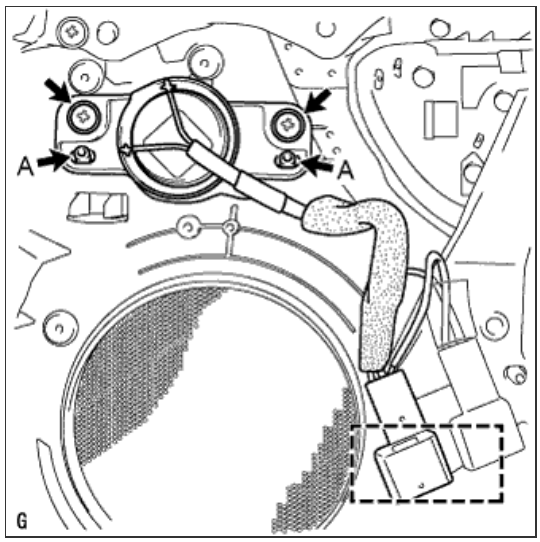
a. Align the speaker to the door position pins labeled A.

b. Install the speaker with the 2 screws.

NOTICE:

Do not touch the cone part of the speaker.

c. Attach the clamp and connect the connector.



33. INSTALL REAR NO. 2 SPEAKER ASSEMBLY (for 19 Speakers)

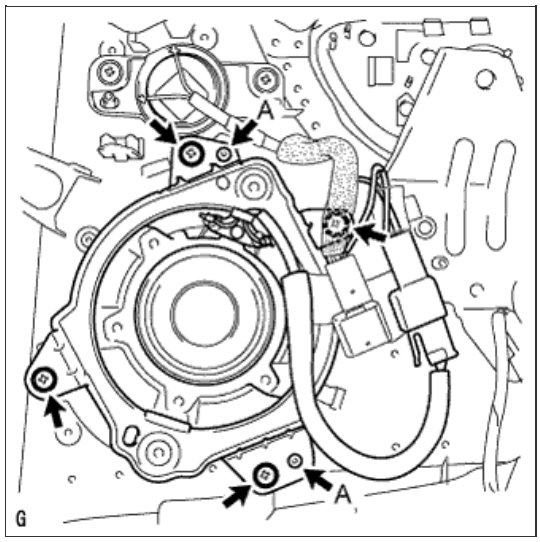
a. Align the speaker to the door position pins labeled A.

b. Install the speaker with the 4 screws.

NOTICE:

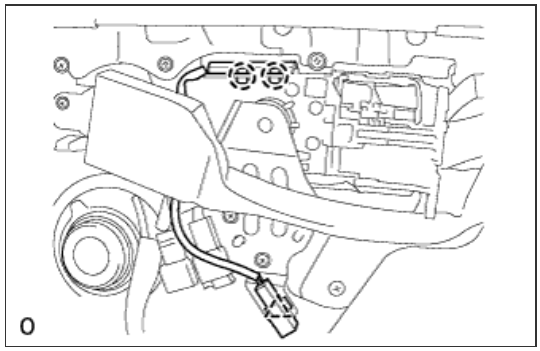
Do not touch the cone part of the speaker.

c. Connect the connector.



34. INSTALL REAR DOOR INSIDE HANDLE ILLUMINATION LIGHT ASSEMBLY LH

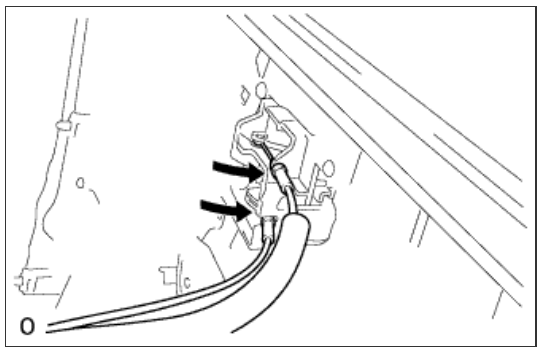
a. Attach the 2 claws to install the light.



35. INSTALL REAR DOOR TRIM BOARD SUB-ASSEMBLY LH

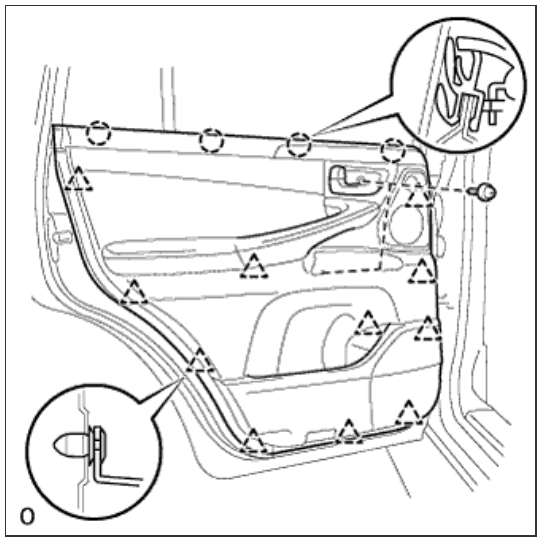
a. Connect the connector.

b. Connect the rear door lock remote control cable and rear door inside locking cable to the rear door inside handle sub-assembly.



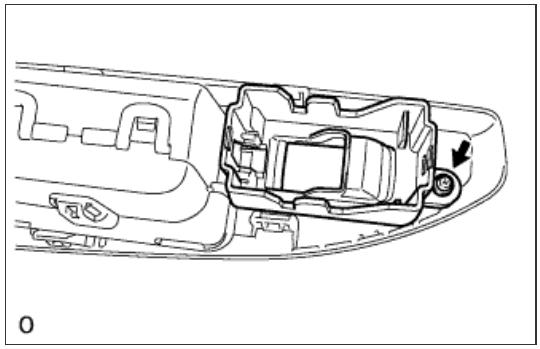
c. Attach the 4 claws and 11 clips to install the rear door trim board sub-assembly.

d. Install the 2 screws.



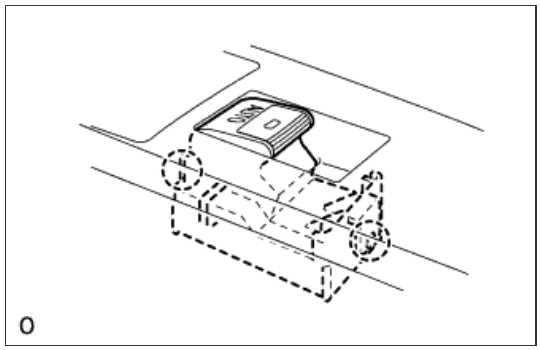
36. INSTALL REAR LOWER DOOR ARMREST BASE PANEL LH

a. Install the rear lower door armrest base panel with the screw.



37. INSTALL REAR POWER WINDOW REGULATOR SWITCH ASSEMBLY

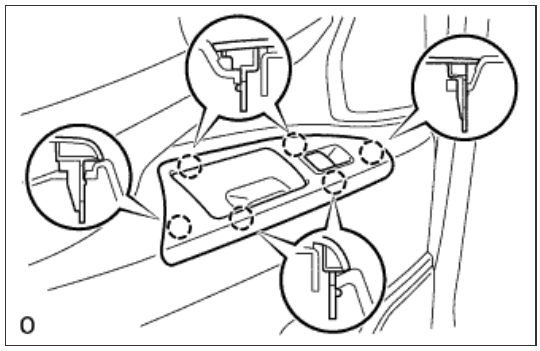
a. Attach the 2 claws to install the window regulator switch.



38. INSTALL REAR UPPER DOOR ARMREST BASE PANEL LH

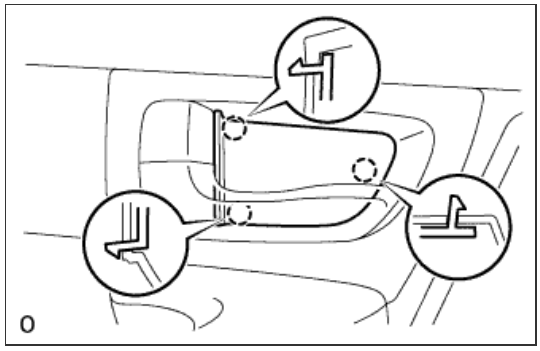
a. Connect the connector.

b. Attach the 6 claws to install the rear upper door armrest base panel.



39. INSTALL REAR DOOR INSIDE HANDLE BEZEL PLUG LH

a. Attach the 3 claws to install the bezel plug.



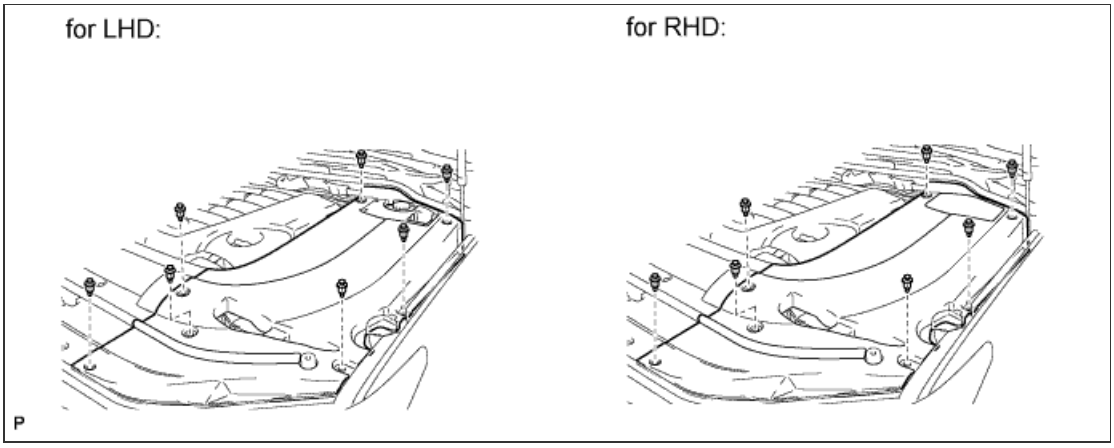
40. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

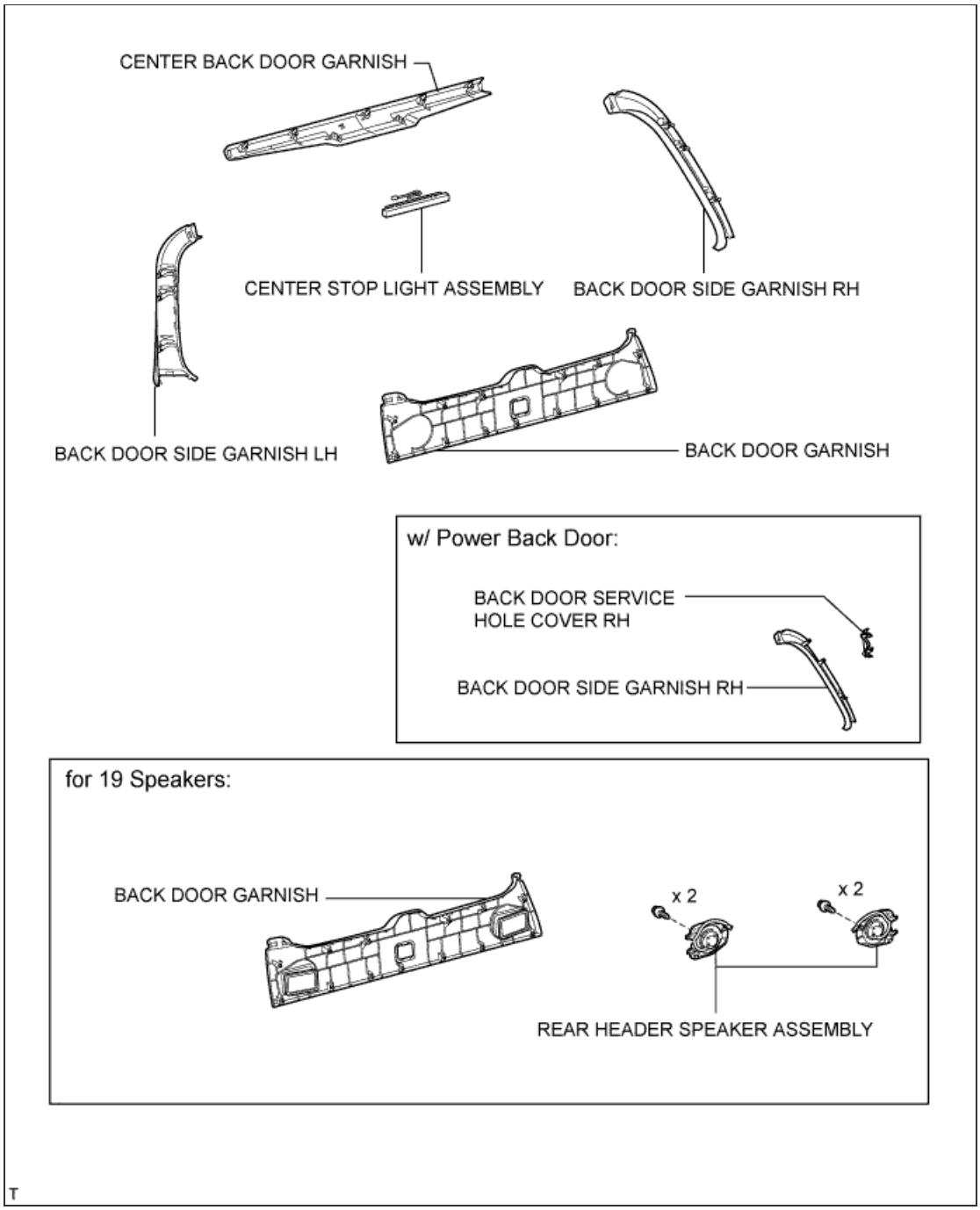
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

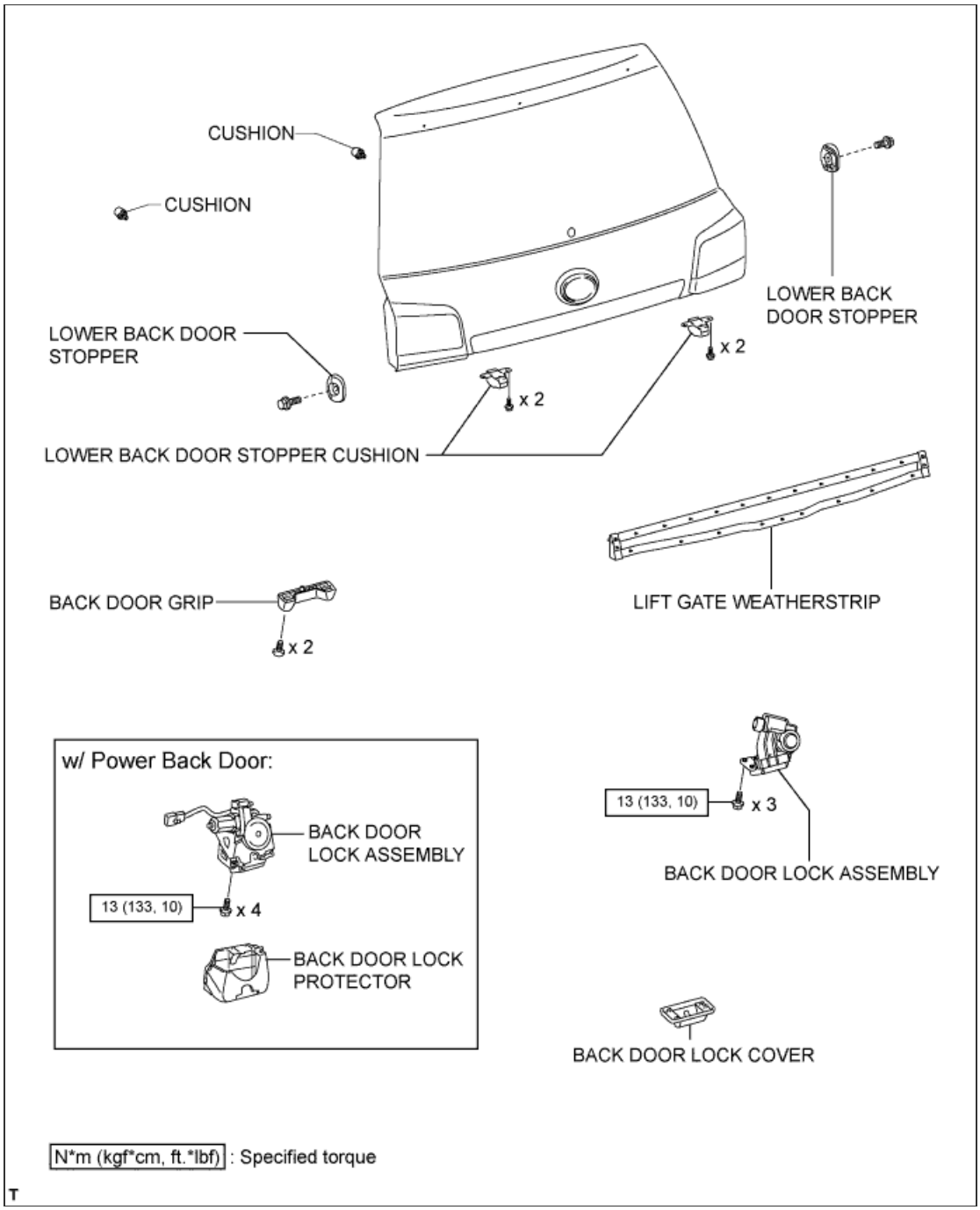
41. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

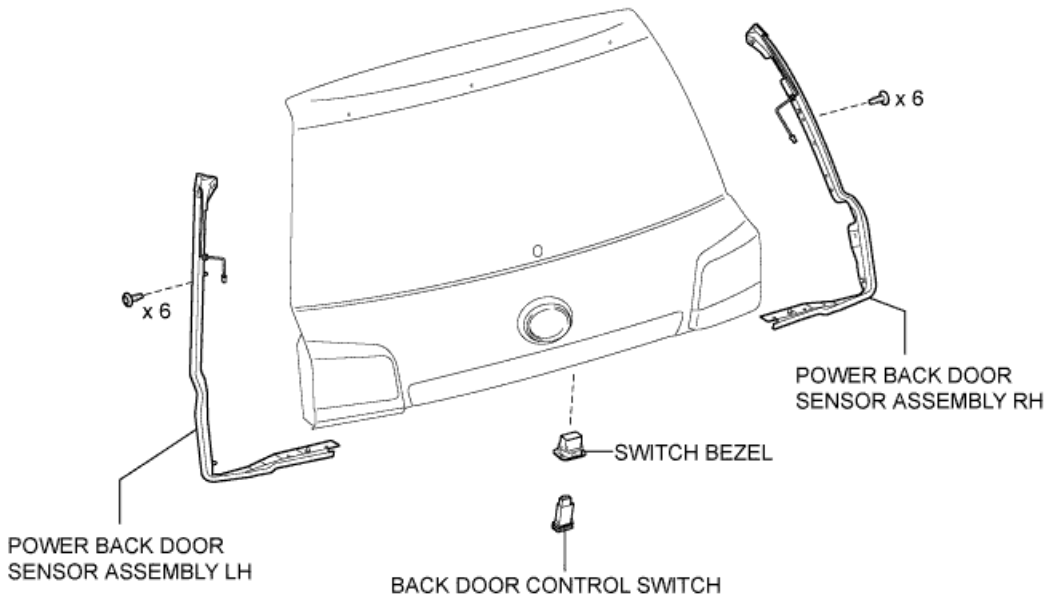


for Preparation Click here

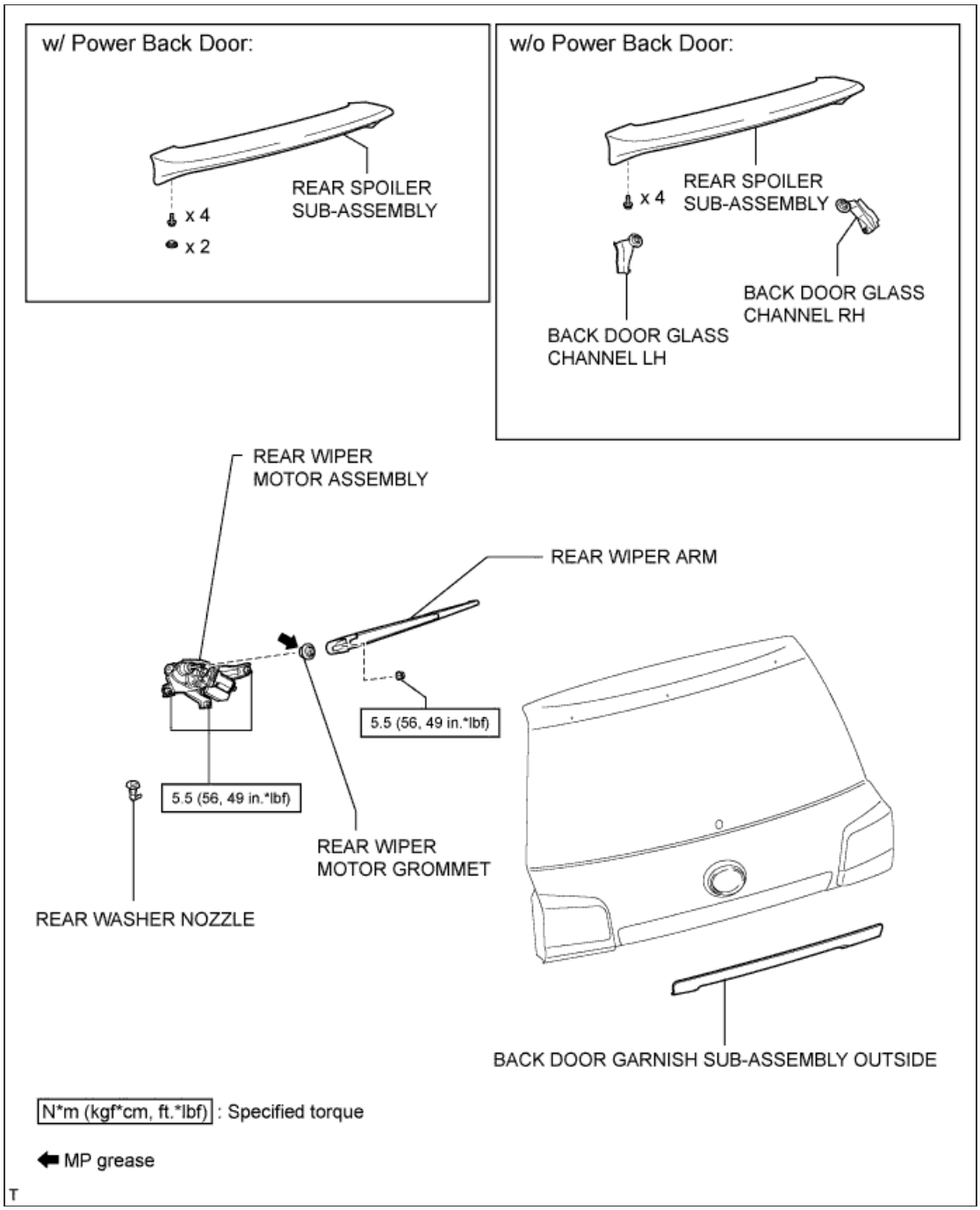


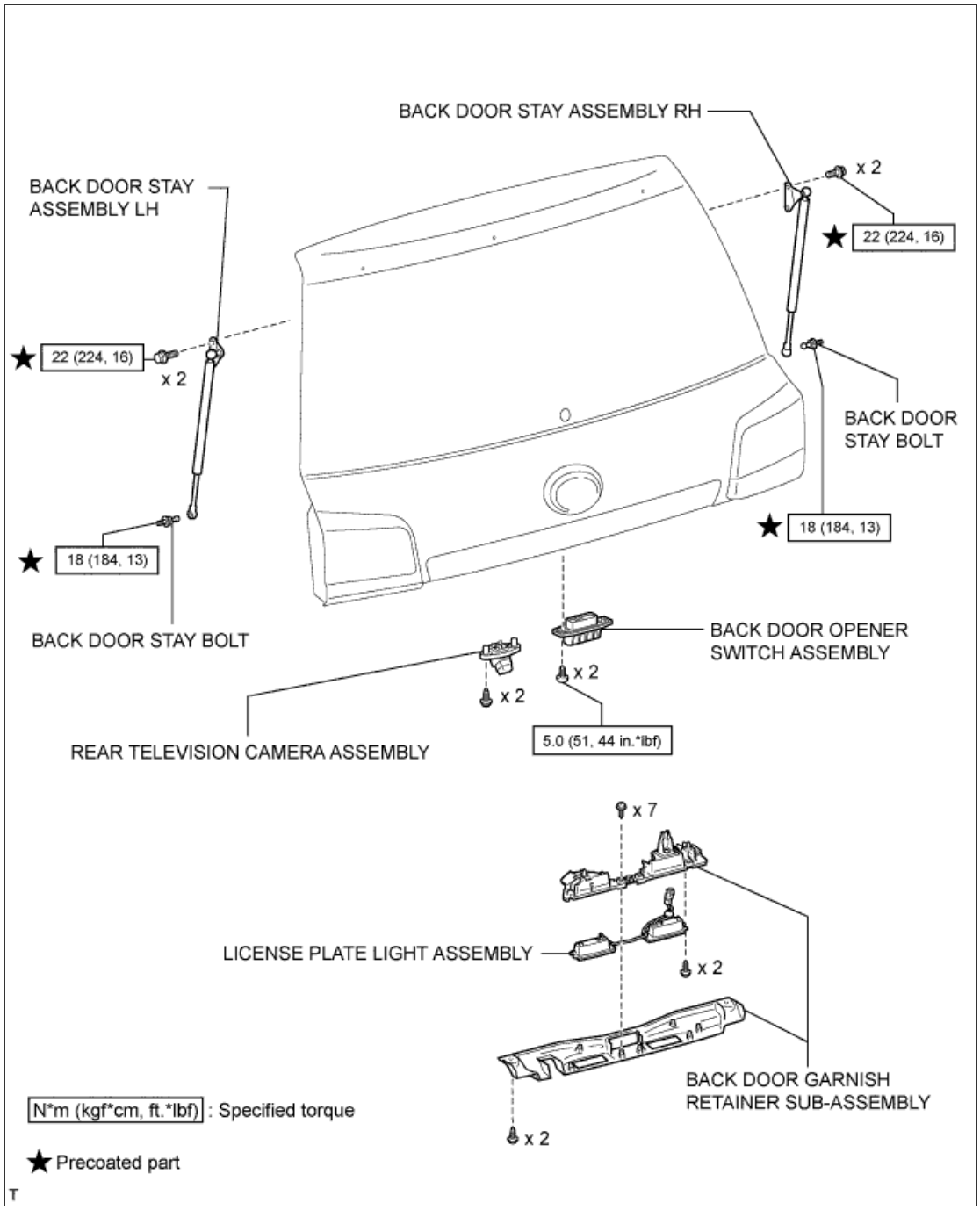

CUSHION
CUSHION
LOWER BACK DOOR STOPPER
LOWER BACK DOOR STOPPER
x 2
x 2
LOWER BACK DOOR STOPPER CUSHION
BACK DOOR GRIP
x 2
LIFT GATE WEATHERSTRIP
w/ Power Back Door:
BACK DOOR LOCK ASSEMBLY
13 (133, 10)
x 4
BACK DOOR LOCK PROTECTOR
13 (133, 10)
x 3
BACK DOOR LOCK ASSEMBLY
BACK DOOR LOCK COVER
N*m (kgf*cm, ft.*lbf) : Specified torque
T

w/ Power Back Door:



T

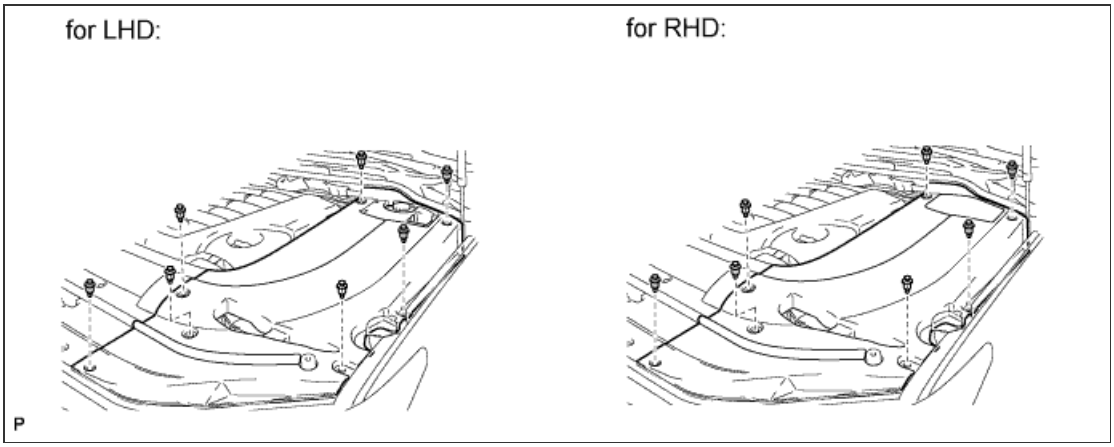

w/ Power Back Door:
REAR SPOILER SUB-ASSEMBLY
x 4
x 2
w/o Power Back Door:
REAR SPOILER SUB-ASSEMBLY
x 4
BACK DOOR GLASS CHANNEL RH
BACK DOOR GLASS CHANNEL LH
REAR WIPER MOTOR ASSEMBLY
REAR WIPER ARM
5.5 (56, 49 in.*lbf)
5.5 (56, 49 in.*lbf)
REAR WIPER MOTOR GROMMET
REAR WASHER NOZZLE
BACK DOOR GARNISH SUB-ASSEMBLY OUTSIDE
N*m (kgf*cm, ft.*lbf) : Specified torque
MP grease
T


BACK DOOR STAY ASSEMBLY RH
x 2
22 (224, 16)
BACK DOOR STAY ASSEMBLY LH
22 (224, 16)
x 2
BACK DOOR STAY BOLT
18 (184, 13)
18 (184, 13)
BACK DOOR STAY BOLT
BACK DOOR OPENER SWITCH ASSEMBLY
x 2
x 2
5.0 (51, 44 in.*lbf)
REAR TELEVISION CAMERA ASSEMBLY
x 7
LICENSE PLATE LIGHT ASSEMBLY
x 2
BACK DOOR GARNISH RETAINER SUB-ASSEMBLY
x 2
N*m (kgf*cm, ft.*lbf) : Specified torque
Precoated part
T

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



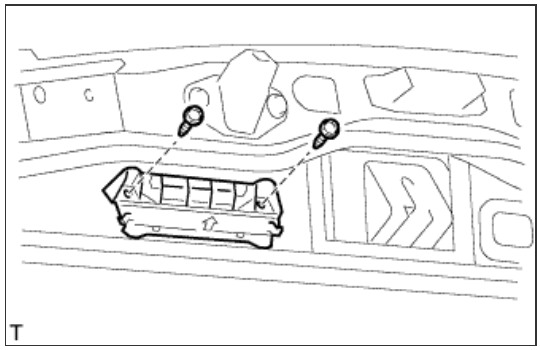
2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

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

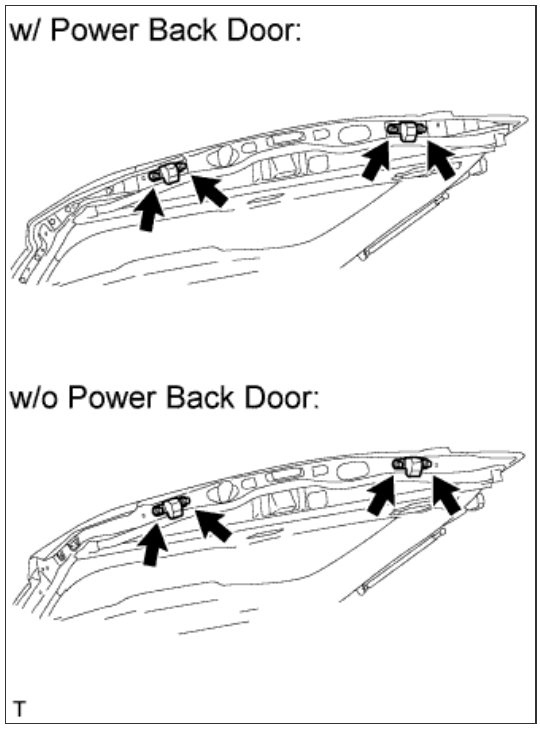
3. REMOVE BACK DOOR GRIP

a. Remove the 2 screws and back door grip.



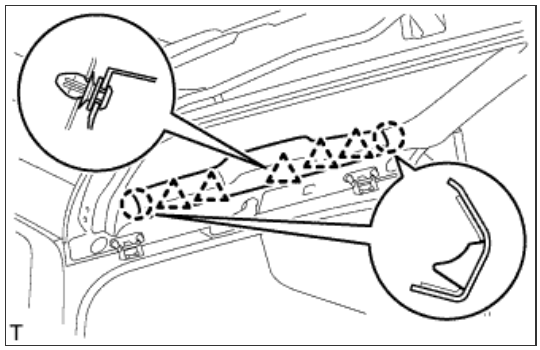
4. REMOVE LOWER BACK DOOR STOPPER CUSHION

a. Remove the 4 bolts and 2 lower back door stopper cushions.



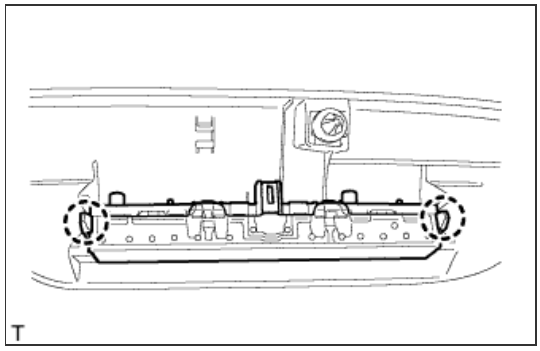
5. REMOVE CENTER BACK DOOR GARNISH

a. Detach the 5 clips and 2 claws, and remove the back door garnish.



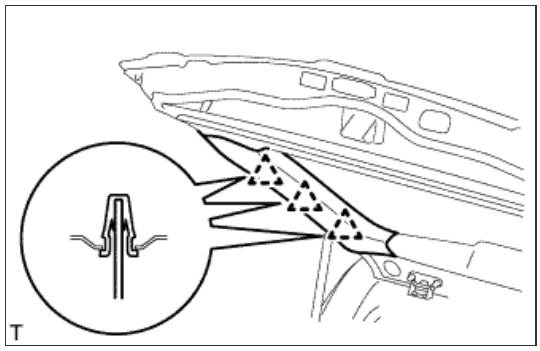
6. REMOVE CENTER STOP LIGHT ASSEMBLY

a. Detach the 2 claws and remove the stop light.



7. REMOVE BACK DOOR SIDE GARNISH LH

a. Detach the 3 clips and remove the back door side garnish.



8. REMOVE BACK DOOR SIDE GARNISH RH

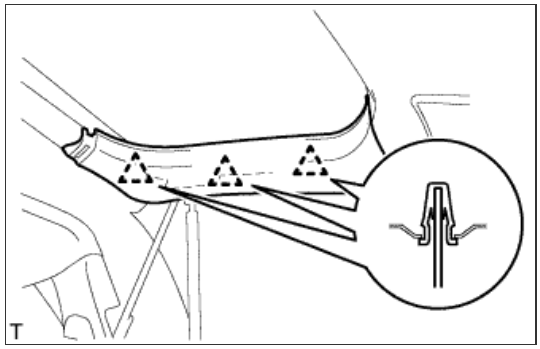
a. w/o Power Back Door:

HINT:

Use the same procedures described for the LH side.

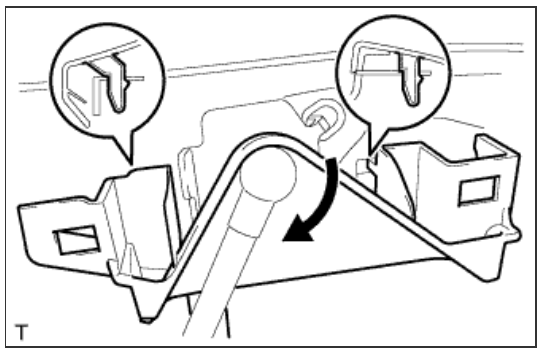
b. w/ Power Back Door:

i. Detach the 3 clips and remove the back door side garnish.



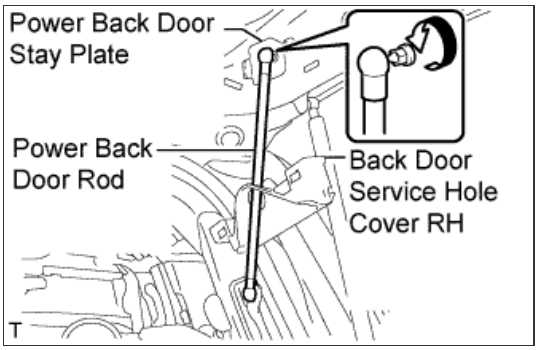
9. REMOVE BACK DOOR SERVICE HOLE COVER RH (w/ Power Back Door)

a. Detach the 2 clips and move the service hole cover so that the rod and back door stay plate can be removed.



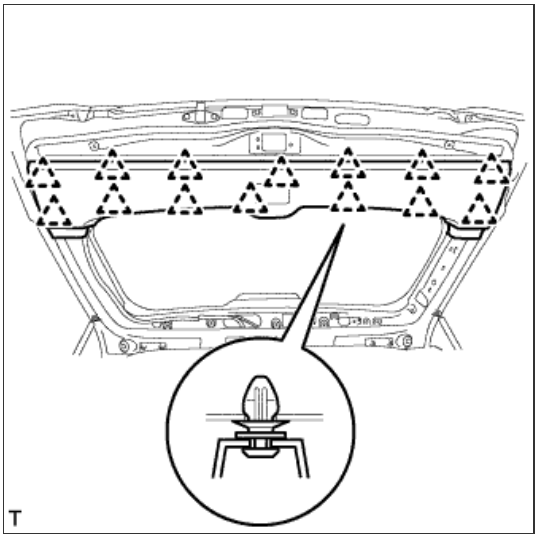
b. Remove the ball joint bolt, power back door rod and back door stay plate.

c. Remove the service hole cover from the power back door rod.



10. REMOVE BACK DOOR GARNISH

a. Using a screwdriver, detach the 14 clips and remove the back door garnish.



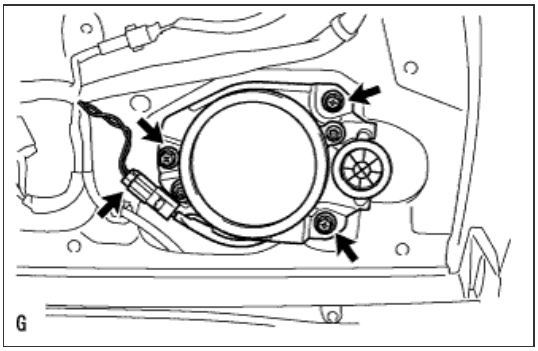
11. REMOVE REAR HEADER SPEAKER ASSEMBLY (for 19 Speakers)

a. Remove the 3 screws.

b. Disconnect the connector and remove the speaker.

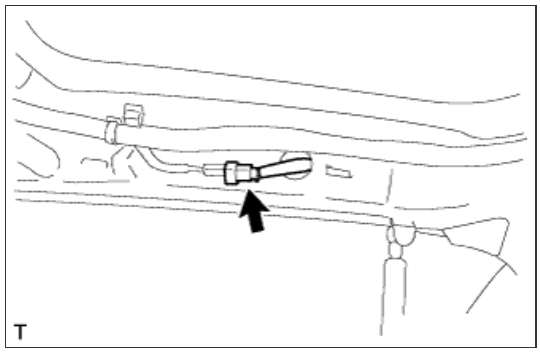
NOTICE:

Do not touch the cone part of the speaker.



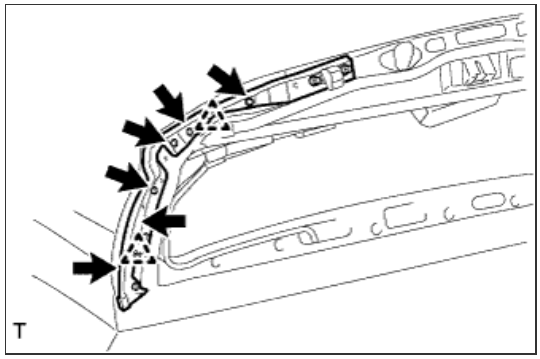
12. REMOVE POWER BACK DOOR SENSOR ASSEMBLY LH (w/ Power Back Door)

a. Disconnect the connector.



b. Using a T25 "TORX" wrench, remove the 6 screws.

c. Detach the 2 clips and remove the power back door sensor assembly LH.



13. REMOVE POWER BACK DOOR SENSOR ASSEMBLY RH (w/ Power Back Door)

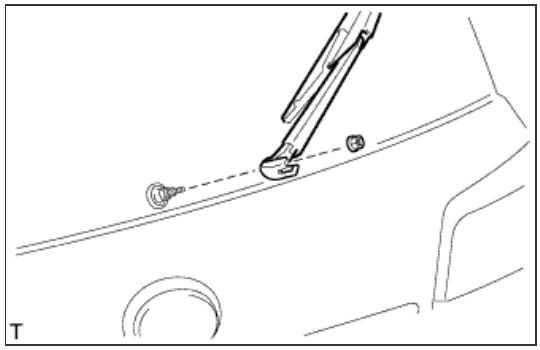
HINT:

Use the same procedures described for the LH side.

14. REMOVE REAR WIPER ARM

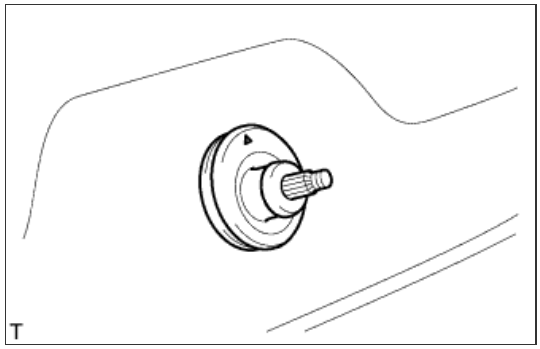
a. Open the cover.

b. Remove the nut and rear wiper arm.



15. REMOVE REAR WIPER MOTOR GROMMET

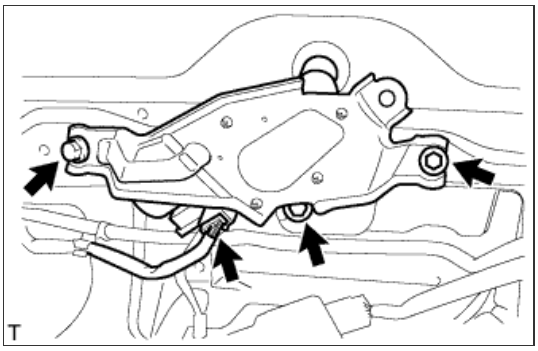
a. Remove the wiper motor grommet.



16. REMOVE REAR WIPER MOTOR ASSEMBLY

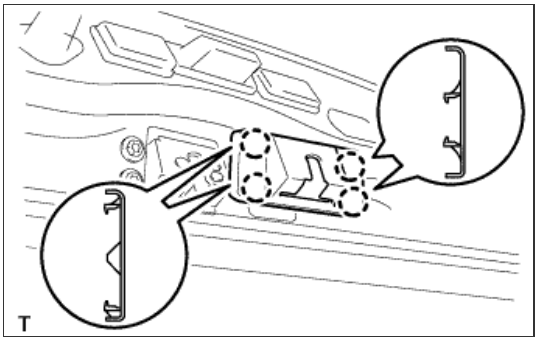
a. Disconnect the connector.

b. Remove the 3 bolts and rear wiper motor assembly.



17. REMOVE BACK DOOR LOCK COVER

a. Detach the 4 claws and remove the back door lock cover.

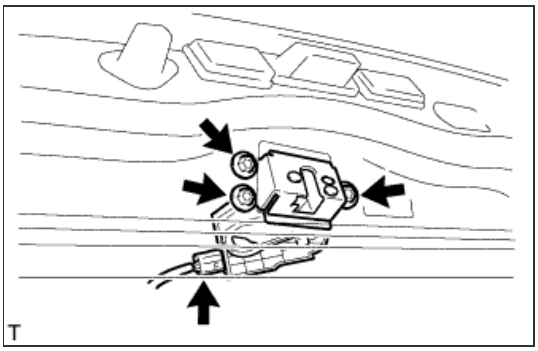


18. REMOVE BACK DOOR LOCK ASSEMBLY

a. w/o Power Back Door:

i. Disconnect the connector.

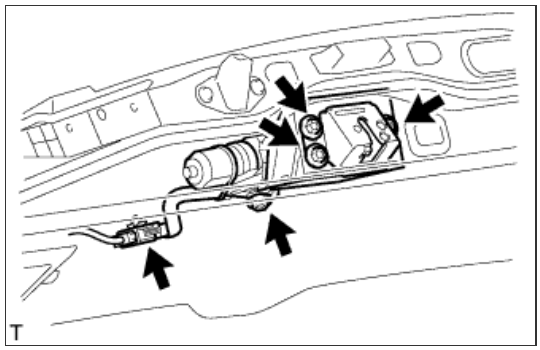
ii. Remove the 3 bolts and back door lock.



b. w/ Power Back Door:

i. Disconnect the connector.

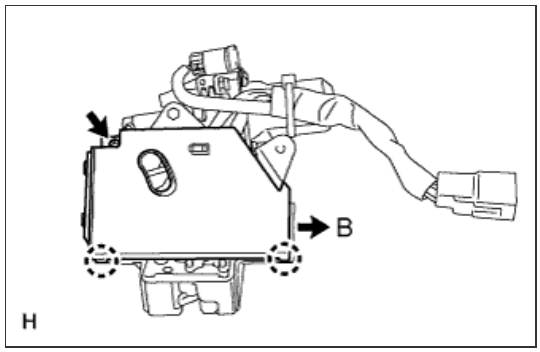
ii. Remove the 4 bolts and back door lock.



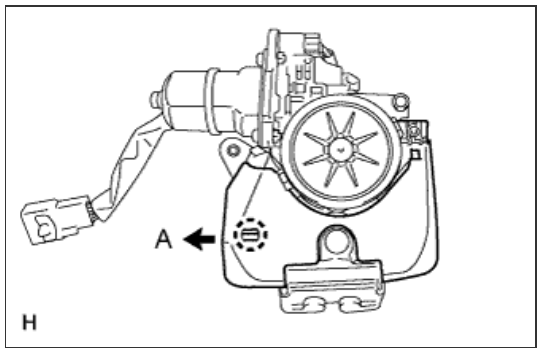
19. REMOVE BACK DOOR LOCK PROTECTOR (w/ Power Back Door)

a. Remove the screw.

b. Detach the 2 claws and remove the protector B.



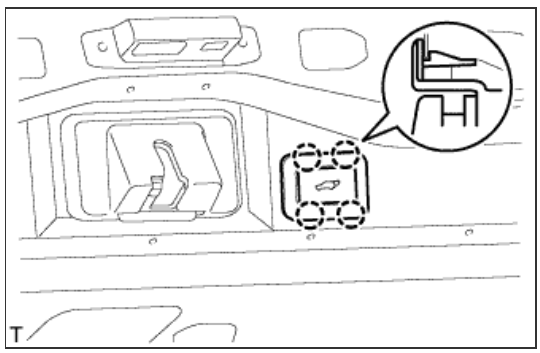
c. Detach the claw and remove the protector A.



20. REMOVE SWITCH BEZEL (w/ Power Back Door)

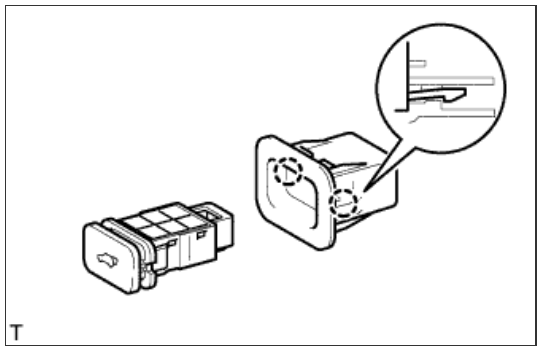
a. Disconnect the connector.

b. Detach the 4 claws and remove the switch bezel.



21. REMOVE BACK DOOR CONTROL SWITCH (w/ Power Back Door)

a. Detach the 2 claws and remove the door control switch.

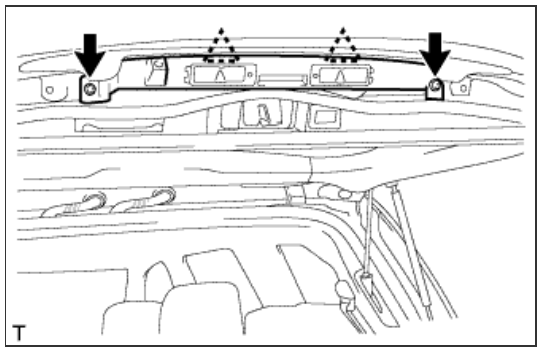


22. REMOVE BACK DOOR GARNISH RETAINER SUB-ASSEMBLY

23. REMOVE LICENSE PLATE LIGHT ASSEMBLY

a. Using a T30 "TORX" socket wrench, detach the 2 clips and remove the 2 screws and garnish.

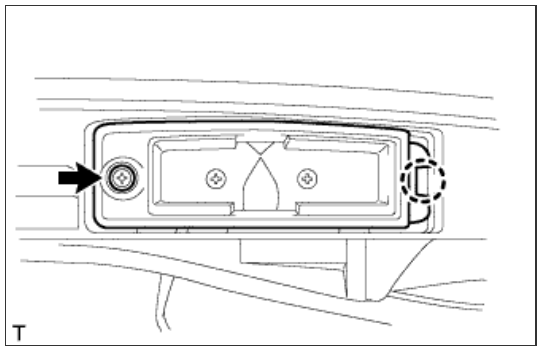
b. Disconnect the connector.



24. REMOVE BACK DOOR OPENER SWITCH ASSEMBLY

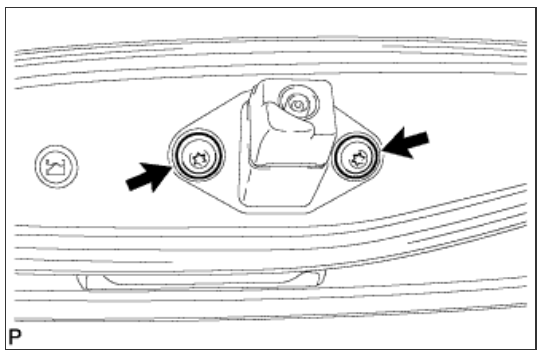
a. Remove the 2 screws.

b. Detach the 2 claws and remove the 2 lights.



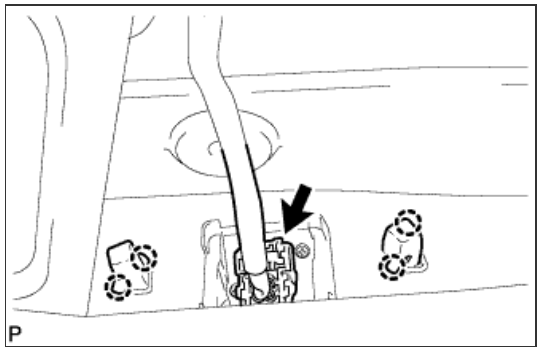
25. REMOVE REAR TELEVISION CAMERA ASSEMBLY

a. Using a T30 "TORX" socket wrench, remove the 2 screws.



b. Detach the 2 screws grommet and remove the rear television camera assembly.

c. Disconnect the connector.

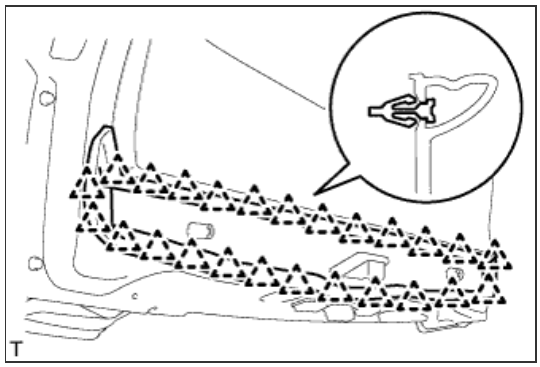


26. REMOVE LIFT GATE WEATHERSTRIP

a. Detach the 25 clips and remove the lift gate weatherstrip.

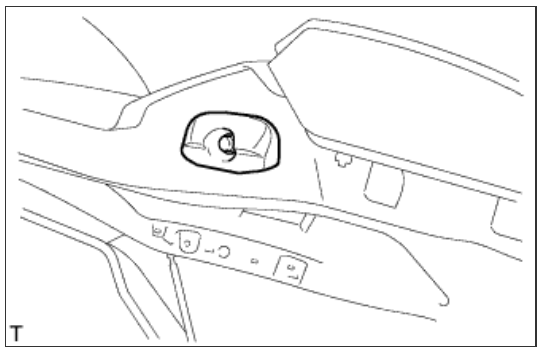
NOTICE:

Do not pull strongly on the weatherstrip as it may be damaged.



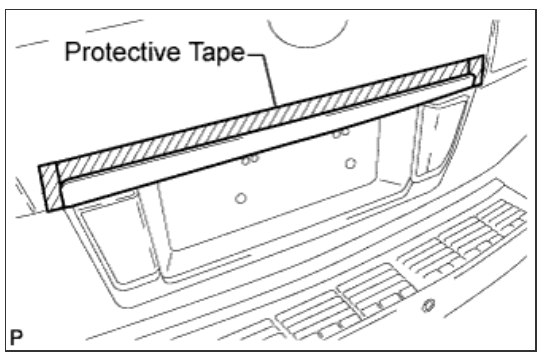
27. REMOVE LOWER BACK DOOR STOPPER

a. Remove the bolt and lower back door stopper.



28. REMOVE BACK DOOR GARNISH SUB-ASSEMBLY OUTSIDE

a. Put protective tape around the back door garnish.

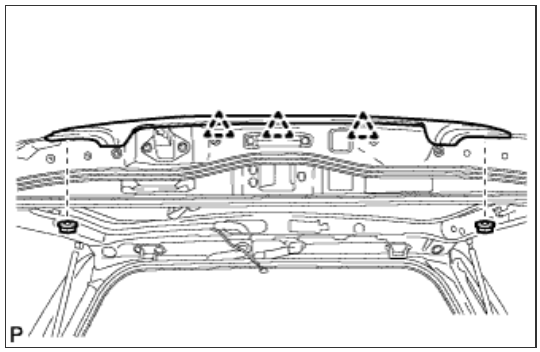


b. Remove the 2 nuts.

c. Detach the 3 clips and remove the garnish.

HINT:

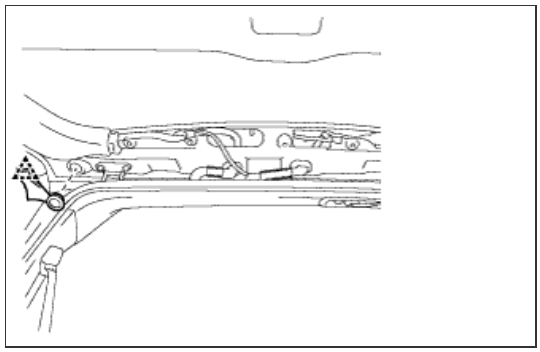
Detach the clips from the backside of the garnish.



29. REMOVE BACK DOOR GLASS CHANNEL LH (w/o Power Back Door)

a. Using a clip remover, remove the clip.

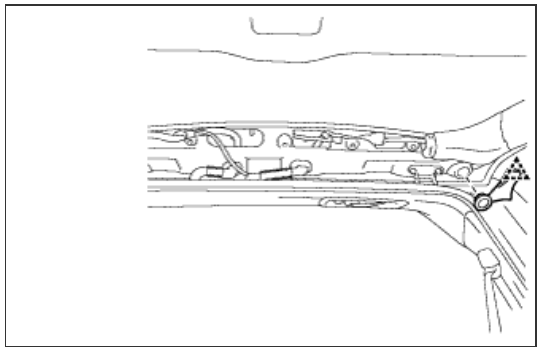
b. Remove the back door glass channel LH.



30. REMOVE BACK DOOR GLASS CHANNEL RH (w/o Power Back Door)

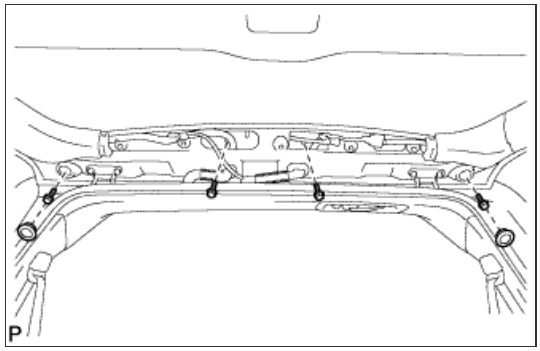
a. Using a clip remover, remove the clip.

b. Remove the back door glass channel RH.

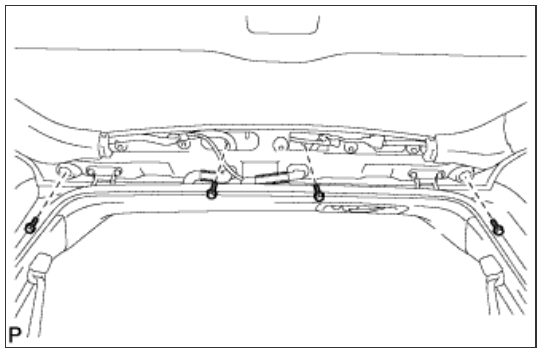


31. REMOVE REAR SPOILER SUB-ASSEMBLY

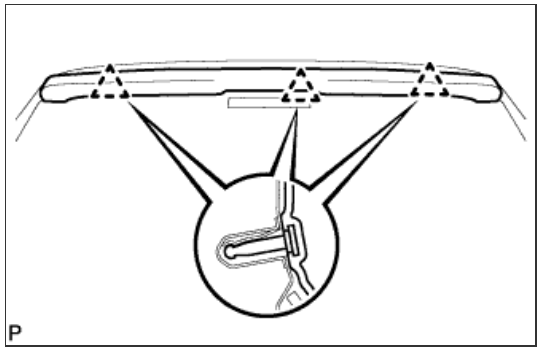
a. w/ Power Back Door:
Remove the 2 hole plugs and 4 bolts.



b. w/o Power Back Door:
Remove the 4 bolts.

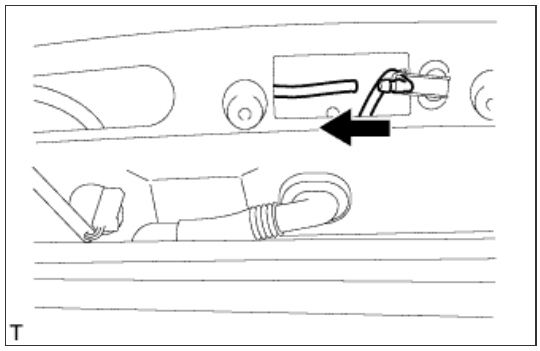


c. Detach the 3 clips and remove the rear spoiler.

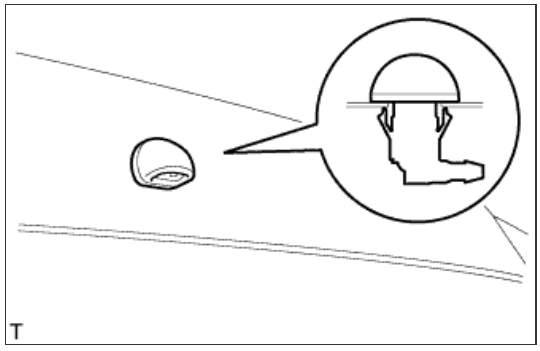


32. REMOVE REAR WASHER NOZZLE

a. Disconnect the hose.



b. Detach the 2 claws and remove the washer nozzle.

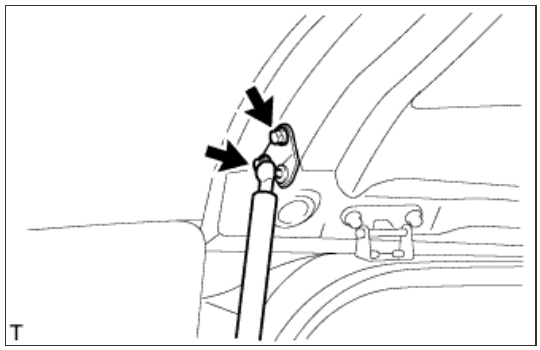


33. REMOVE BACK DOOR STAY ASSEMBLY LH

a. Remove the 2 bolts.

CAUTION:

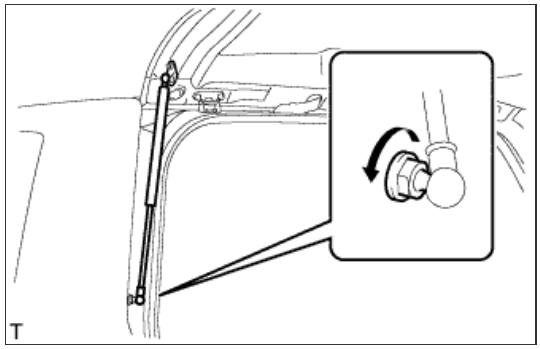
Remove the door stay while supporting the back door with one hand.



b. Remove the bolt and stay.

CAUTION:

Remove the door stay while supporting the back door with one hand.



34. REMOVE BACK DOOR STAY ASSEMBLY RH

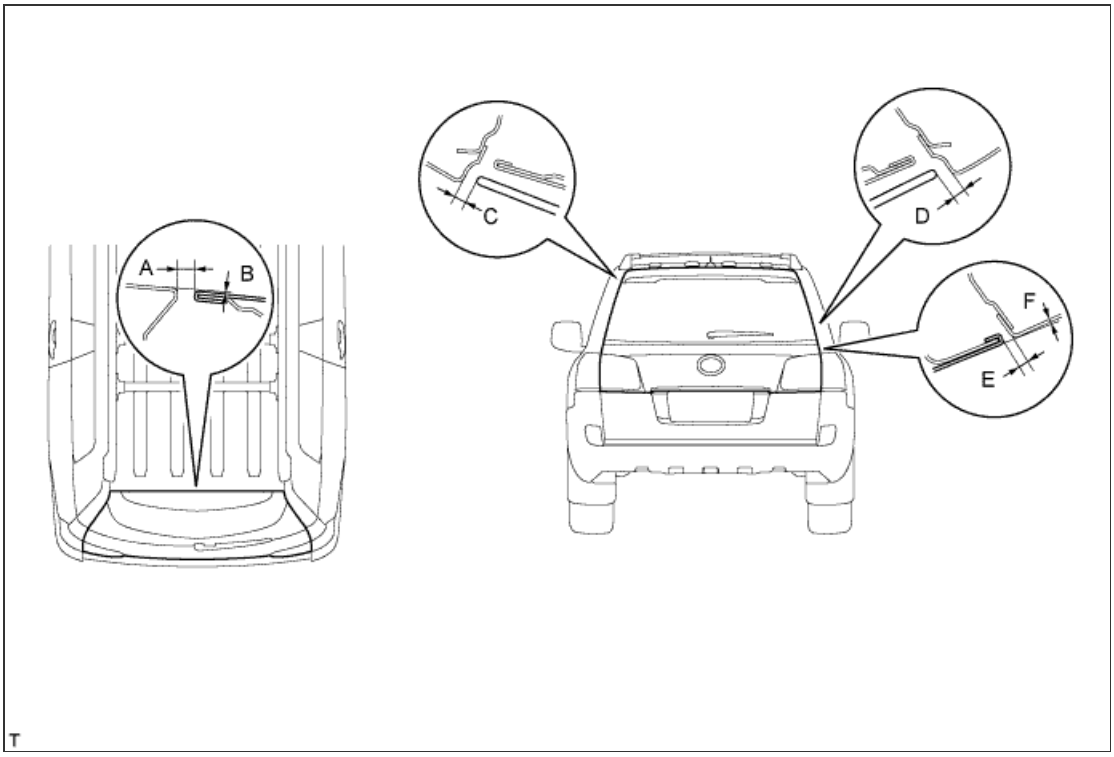
HINT:

Use the same procedures described for the LH side.

for Preparation Click here

1. INSPECT BACK DOOR PANEL SUB-ASSEMBLY

a. Check that the clearance measurements of areas A to F are within the standard range.



Standard:

Area	Specified Condition	Area	Specified Condition
A	5.7 to 8.7 mm (0.224 to 0.343 in.)	D	3.75 to 6.75 mm (0.148 to 0.266 in.)
B	0.0 to 3.0 mm (0.000 to 0.118 in.)	E	2.7 to 5.7 mm (0.106 to 0.224 in.)
C	3.75 to 6.75 mm (0.148 to 0.266 in.)	F	-1.4 to 1.6 mm (-0.0551 to 0.0630 in.)

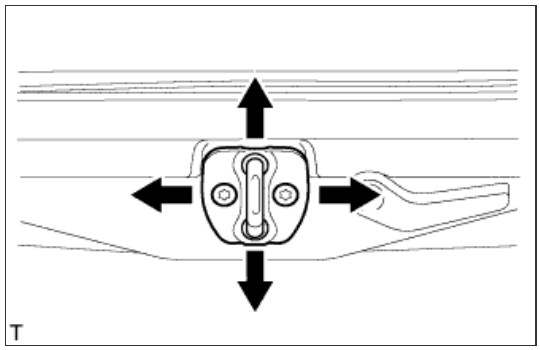
2. ADJUST REAR SWING GATE LOCK STRIKER

a. Check that the door fit and door linkages are adjusted correctly.

b. Using a T40 "TORX" socket, adjust the striker position by slightly loosening the striker mounting screws and hitting the striker with a plastic-faced hammer.

c. Using a T40 "TORX" socket, tighten the striker mounting screws after the adjustment.

Torque:
12 N*m{ 122 kgf*cm , 9 ft.*lbf }



3. ADJUST BACK DOOR PANEL SUB-ASSEMBLY

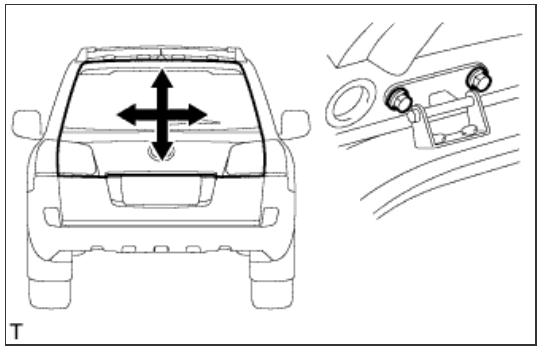
a. Loosen the hinge bolts.

b. Adjust the back door by moving it up and down and left and right so that the dimensions are within the specified range.

c. Tighten the hinge bolts.

Torque:
19 N*m{ 194 kgf*cm , 14 ft.*lbf }

d. Detach the seat belt anchor cover (Click here).



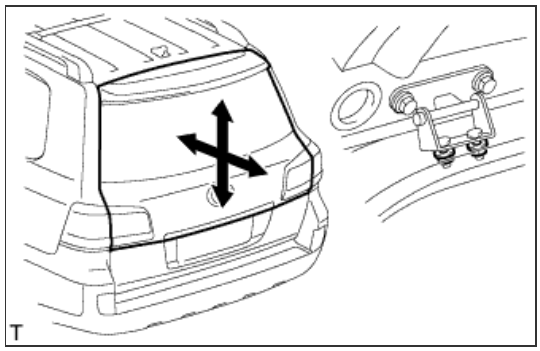
e. Loosen the hinge nuts.

f. Adjust the back door by moving it up and down and forward and backward so that the dimensions are within the specified range.

g. Tighten the hinge nuts.

Torque:
19 N*m{ 194 kgf*cm , 14 ft.*lbf }

h. Attach the seat belt anchor cover (Click here).



for Preparation Click here

1. INSTALL BACK DOOR STAY ASSEMBLY LH

a. When reusing the back door stay:

i. Clean the threaded surface on the vehicle body with a non-residue solvent.

ii. Apply adhesive to the threads of the 2 bolts.

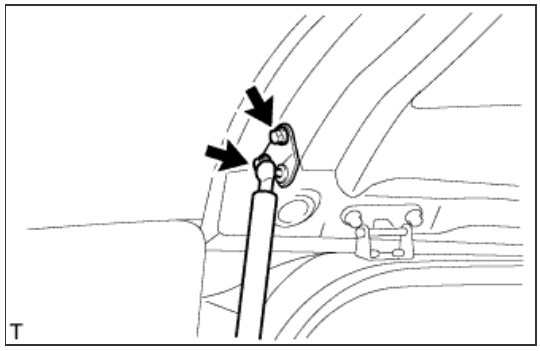
Adhesive:
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

iii. Install the back door stay with the 2 bolts.

Torque:
22 N*m{ 224 kgf*cm , 16 ft.*lbf }

CAUTION:

Install the door stay while supporting the back door with one hand.



iv. Apply adhesive to the threads of the bolt.

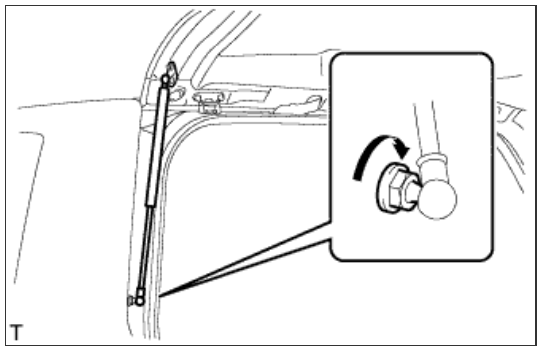
Adhesive:
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

v. Install the back door stay bolt to the body.

Torque:
18 N*m{ 184 kgf*cm , 13 ft.*lbf }

CAUTION:

Install the door stay bolt while supporting the back door with one hand.



b. When replacing the back door stay with a new one:

i. Clean the threaded surface on the vehicle body with a non-residue solvent.

ii. Apply adhesive to the threads of the bolt.

Adhesive:
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

iii. Install the back door stay bolt to the body.

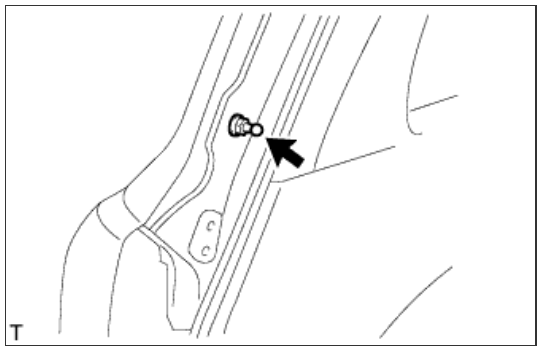
Torque:
18 N*m{ 184 kgf*cm , 13 ft.*lbf }

CAUTION:

Install the door stay bolt while supporting the back door with one hand.

iv. Apply adhesive to the threads of the 2 bolts.

Adhesive:
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent



v. Install the back door stay with the 2 bolts.

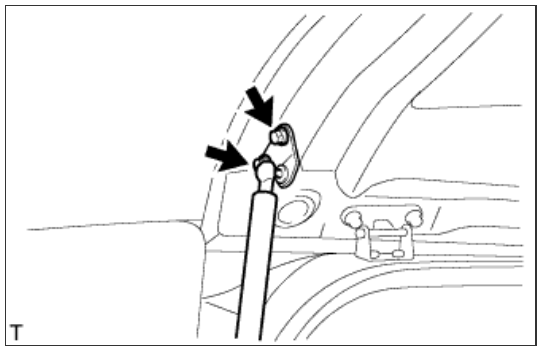
Torque:
22 N*m{ 224 kgf*cm , 16 ft.*lbf }

CAUTION:

Install the door stay while supporting the back door with one hand.

vi. Connect the ball joint of the back door stay bolt to the back door stay assembly LH.

vii. Check that the back door stay assembly is securely installed.



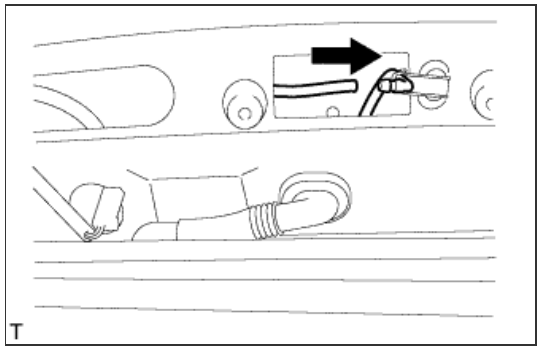
2. INSTALL BACK DOOR STAY ASSEMBLY RH

HINT:

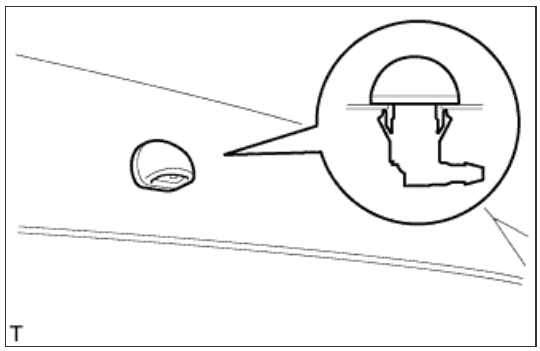
Use the same procedures described for the LH side.

3. INSTALL REAR WASHER NOZZLE

a. Connect the hose.

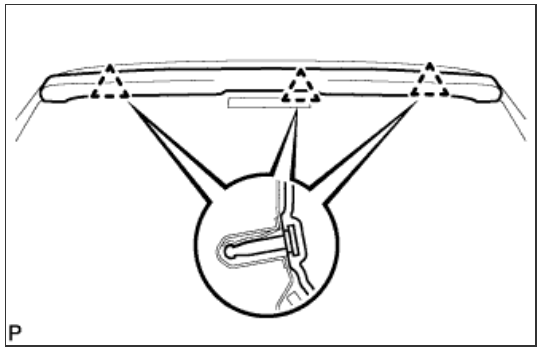


b. Attach the 2 claws to install the washer nozzle.

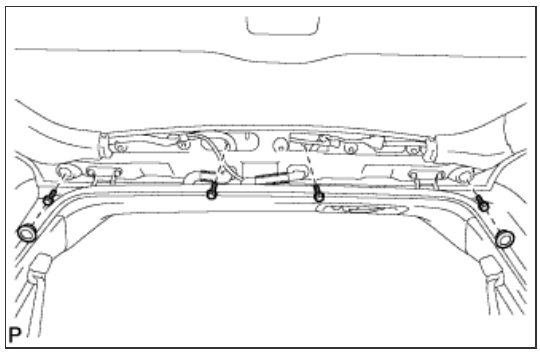


4. INSTALL REAR SPOILER SUB-ASSEMBLY

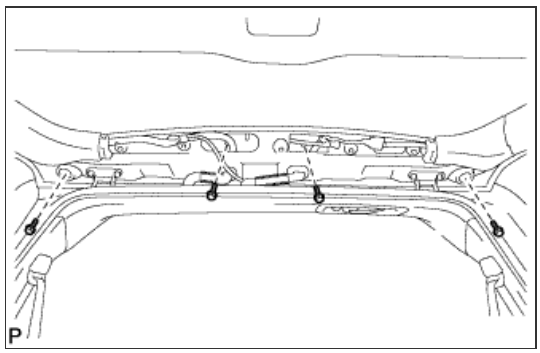
a. Attach the 3 clips to install the rear spoiler.



b. w/ Power Back Door:
Install the 4 bolts and 2 hole plugs.

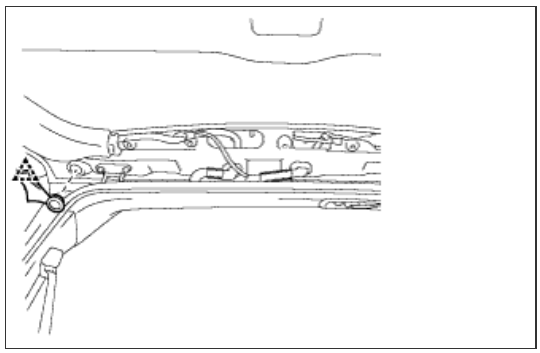


c. w/o Power Back Door:
Install the 4 bolts.



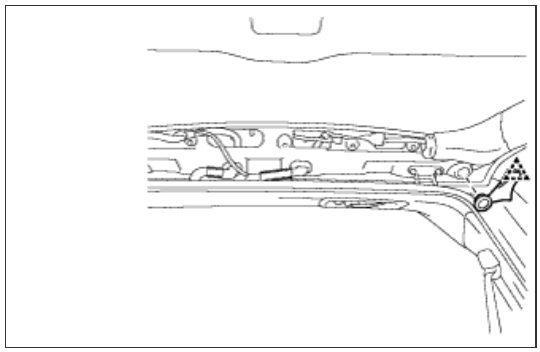
5. INSTALL BACK DOOR GLASS CHANNEL LH (w/o Power Back Door)

a. Attach the clip and install the back door glass channel.



6. INSTALL BACK DOOR GLASS CHANNEL RH (w/o Power Back Door)

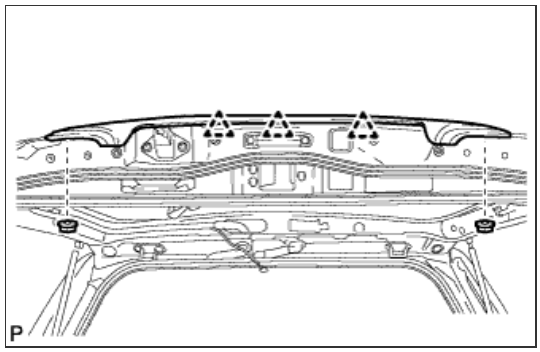
a. Attach the clip and install the back door glass channel.



7. INSTALL BACK DOOR GARNISH SUB-ASSEMBLY OUTSIDE

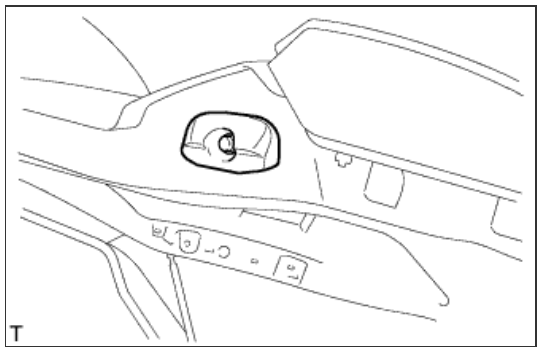
a. Attach the 3 clips to install the garnish.

b. Install the 2 nuts.



8. INSTALL LOWER BACK DOOR STOPPER

a. Install the lower back door stopper with the bolt.

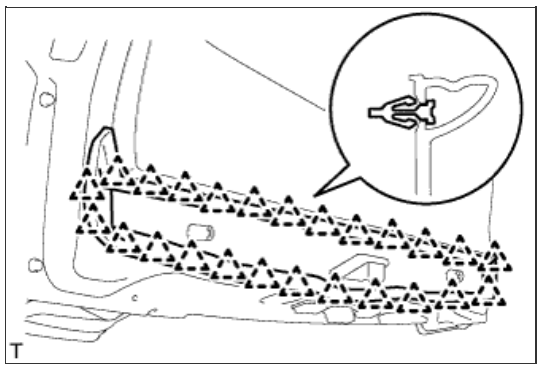


9. INSTALL LIFT GATE WEATHERSTRIP

a. Attach the 25 clips to install the lift gate weatherstrip.

NOTICE:

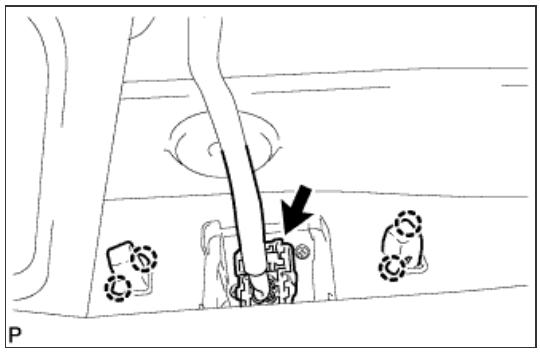
Do not pull strongly on the weatherstrip as it may be damaged.



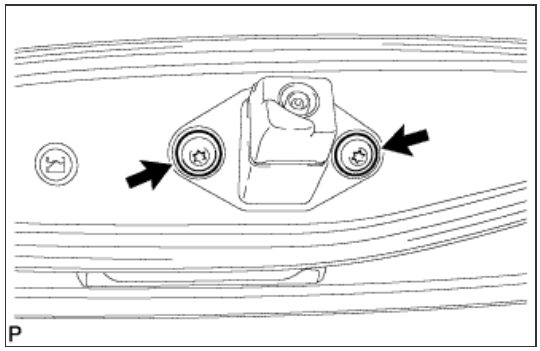
10. INSTALL REAR TELEVISION CAMERA ASSEMBLY

a. Connect the connector.

b. Attach the 2 screws grommet to install the rear television camera assembly.



c. Using a T30 "TORX" socket wrench, install the rear television camera with the 2 screws.

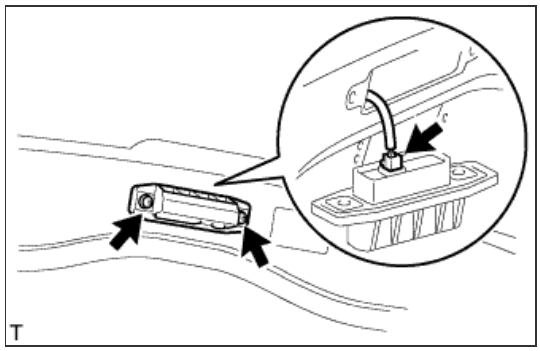


11. INSTALL BACK DOOR OPENER SWITCH ASSEMBLY

a. Connect the connector and then install the back door opener switch.

b. Install the 2 screws.

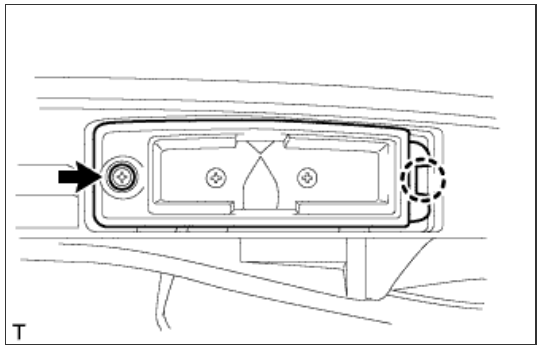
Torque:
7.5 N*m{ 76 kgf*cm , 66 in.*lbf }



12. INSTALL LICENSE PLATE LIGHT ASSEMBLY

a. Attach the 2 claws to install the 2 lights.

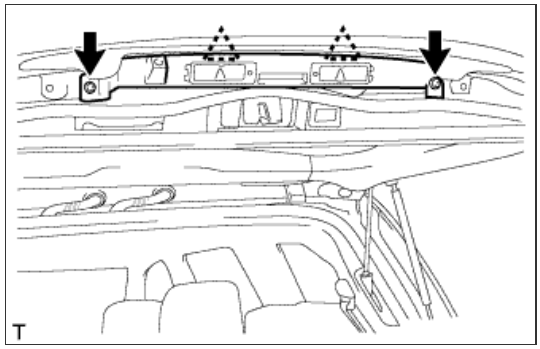
b. Install the 2 screws.



13. INSTALL BACK DOOR GARNISH RETAINER SUB-ASSEMBLY

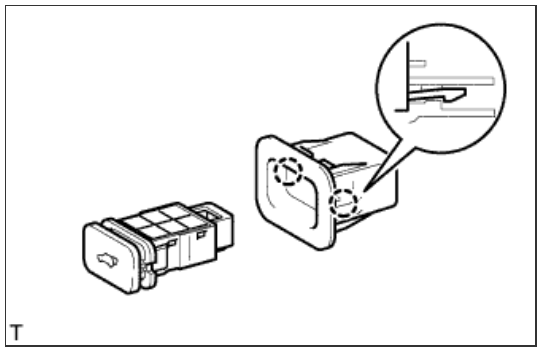
a. Connect the connector.

b. Using a T30 "TORX" socket wrench, attach the 2 clips and install the garnish with the 2 screws.



14. INSTALL BACK DOOR CONTROL SWITCH (w/ Power Back Door)

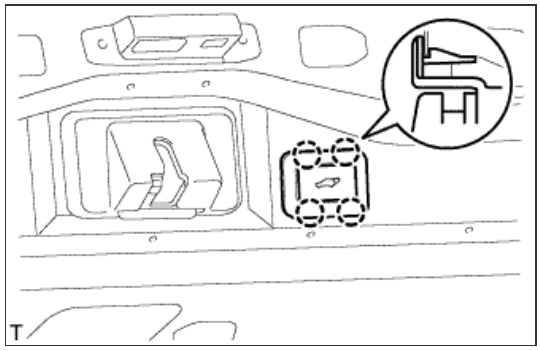
a. Attach the 2 claws to install the door control switch.



15. INSTALL SWITCH BEZEL (w/ Power Back Door)

a. Attach the 4 claws to install the switch bezel.

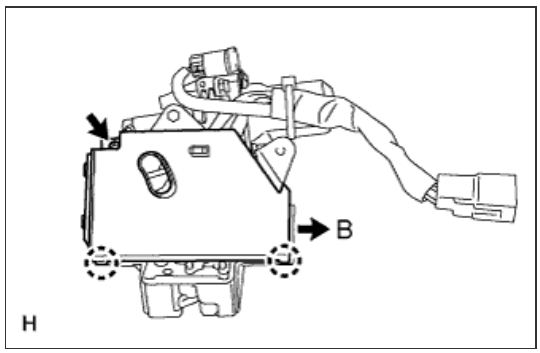
b. Connect the connector.



16. INSTALL BACK DOOR LOCK PROTECTOR (w/ Power Back Door)

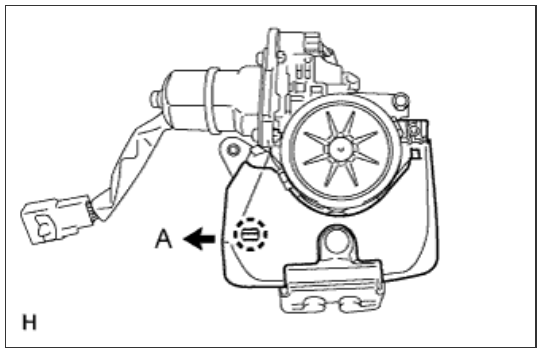
a. Remove the screw.

b. Detach the 2 claws and remove the protector B.



c. Detach the claw and remove the protector A.

c. Detach the claw and remove the protector A.



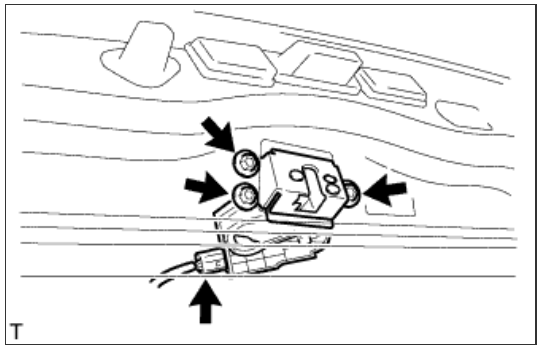
17. INSTALL BACK DOOR LOCK ASSEMBLY

a. w/o Power Back Door:

i. Install the back door lock with the 3 bolts.

Torque:
13 N*m{ 133 kgf*cm , 10 ft.*lbf }

ii. Connect the connector.

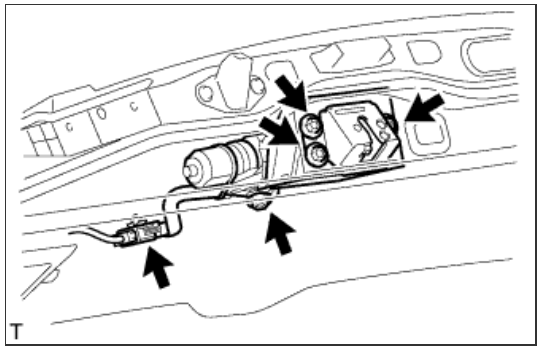


b. w/ Power Back Door:

i. Install the back door lock with the 4 bolts.

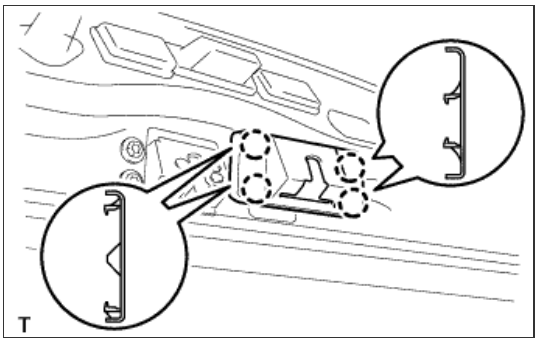
Torque:
13 N*m{ 133 kgf*cm , 10 ft.*lbf }

ii. Connect the connector.



18. INSTALL BACK DOOR LOCK COVER

a. Attach the 4 claws to install the back door lock cover.



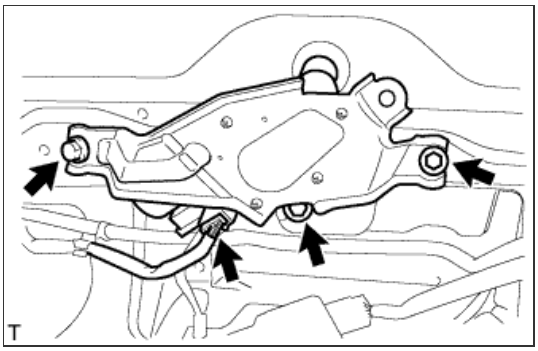
19. INSTALL REAR WIPER MOTOR ASSEMBLY

a. Temporarily install the rear wiper motor assembly with the 3 bolts.

b. Tighten the 3 bolts.

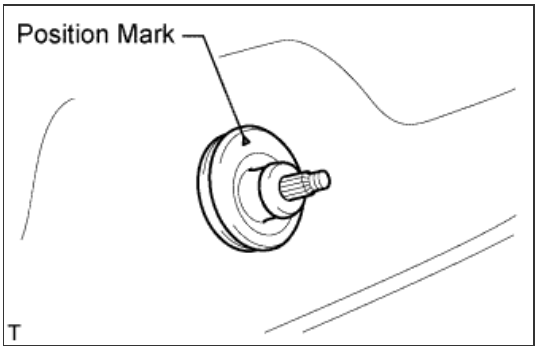
Torque:
5.5 N*m{ 56 kgf*cm , 49 in.*lbf }

c. Connect the connector.



20. INSTALL REAR WIPER MOTOR GROMMET

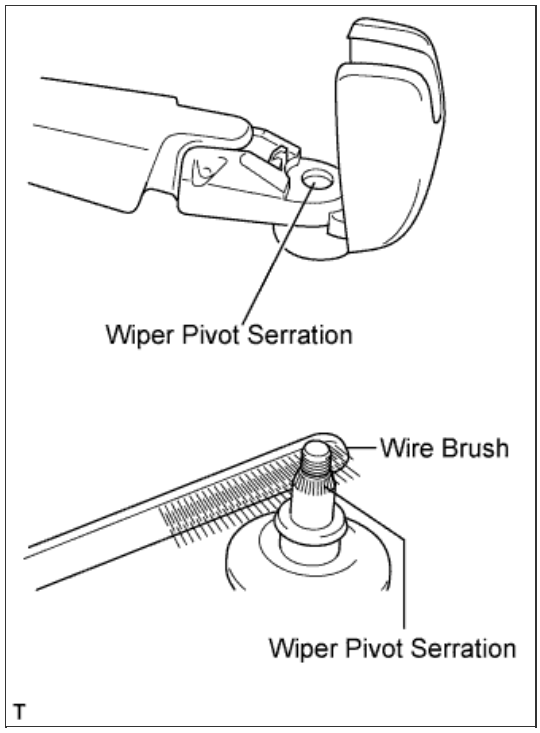
a. Install the rear wiper motor grommet with the position mark facing upward as shown in the illustration.



21. INSTALL REAR WIPER ARM

a. Operate the rear wiper, and stop the rear wiper motor at the automatic stop position.

b. Clean the wiper pivot serration with a wire brush.

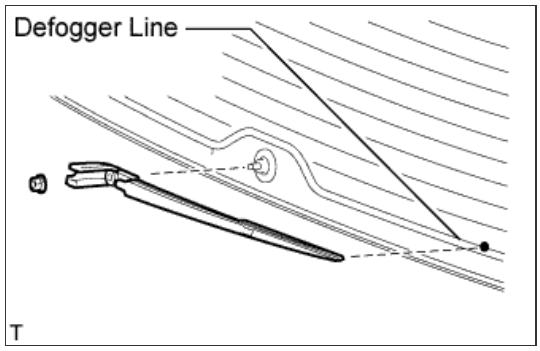


c. Set the head of the blade on the defogger line.

d. Install the rear wiper arm with the nut.

Torque:
5.5 N*m{ 56 kgf*cm , 49 in.*lbf }

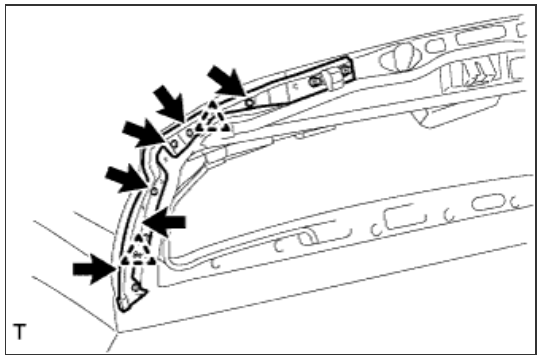
e. Close the cover.



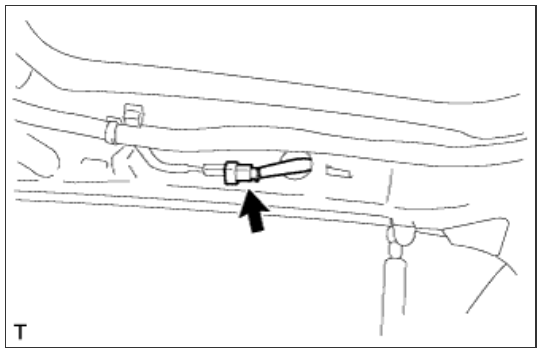
22. INSTALL POWER BACK DOOR SENSOR ASSEMBLY LH (w/ Power Back Door)

a. Attach the 2 clips to install the power back door sensor assembly LH.

b. Using a T25 "TORX" wrench, install the 6 screws.



c. Connect the connector.



23. INSTALL POWER BACK DOOR SENSOR ASSEMBLY RH (w/ Power Back Door)

HINT:

Use the same procedures described for the LH side.

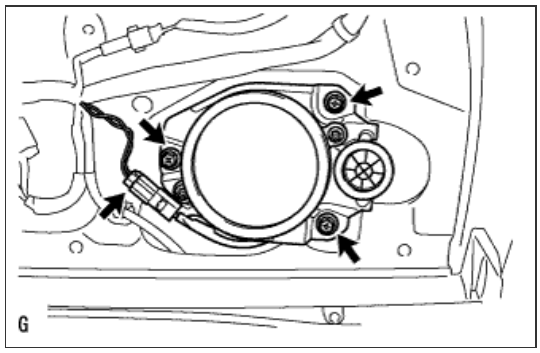
24. INSTALL REAR HEADER SPEAKER ASSEMBLY (for 19 Speakers)

a. Connect the connector.

b. Install the speaker with the 3 screws.

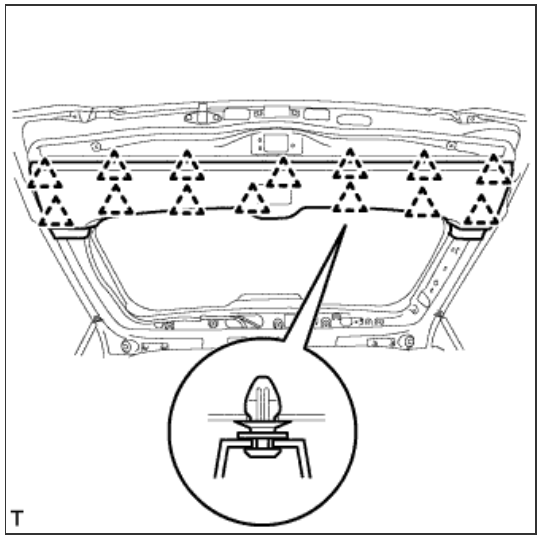
NOTICE:

Do not touch the cone part of the speaker.



25. INSTALL BACK DOOR GARNISH

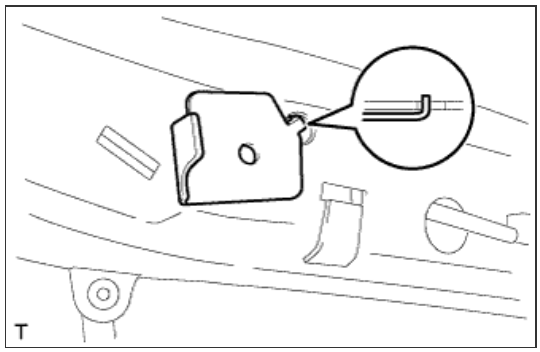
a. Attach the 14 clips to install the back door garnish.



26. INSTALL BACK DOOR SERVICE HOLE COVER RH (w/ Power Back Door)

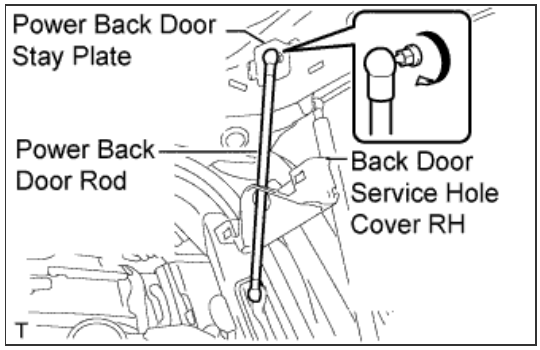
a. When reusing the power back door rod:

i. Install the back door stay plate.

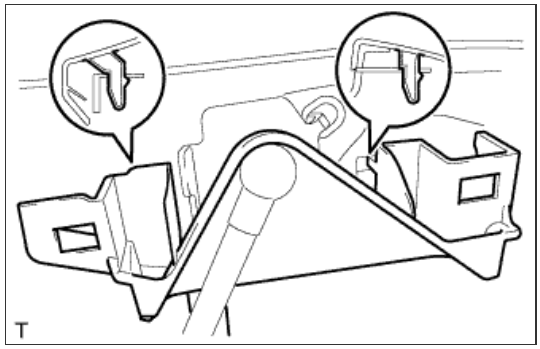


ii. Pass the power back door rod through the hole of the back door service hole cover and install the rod with the bolt.

Torque:
18 N*m{ 184 kgf*cm , 13 ft.*lbf }

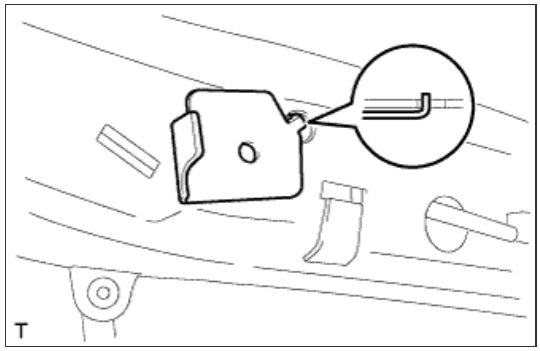


iii. Move the service hole cover and attach the 2 clips.



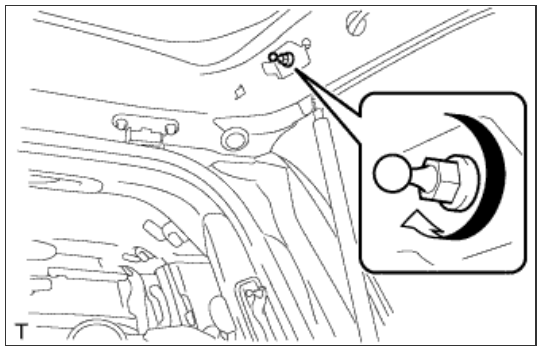
b. When installing a new power back door rod:

i. Install the back door stay plate.

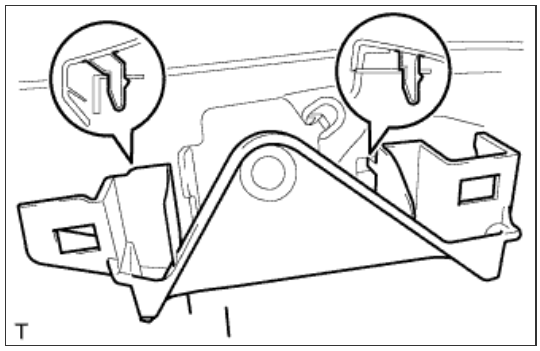


ii. Install the back door stay bolt.

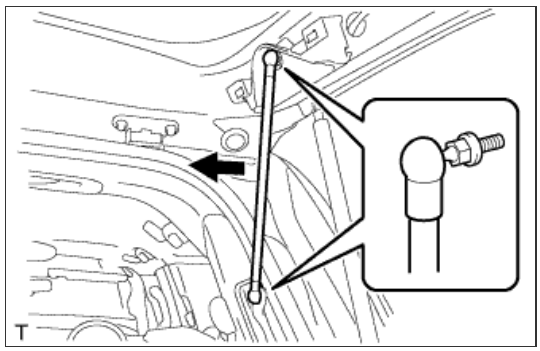
Torque:
18 N*m{ 184 kgf*cm , 13 ft.*lbf }



iii. Attach the 2 clips to install the service hole cover.

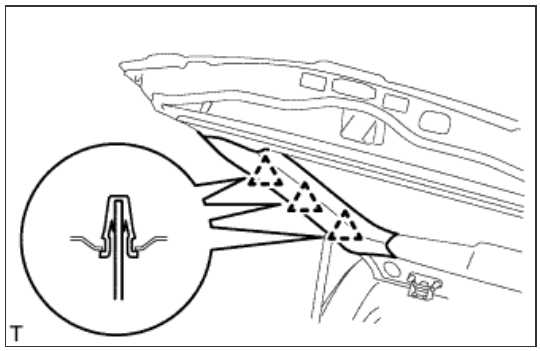


iv. Attach the ball joints to install the power back door rod.



27. INSTALL BACK DOOR SIDE GARNISH LH

a. Attach the 3 clips to install the back door side garnish.



28. INSTALL BACK DOOR SIDE GARNISH RH

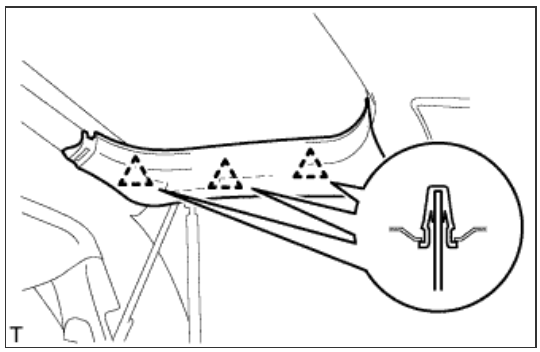
a. w/o Power Back Door:

HINT:

Use the same procedures described for the LH side.

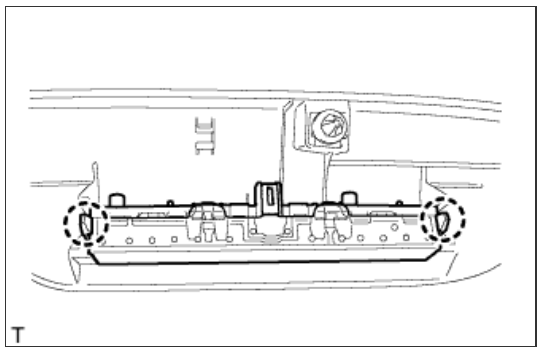
b. w/ Power Back Door:

i. Attach the 3 clips to install the back door side garnish.



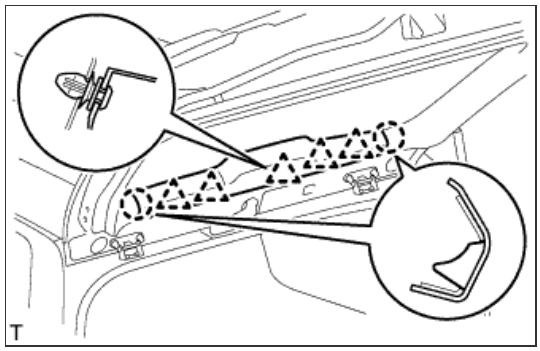
29. INSTALL CENTER STOP LIGHT ASSEMBLY

a. Attach the 2 claws to install the stop light.



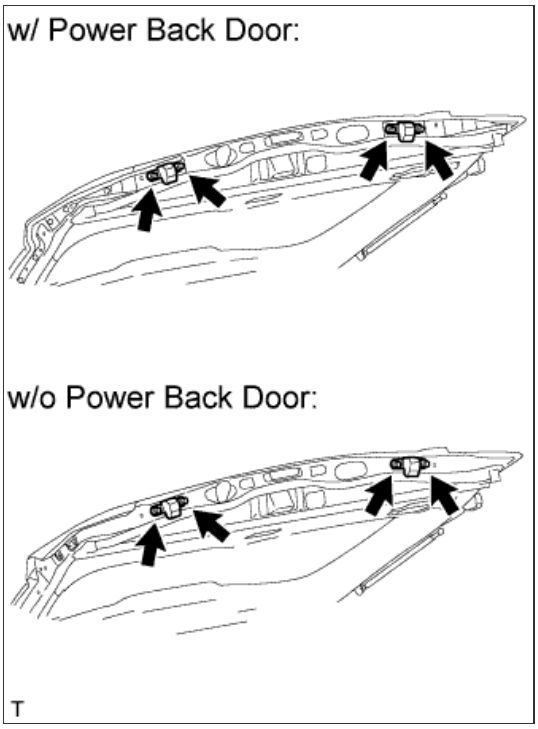
30. INSTALL CENTER BACK DOOR GARNISH

a. Attach the 5 clips and 2 claws to install the back door garnish.



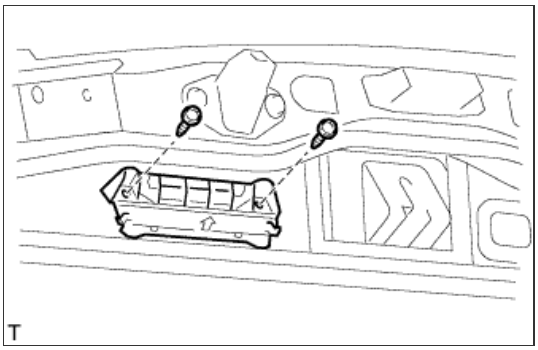
31. INSTALL LOWER BACK DOOR STOPPER CUSHION

a. Install the 2 back door stopper cushions with the 4 bolts.



32. INSTALL BACK DOOR GRIP

a. Install the back door grip with the 2 screws.



33. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

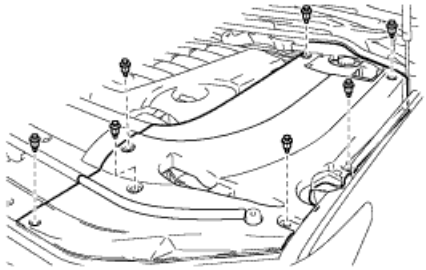
NOTICE:

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

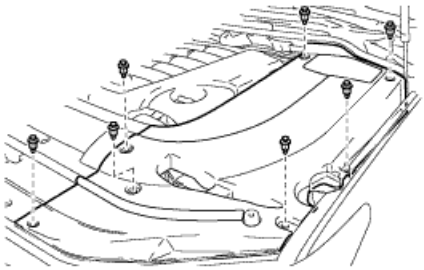
34. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

for LHD:

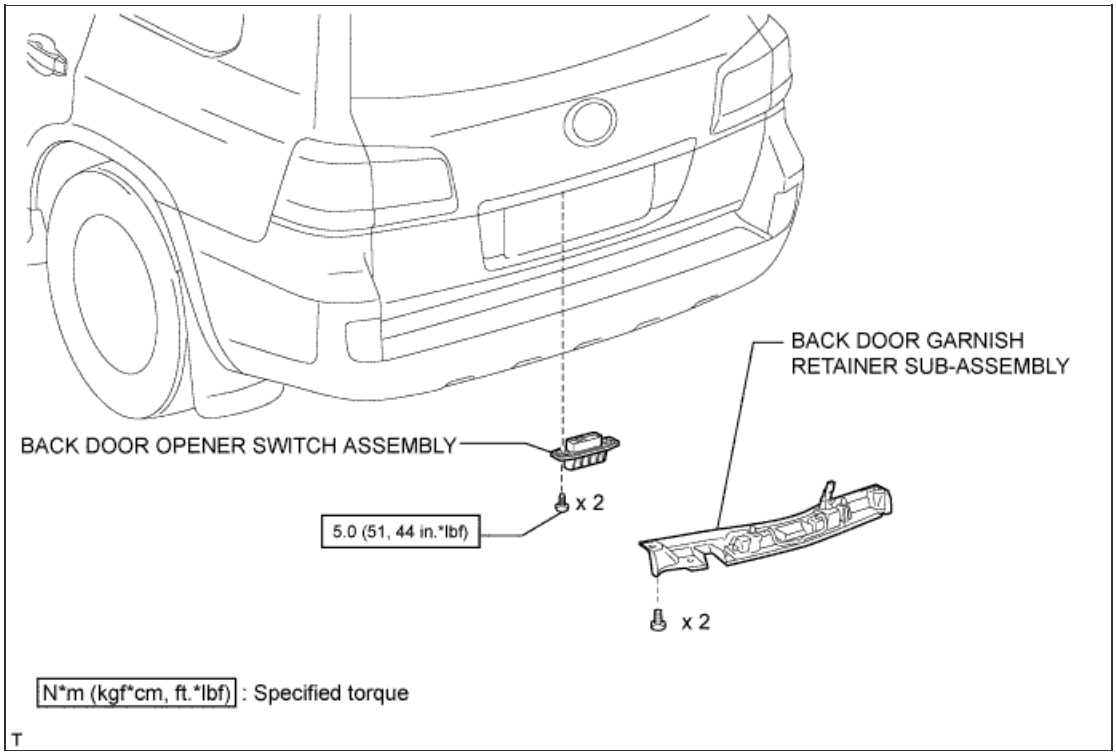


for RHD:



P

for Preparation Click here

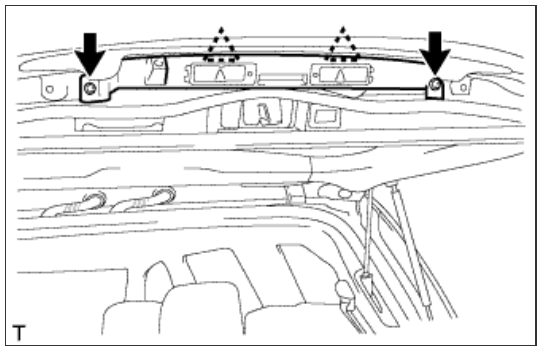


for Preparation Click here

1. REMOVE BACK DOOR GARNISH RETAINER SUB-ASSEMBLY

a. Using a T30 "TORX" socket wrench, detach the 2 clips and remove the 2 screws and garnish.

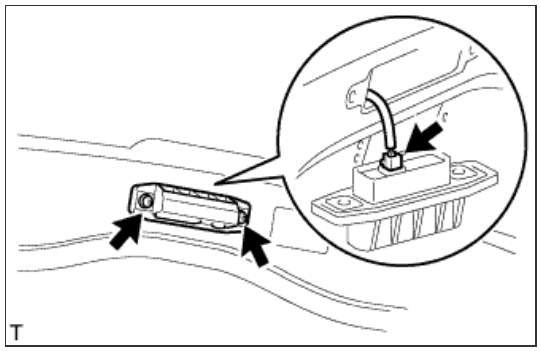
b. Disconnect the connector.



2. REMOVE BACK DOOR OPENER SWITCH ASSEMBLY

a. Remove the 2 screws.

b. Disconnect the connector and then remove the back door opener switch.



for Preparation Click here

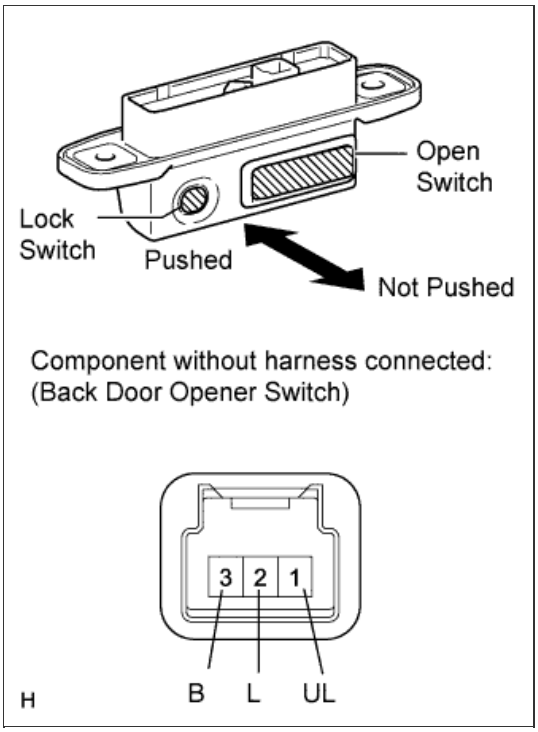
1. INSPECT BACK DOOR OPENER SWITCH ASSEMBLY

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) 3 (B) - 2 (L)	Lock switch and open switch not pushed	10 kΩ or higher
3 (B) - 2 (L)	Open switch pushed	Below 1 Ω

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



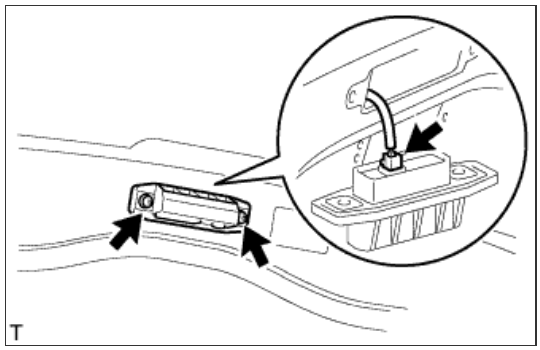
for Preparation Click here

1. INSTALL BACK DOOR OPENER SWITCH ASSEMBLY

a. Connect the connector.

b. Install the back door opener switch with the 2 screws.

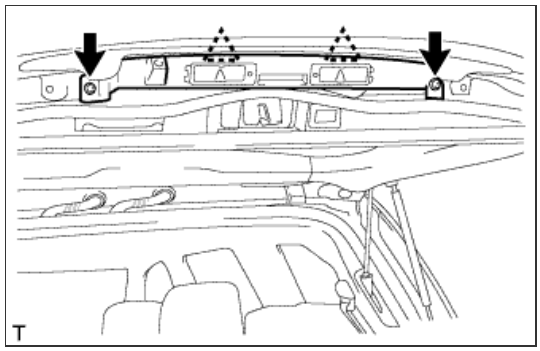
Torque:
5.0 N*m{ 51 kgf*cm , 44 in.*lbf }



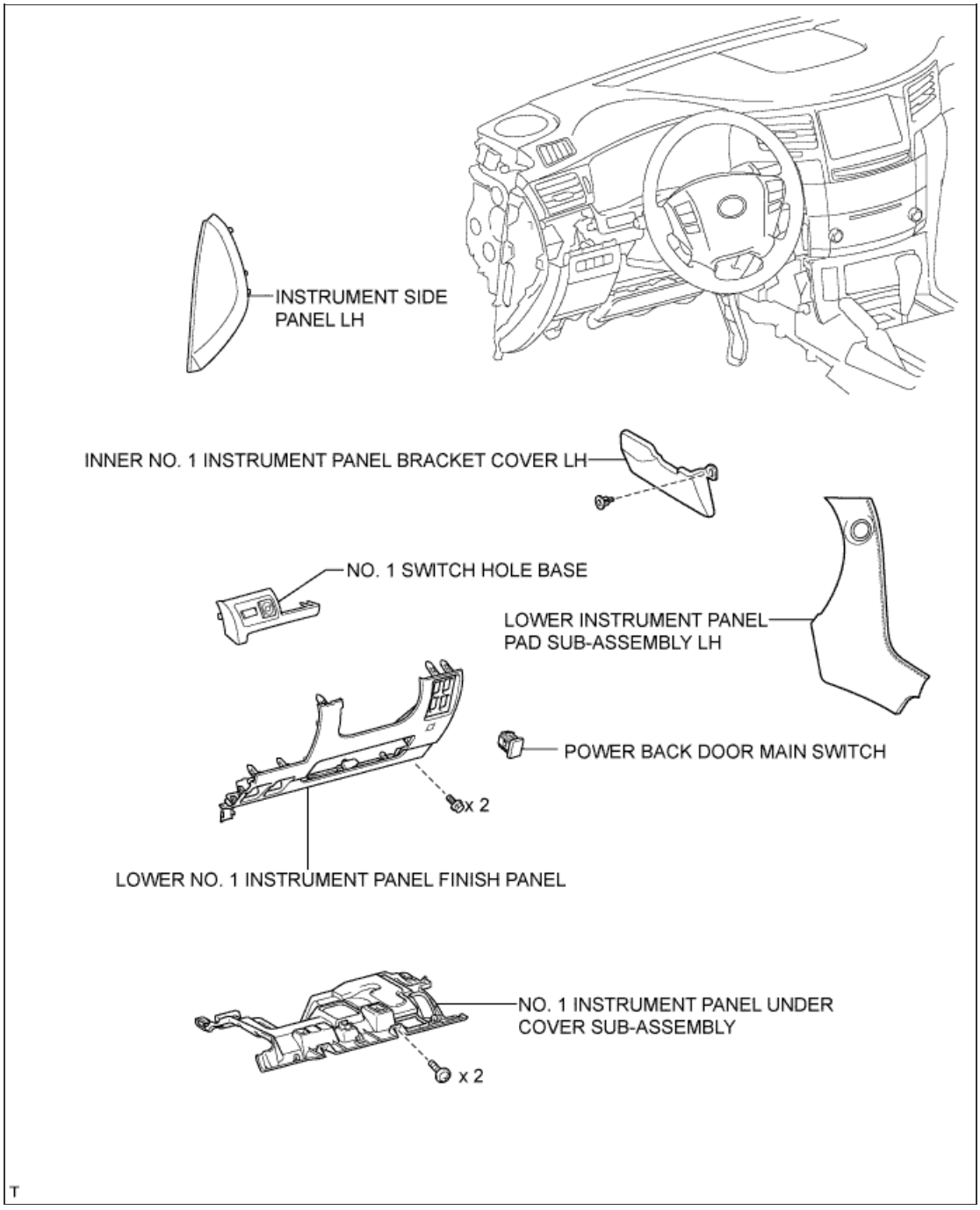
2. INSTALL BACK DOOR GARNISH RETAINER SUB-ASSEMBLY

a. Connect the connector.

b. Using a T30 "TORX" socket wrench, attach the 2 clips and install the garnish with the 2 screws.



for Preparation Click here

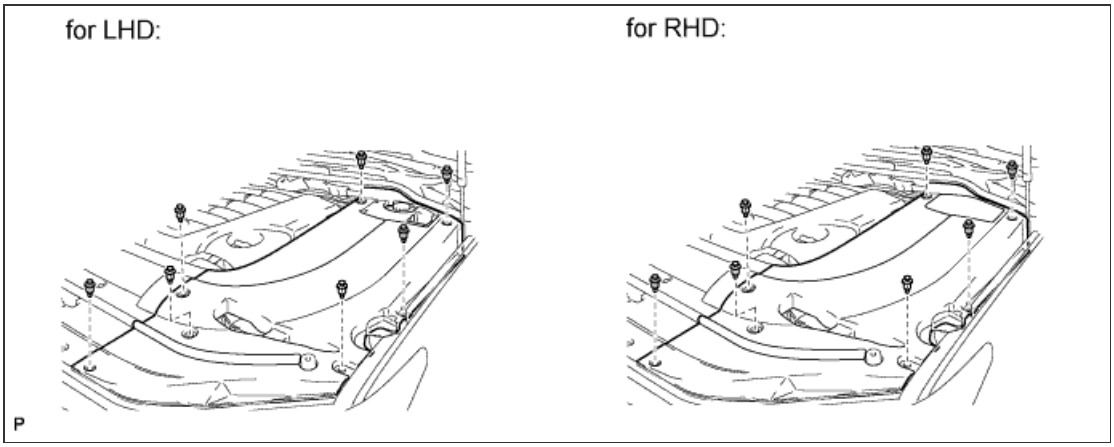


POWER BACK DOOR MAIN SWITCH > REMOVAL

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



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.

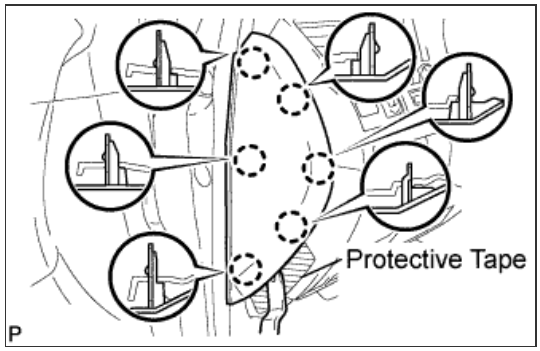
NOTICE:

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

3. REMOVE INSTRUMENT SIDE PANEL LH

a. Place protective tape as shown in the illustration.

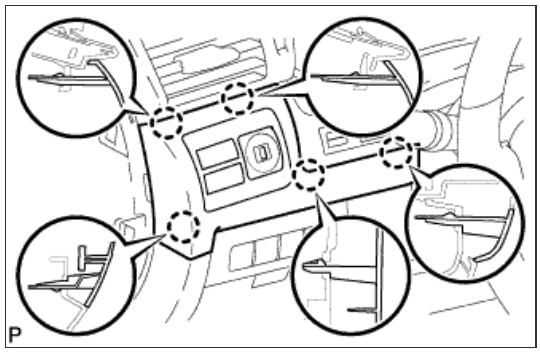
b. Using a moulding remover, detach the 6 claws and remove the side panel.



4. REMOVE NO. 1 SWITCH HOLE BASE

a. Detach the 5 claws.

b. Disconnect the connectors and remove the switch hole base.

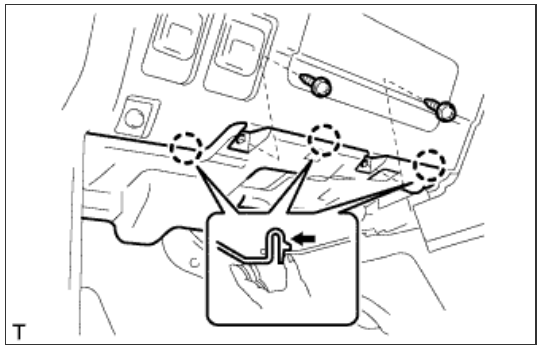


5. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Remove the 2 screws.

b. Detach the 3 claws.

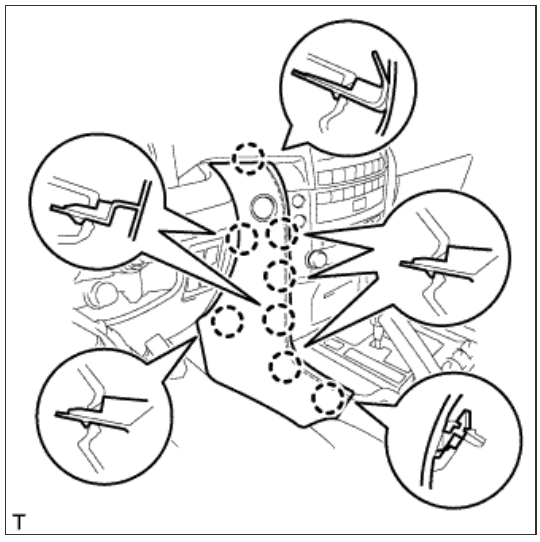
c. Remove the under cover and disconnect the connectors.



6. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Detach the 8 claws.

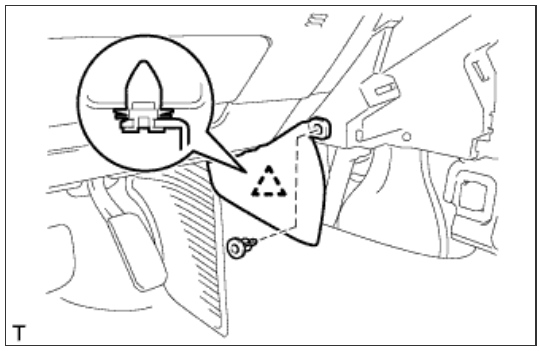
b. Disconnect the connector and remove the panel pad.



7. REMOVE INNER NO. 1 INSTRUMENT PANEL BRACKET COVER LH

a. Remove the clip.

b. Detach the clip and remove the cover.

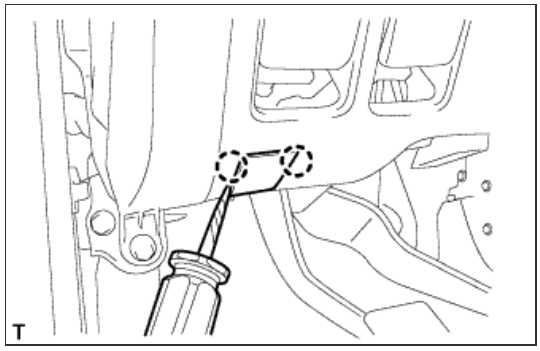


8. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

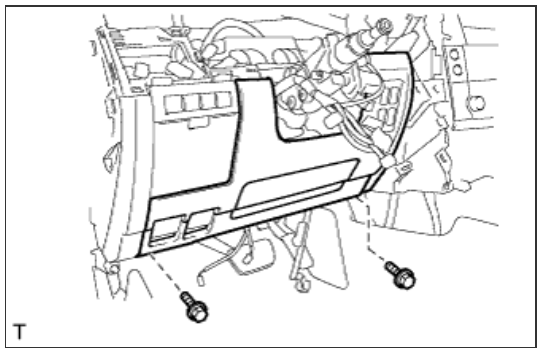
a. Using a screwdriver, detach the 2 claws and open the hole cover.

HINT:

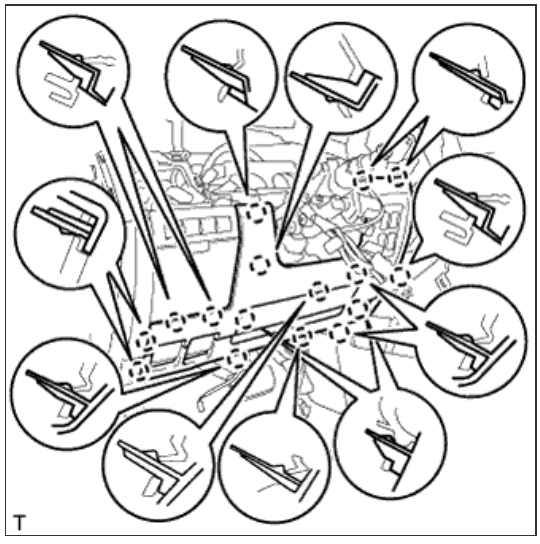
Tape the screwdriver tip before use.



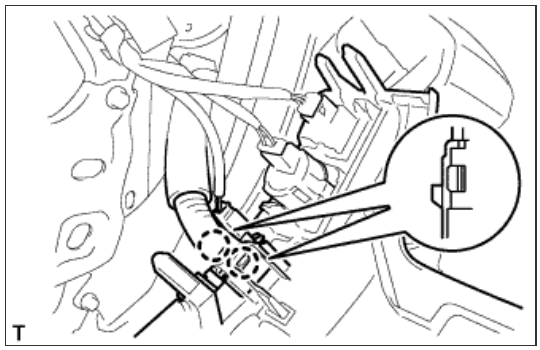
b. Remove the 2 bolts.



c. Detach the 16 claws.

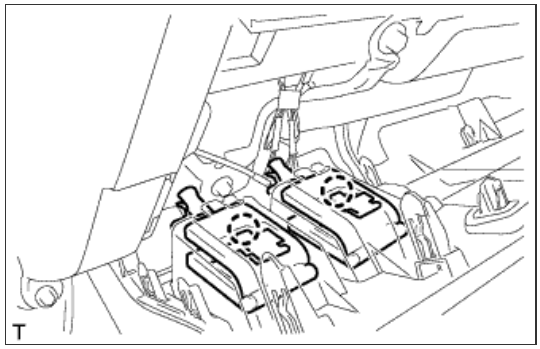


d. Detach the 2 claws and remove the sensor.



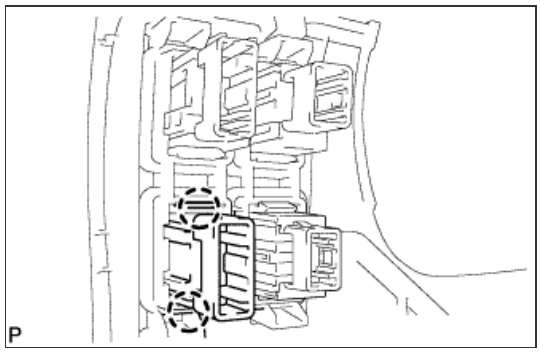
e. Detach the 2 claws and disconnect the 2 control cables.

f. Remove the finish panel and then disconnect the connectors.



9. REMOVE POWER BACK DOOR MAIN SWITCH

a. Detach the 2 claws and remove the switch.



for Preparation Click here

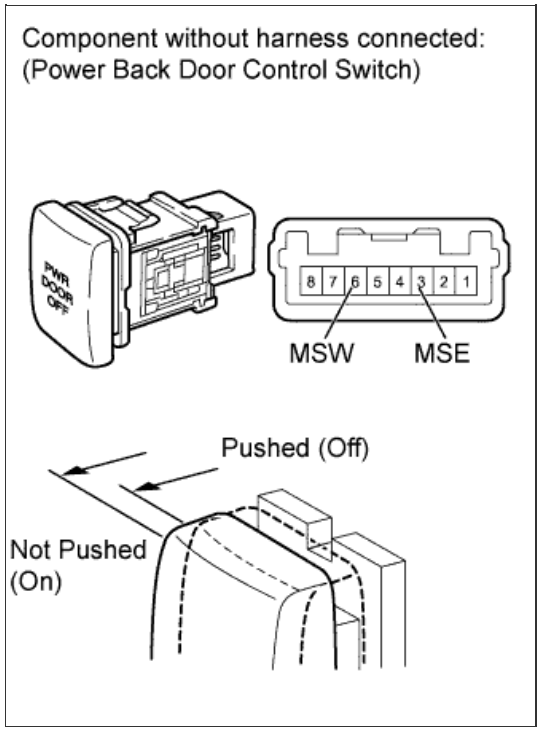
1. INSPECT POWER BACK DOOR MAIN SWITCH

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
3 (MSE) - 6 (MSW)	Not pushed (on)	Below 1 Ω
3 (MSE) - 6 (MSW)	Pushed (off)	10 kΩ or higher

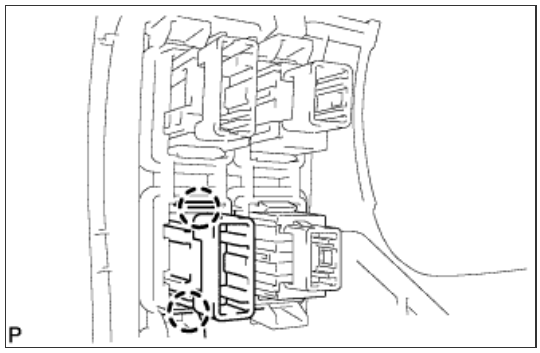
If the result is not as specified, replace the power back door main switch.



for Preparation Click here

1. INSTALL POWER BACK DOOR MAIN SWITCH

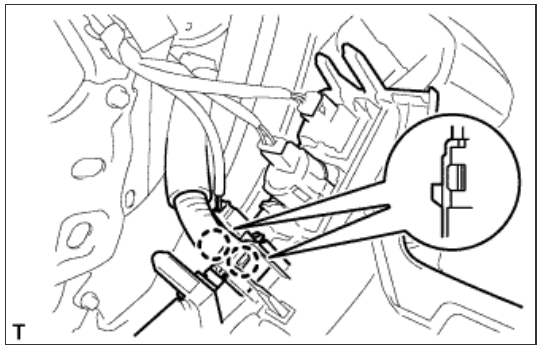
a. Attach the 2 claws to install the switch.



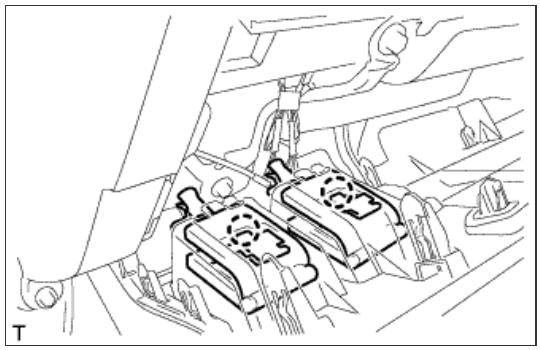
2. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

a. Connect the connectors.

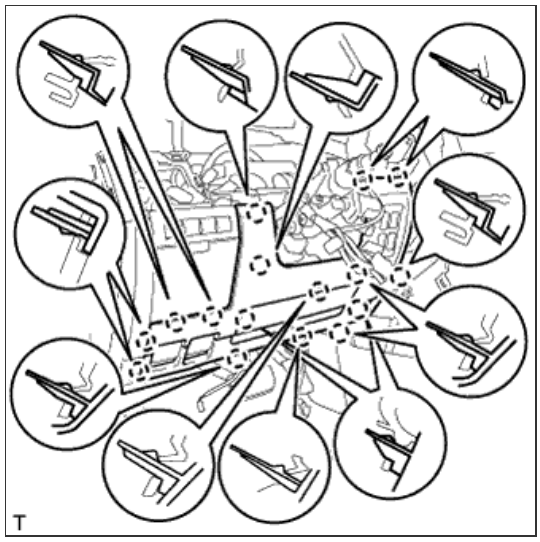
b. Attach the 2 claws to install the sensor.



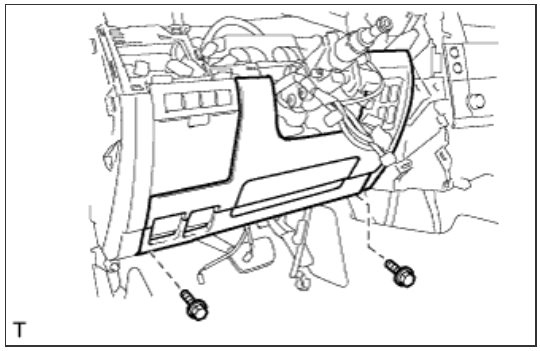
c. Attach the 2 claws to connect the 2 control cables.



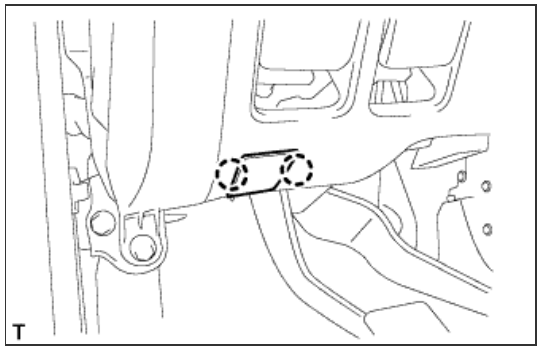
d. Attach the 16 claws to install the finish panel.



e. Install the 2 bolts.



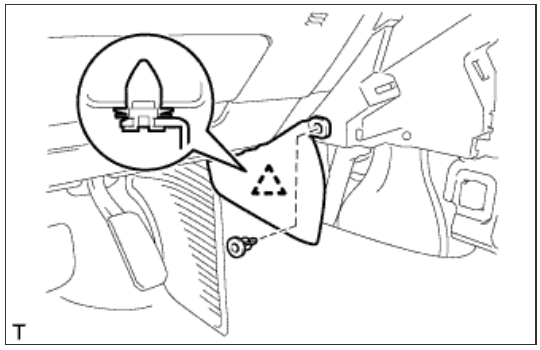
f. Attach the 2 claws to close the hole cover.



3. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER LH

a. Attach the clip to install the cover.

b. Install the clip.

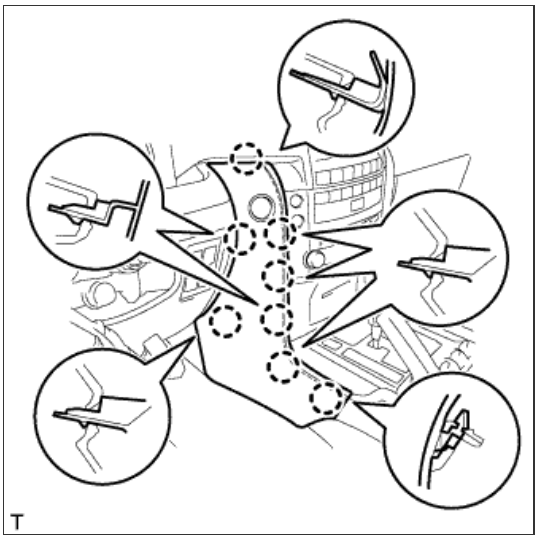


4. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connector.

a. Connect the connector.

b. Attach the 8 claws to install the panel pad.

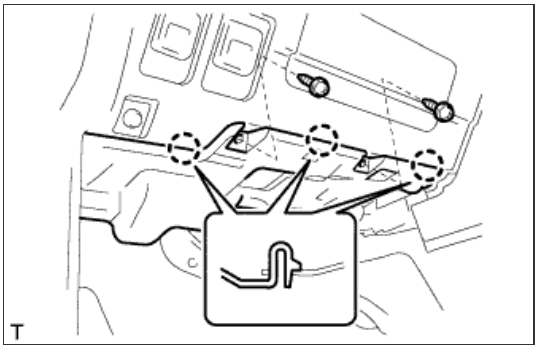


5. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Connect the connectors.

b. Attach the 3 claws to install the under cover.

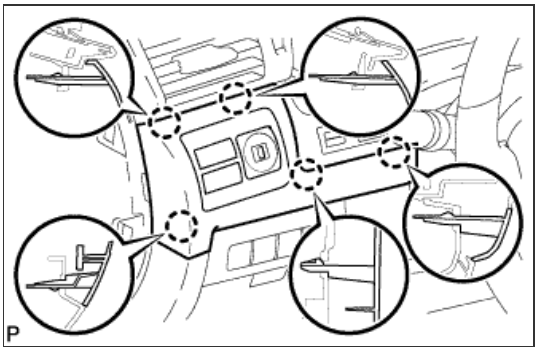
c. Install the 2 screws.



6. INSTALL NO. 1 SWITCH HOLE BASE

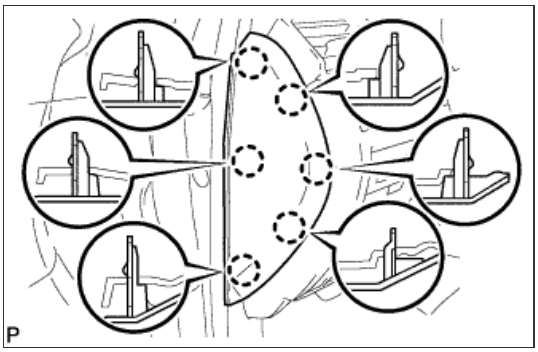
a. Connect the connectors.

b. Attach the 5 claws to install the switch hole base.



7. INSTALL INSTRUMENT SIDE PANEL LH

a. Attach the 6 claws to install the side panel.



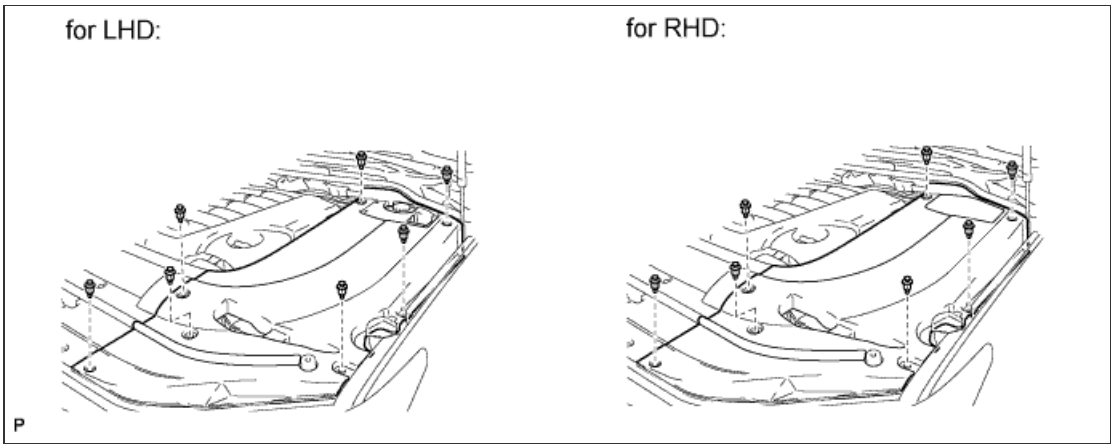
8. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

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

9. INSTALL ENGINE ROOM SIDE COVER LH

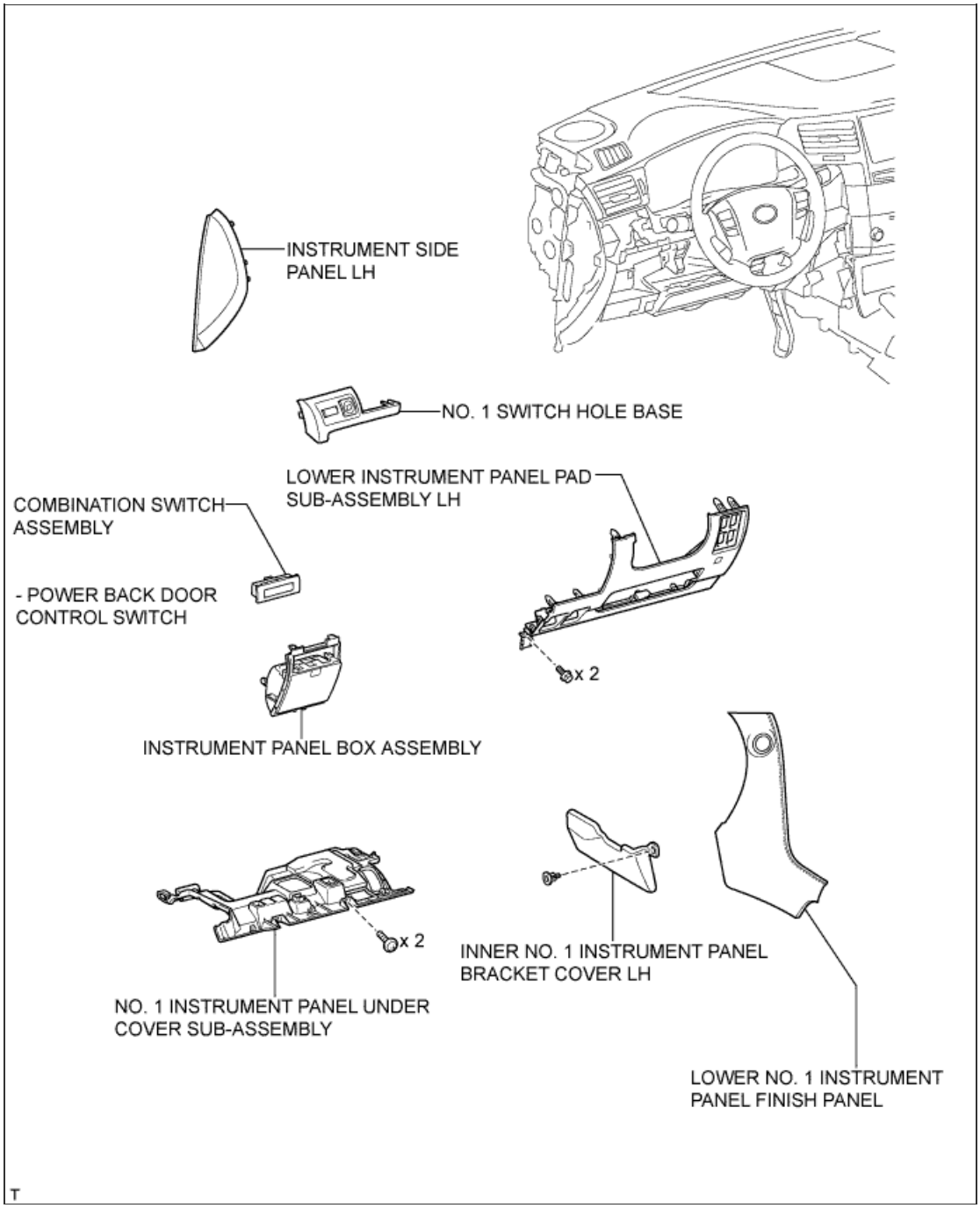
a. Install the engine room side cover with the 7 clips.



10. CHECK SRS WARNING LIGHT

a. Check the SRS warning light (Click here).

for Preparation Click here



POWER BACK DOOR CONTROL SWITCH > REMOVAL

for Preparation Click here

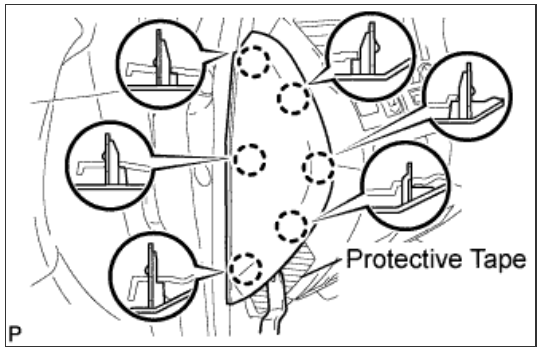
HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. REMOVE INSTRUMENT SIDE PANEL LH

a. Place protective tape as shown in the illustration.

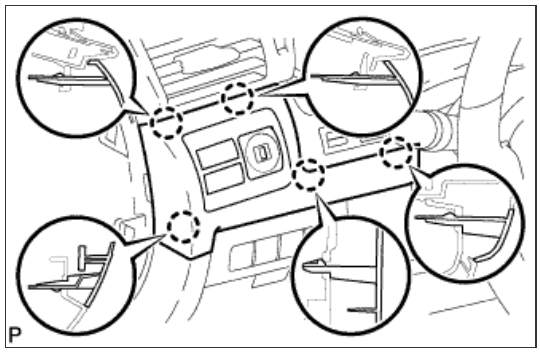
b. Using a moulding remover, detach the 6 claws and remove the side panel.



2. REMOVE NO. 1 SWITCH HOLE BASE

a. Detach the 5 claws.

b. Disconnect the connectors and remove the switch hole base.

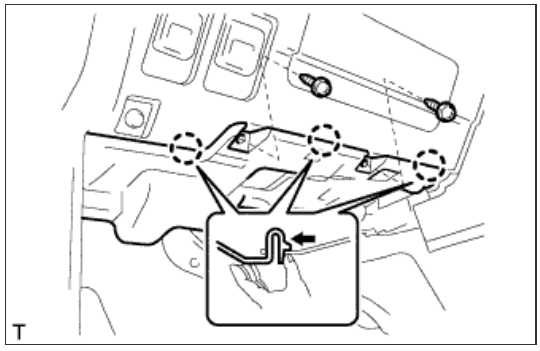


3. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Remove the 2 screws.

b. Detach the 3 claws.

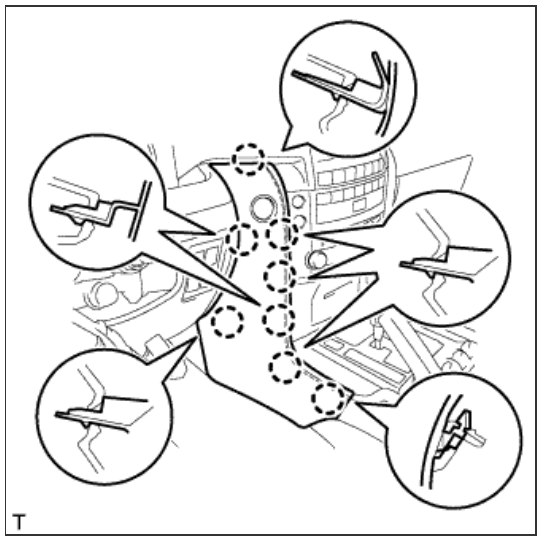
c. Remove the under cover and disconnect the connectors.



4. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Detach the 8 claws.

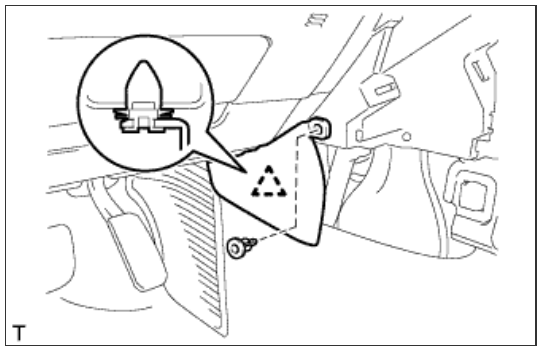
b. Disconnect the connector and remove the panel pad.



5. REMOVE INNER NO. 1 INSTRUMENT PANEL BRACKET COVER LH

a. Remove the clip.

b. Detach the clip and remove the cover.

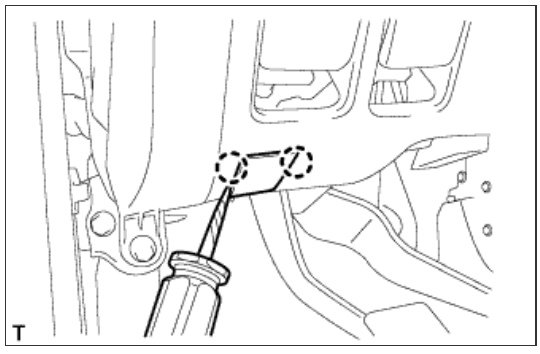


6. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

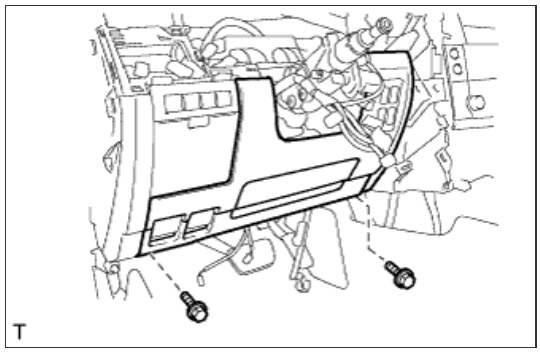
a. Using a screwdriver, detach the 2 claws and open the hole cover.

HINT:

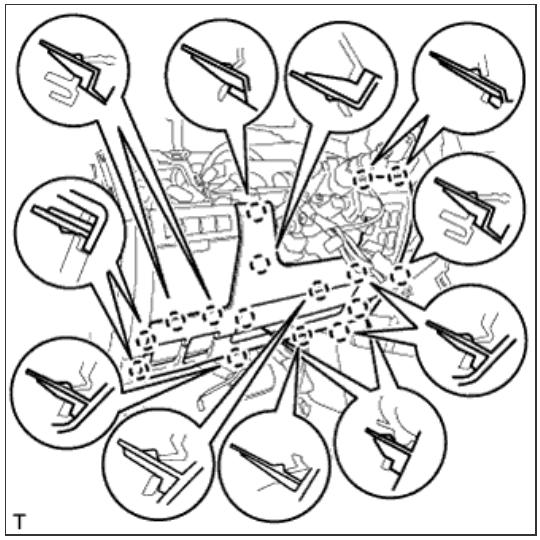
Tape the screwdriver tip before use.



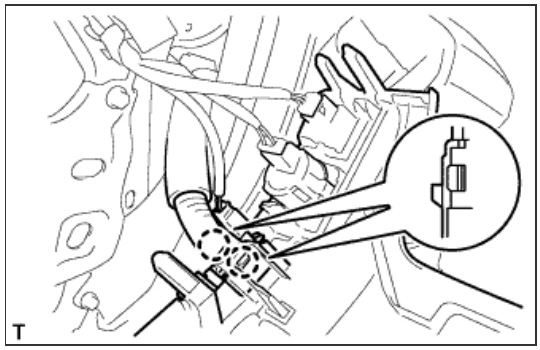
b. Remove the 2 bolts.



c. Detach the 16 claws.

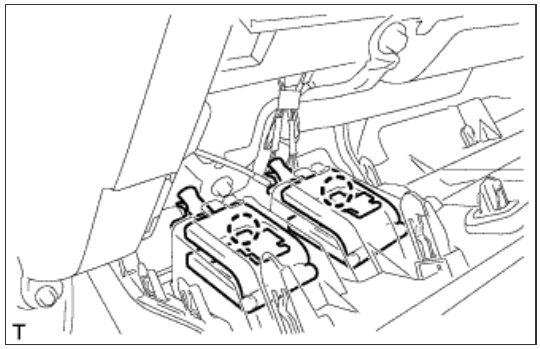


d. Detach the 2 claws and remove the sensor.



e. Detach the 2 claws and disconnect the 2 control cables.

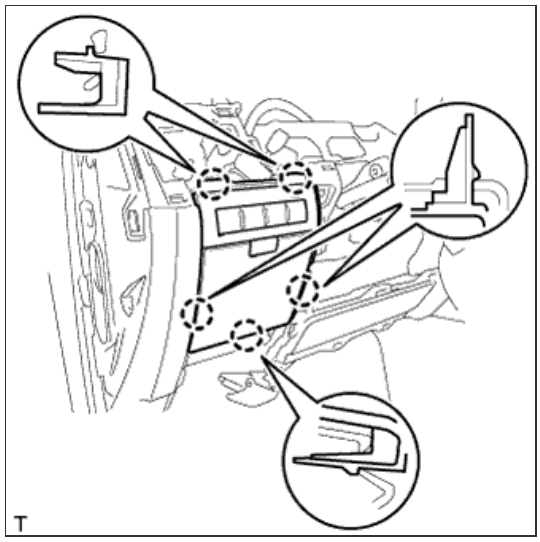
f. Remove the finish panel and then disconnect the connectors.



7. REMOVE INSTRUMENT PANEL BOX ASSEMBLY

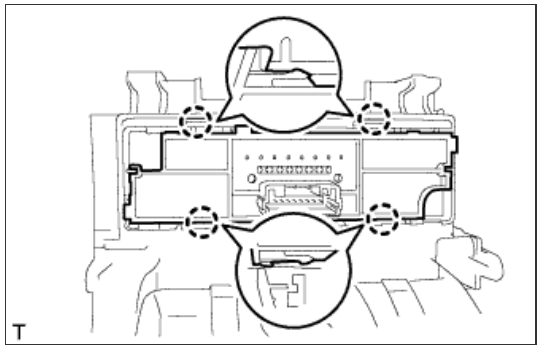
a. Detach the 5 claws.

b. Remove the box and then disconnect the connectors.



8. REMOVE COMBINATION SWITCH ASSEMBLY

a. Detach the 4 claws and remove the switch.



for Preparation Click here

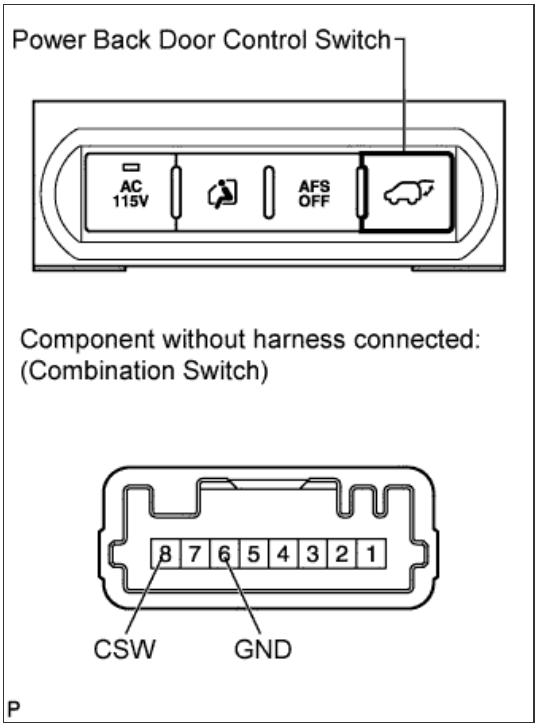
1. INSPECT COMBINATION SWITCH ASSEMBLY (POWER BACK DOOR CONTROL SWITCH)

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
8 (CSW) - 6 (GND)	Power back door control switch is pushed (on)	Below 1 Ω
8 (CSW) - 6 (GND)	Power back door control switch is not pushed (off)	10 kΩ or higher

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



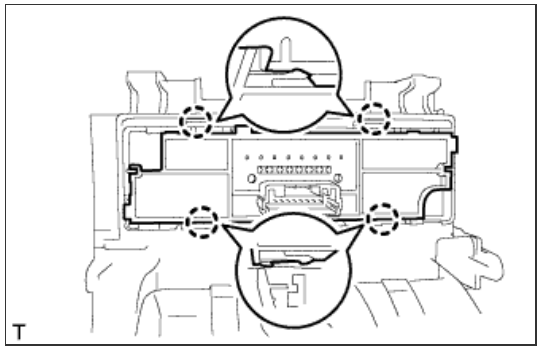
for Preparation Click here

HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. INSTALL COMBINATION SWITCH ASSEMBLY

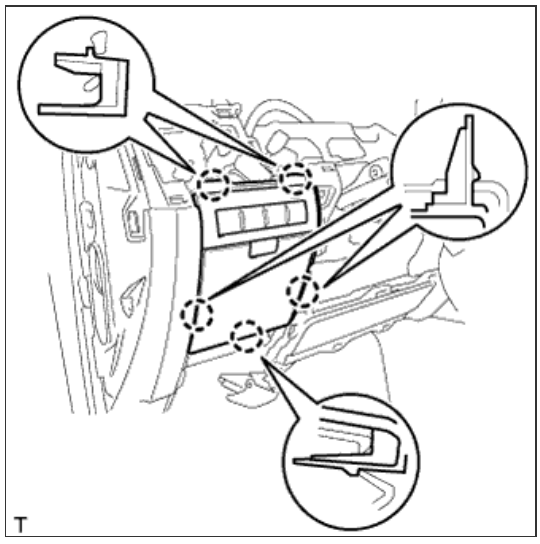
a. Attach the 4 claws to install the switch.



2. INSTALL INSTRUMENT PANEL BOX ASSEMBLY

a. Connect the connectors.

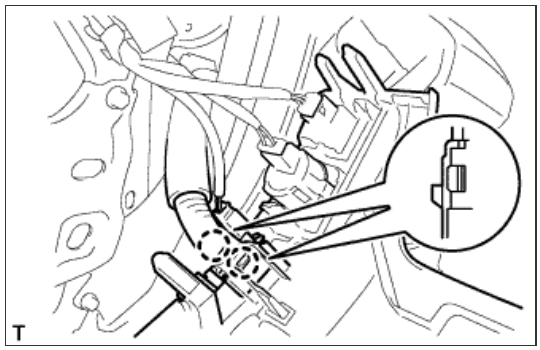
b. Attach the 5 claws to install the box.



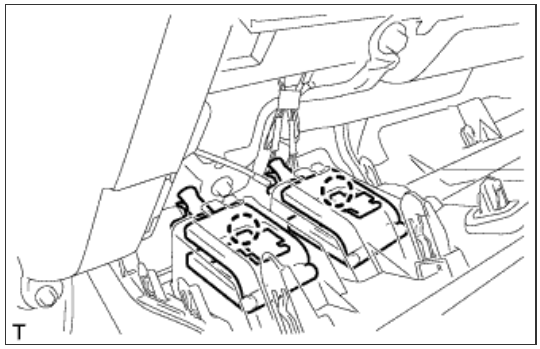
3. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

a. Connect the connectors.

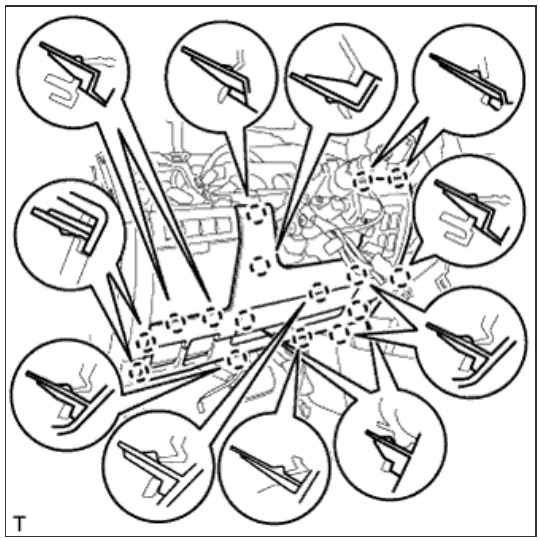
b. Attach the 2 claws to install the sensor.



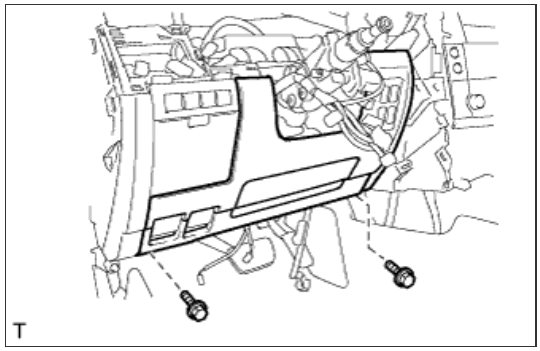
c. Attach the 2 claws to connect the 2 control cables.



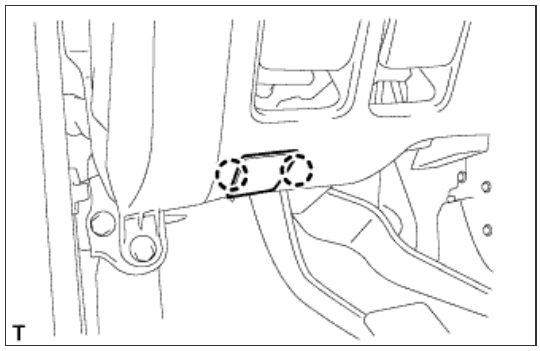
d. Attach the 16 claws to install the finish panel.



e. Install the 2 bolts.



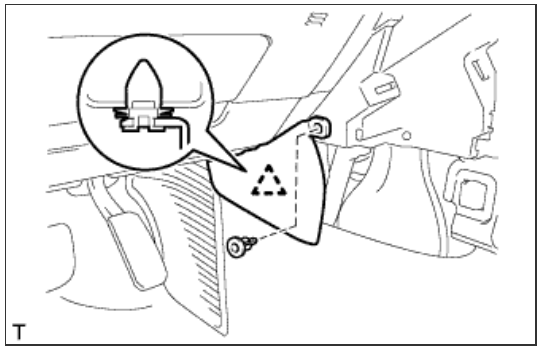
f. Attach the 2 claws to close the hole cover.



4. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER LH

a. Attach the clip to install the cover.

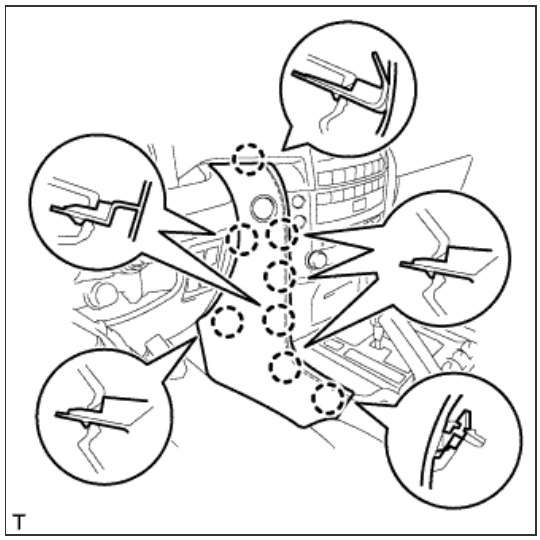
b. Install the clip.



5. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connector.

b. Attach the 8 claws to install the panel pad.

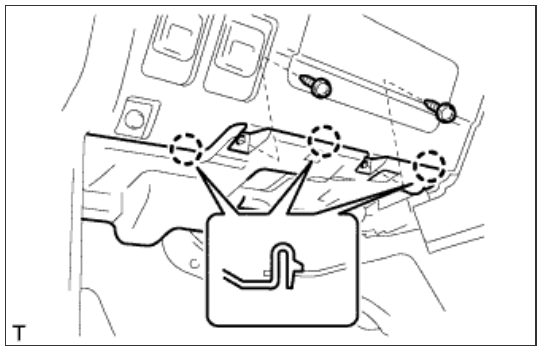


6. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Connect the connectors.

b. Attach the 3 claws to install the under cover.

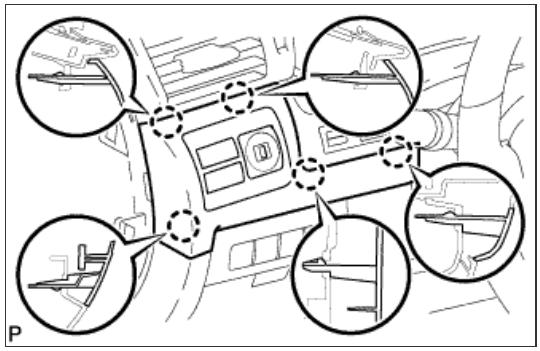
c. Install the 2 screws.



7. INSTALL NO. 1 SWITCH HOLE BASE

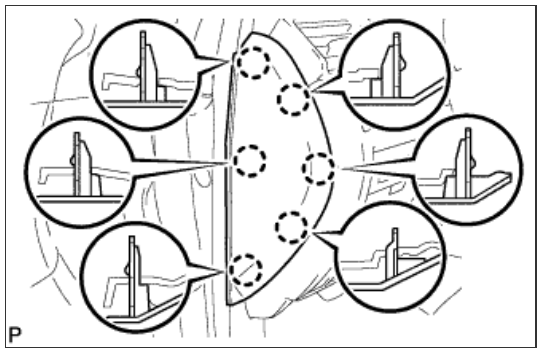
a. Connect the connectors.

b. Attach the 5 claws to install the switch hole base.

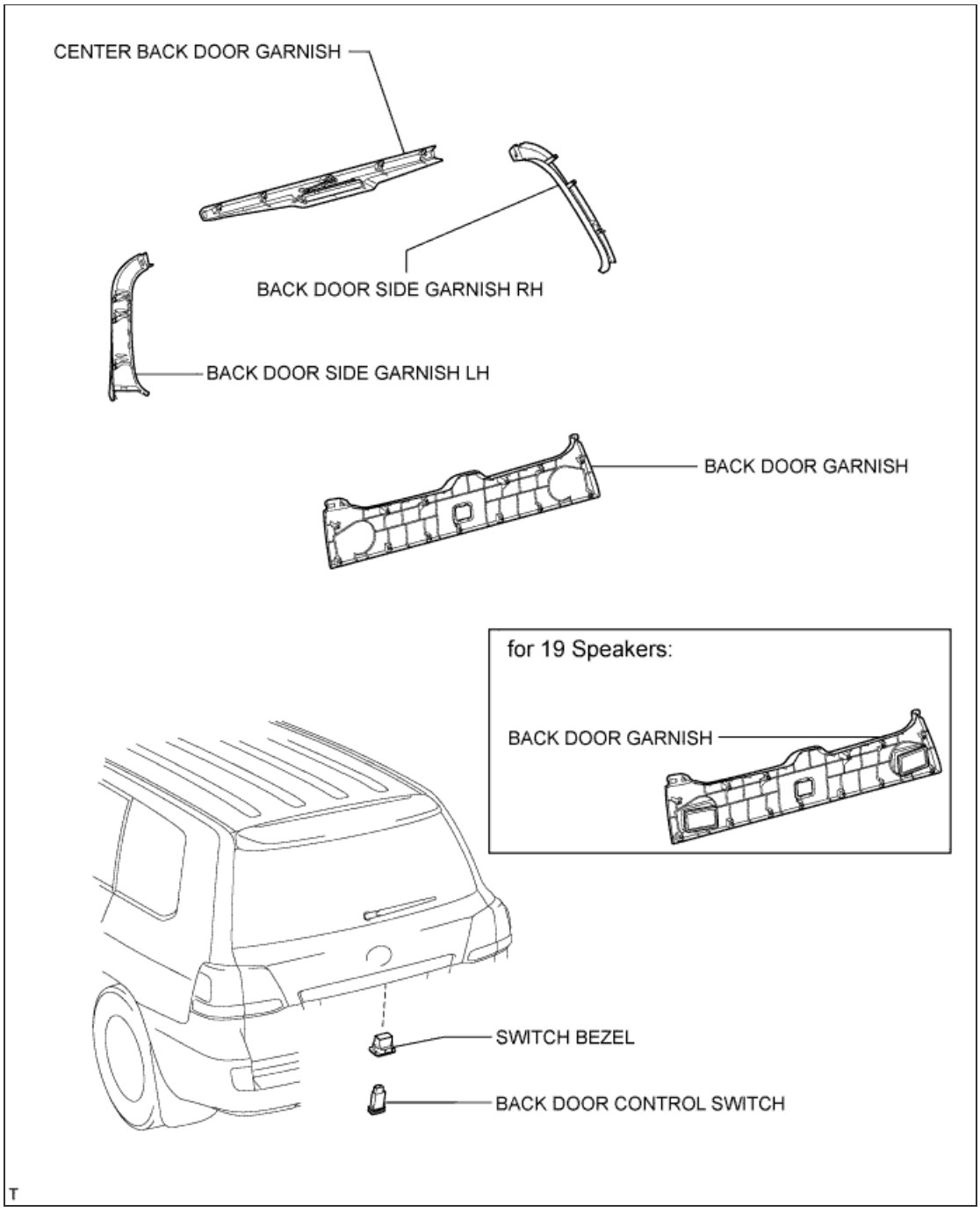


8. INSTALL INSTRUMENT SIDE PANEL LH

a. Attach the 6 claws to install the side panel.



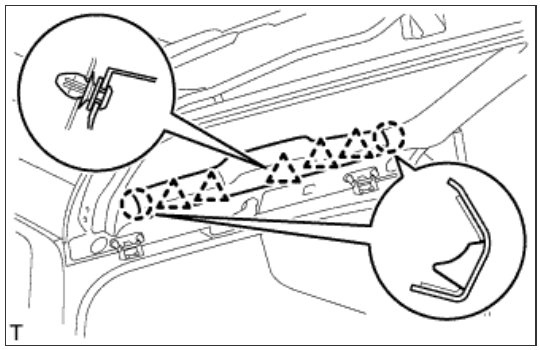
for Preparation Click here



for Preparation Click here

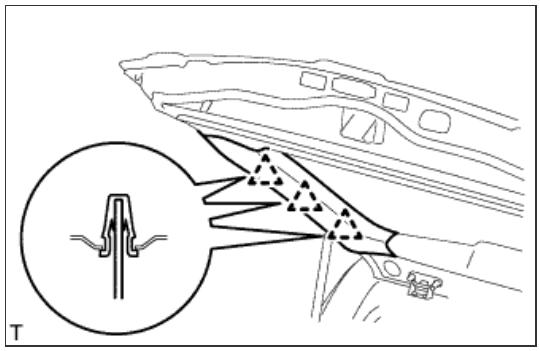
1. REMOVE CENTER BACK DOOR GARNISH

a. Detach the 5 clips and 2 claws, and remove the back door garnish.



2. REMOVE BACK DOOR SIDE GARNISH LH

a. Detach the 3 clips and remove the back door side garnish.



3. REMOVE BACK DOOR SIDE GARNISH RH

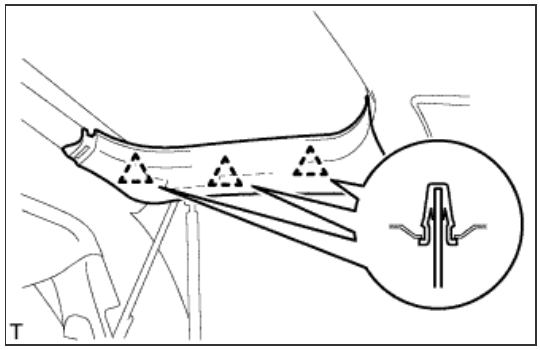
a. w/o Power Back Door:

HINT:

Use the same procedures described for the LH side.

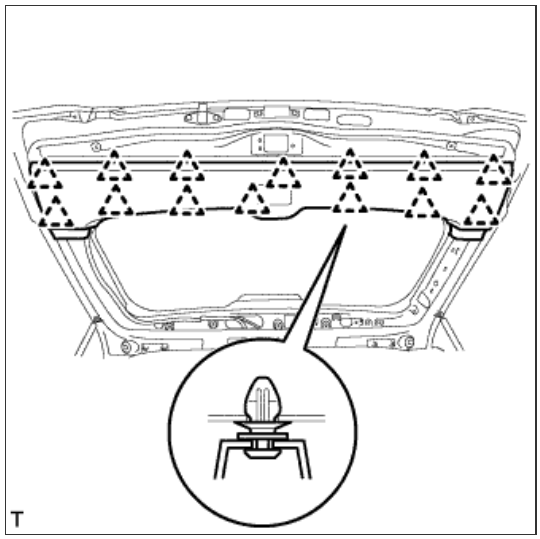
b. w/ Power Back Door:

i. Detach the 3 clips and remove the back door side garnish.



4. REMOVE BACK DOOR GARNISH

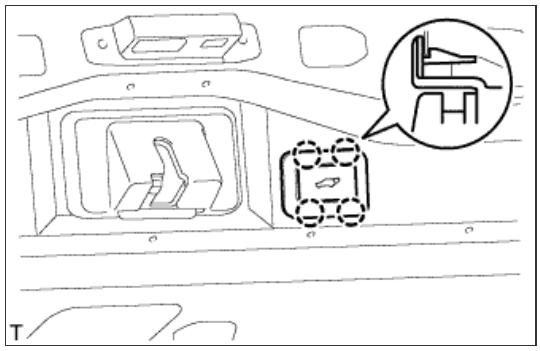
a. Using a screwdriver, detach the 14 clips and remove the back door garnish.



5. REMOVE SWITCH BEZEL

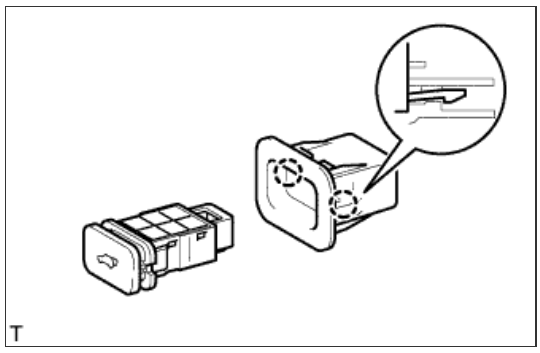
a. Disconnect the connector.

b. Detach the 4 claws and remove the switch bezel.



6. REMOVE BACK DOOR CONTROL SWITCH

a. Detach the 2 claws and remove the door control switch.



for Preparation Click here

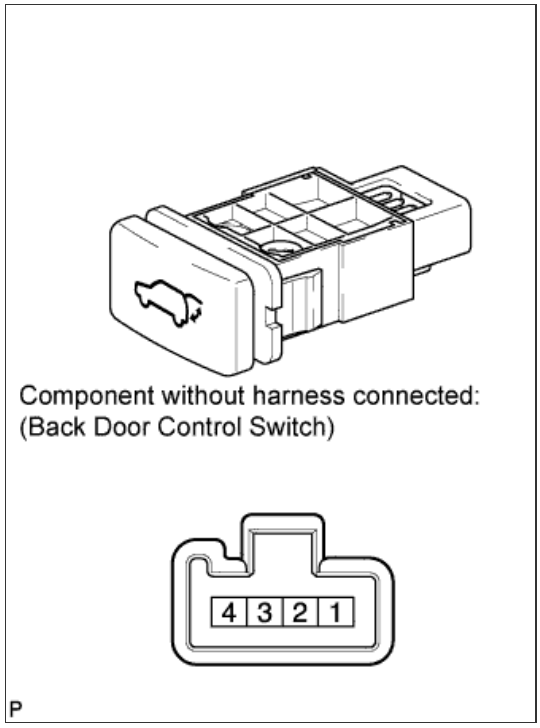
1. INSPECT BACK DOOR CONTROL SWITCH

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
3 - 4	Pushed (on)	Below 1 Ω
3 - 4	Not pushed (off)	10 kΩ or higher

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

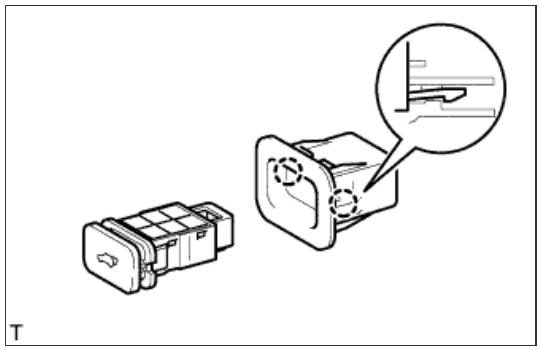


Component without harness connected:
(Back Door Control Switch)

for Preparation Click here

1. INSTALL BACK DOOR CONTROL SWITCH

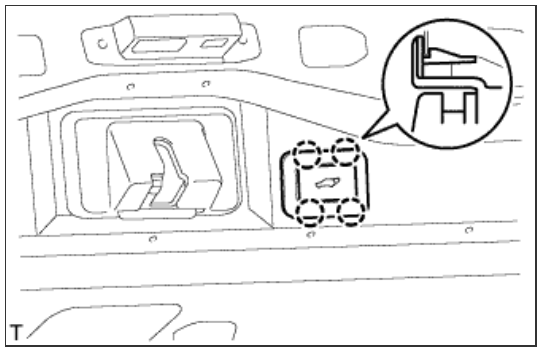
a. Attach the 2 claws to install the door control switch.



2. INSTALL SWITCH BEZEL

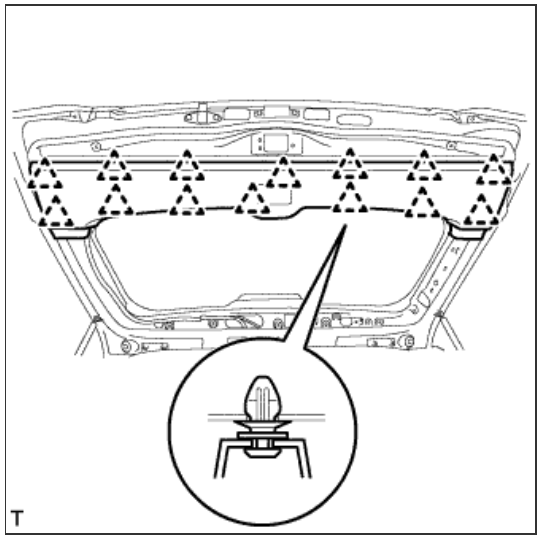
a. Attach the 4 claws to install the switch bezel.

b. Connect the connector.



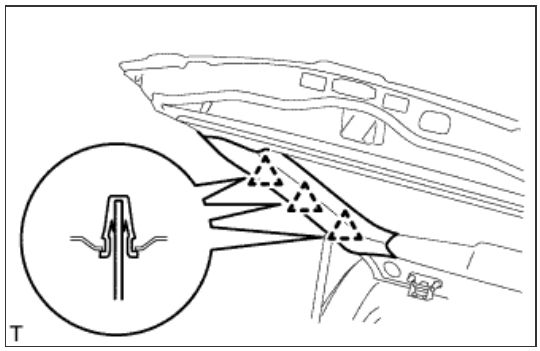
3. INSTALL BACK DOOR GARNISH

a. Attach the 14 clips to install the back door garnish.



4. INSTALL BACK DOOR SIDE GARNISH LH

a. Attach the 3 clips to install the back door side garnish.



5. INSTALL BACK DOOR SIDE GARNISH RH

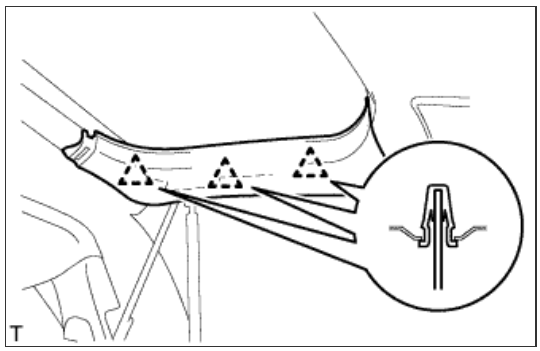
a. w/o Power Back Door:

HINT:

Use the same procedures described for the LH side.

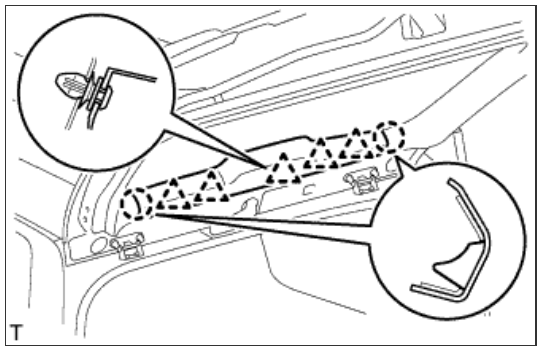
b. w/ Power Back Door:

i. Attach the 3 clips to install the back door side garnish.

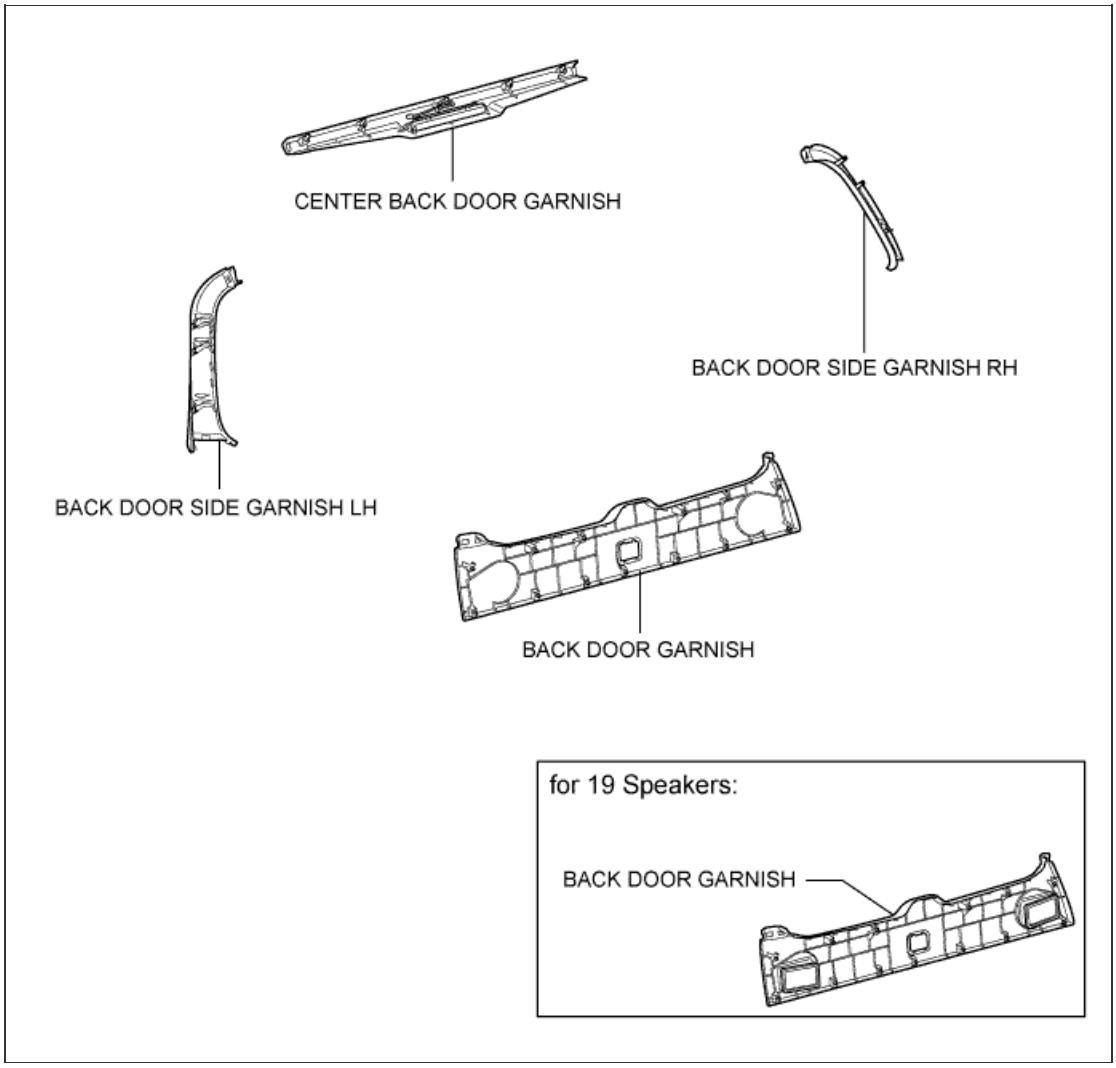


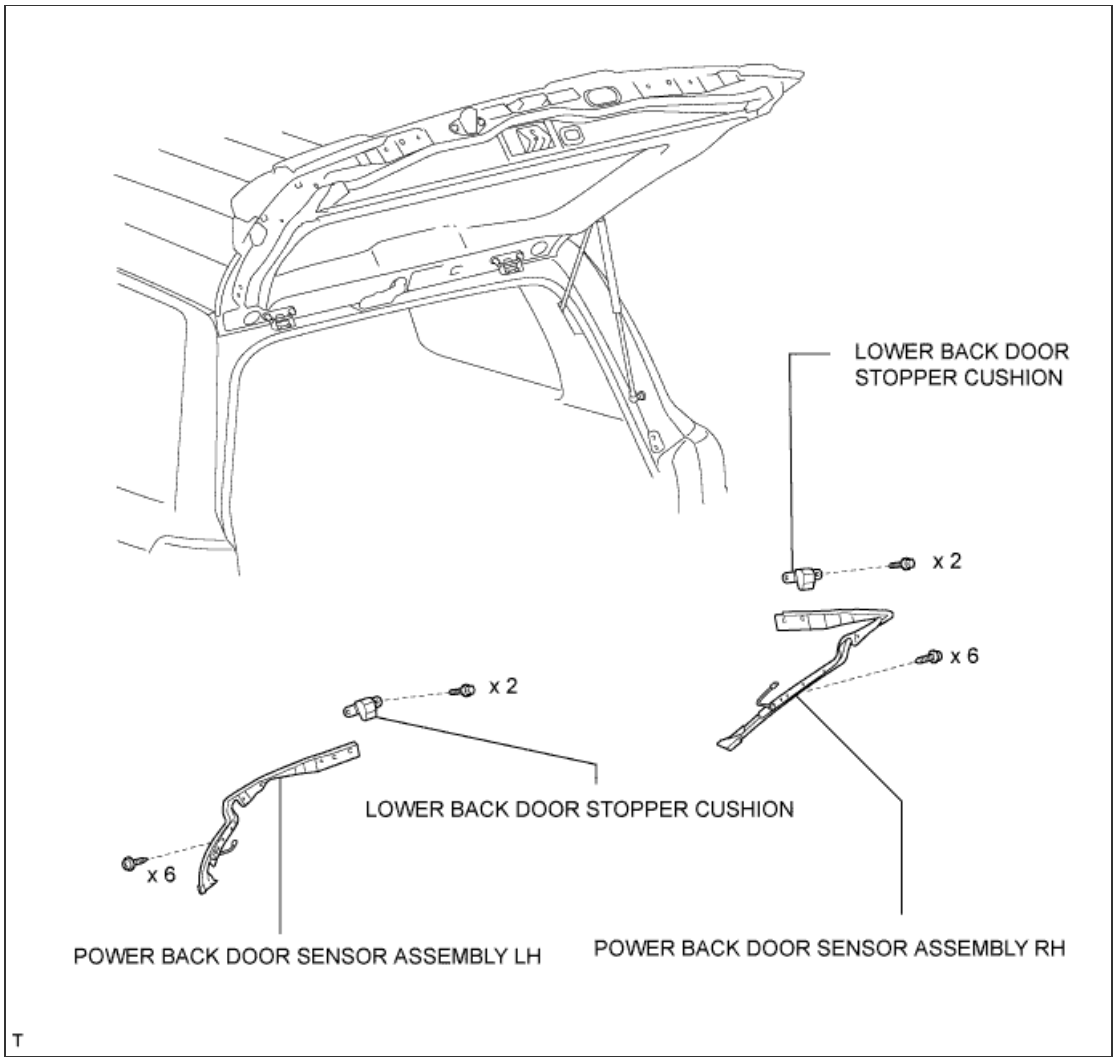
6. INSTALL CENTER BACK DOOR GARNISH

a. Attach the 5 clips and 2 claws to install the back door garnish.



for Preparation Click here

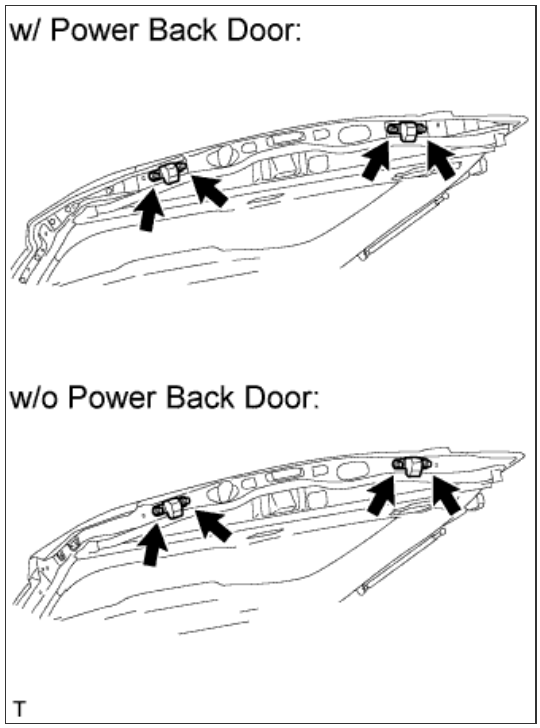



LOWER BACK DOOR
STOPPER CUSHION
x 2
x 6
x 2
LOWER BACK DOOR STOPPER CUSHION
x 6
POWER BACK DOOR SENSOR ASSEMBLY LH
POWER BACK DOOR SENSOR ASSEMBLY RH
T

for Preparation Click here

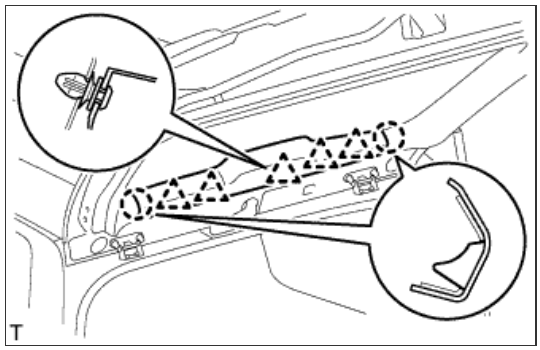
1. REMOVE LOWER BACK DOOR STOPPER CUSHION

a. Remove the 4 bolts and 2 lower back door stopper cushions.



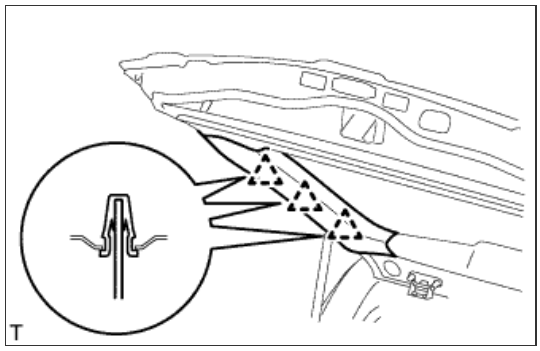
2. REMOVE CENTER BACK DOOR GARNISH

a. Detach the 5 clips and 2 claws, and remove the back door garnish.



3. REMOVE BACK DOOR SIDE GARNISH LH

a. Detach the 3 clips and remove the back door side garnish.



4. REMOVE BACK DOOR SIDE GARNISH RH

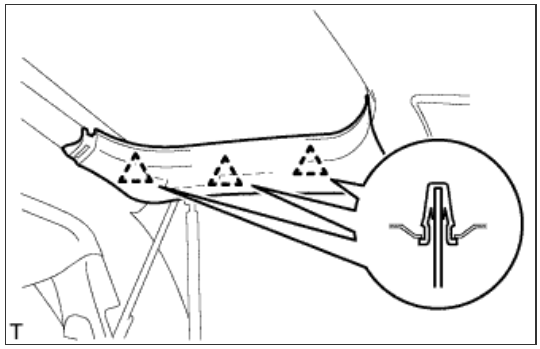
a. w/o Power Back Door:

HINT:

Use the same procedures described for the LH side.

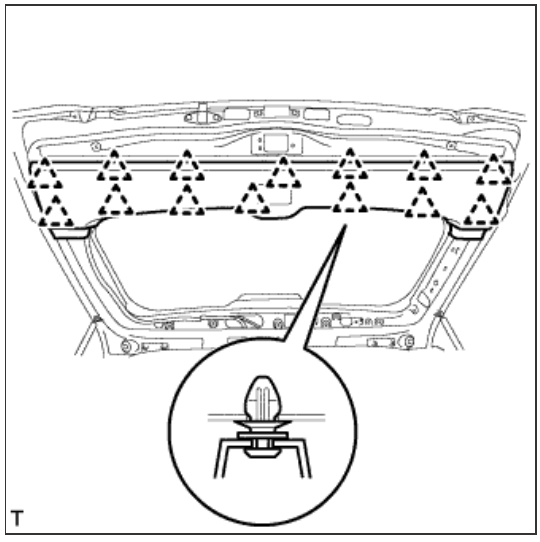
b. w/ Power Back Door:

i. Detach the 3 clips and remove the back door side garnish.



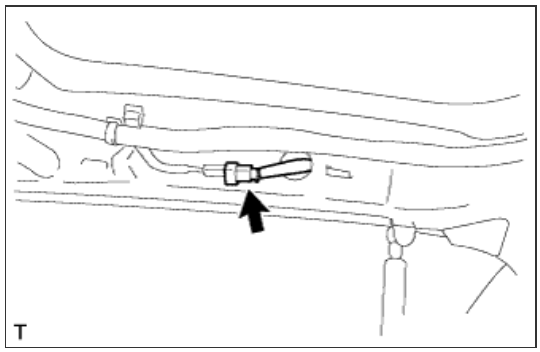
5. REMOVE BACK DOOR GARNISH

a. Using a screwdriver, detach the 14 clips and remove the back door garnish.



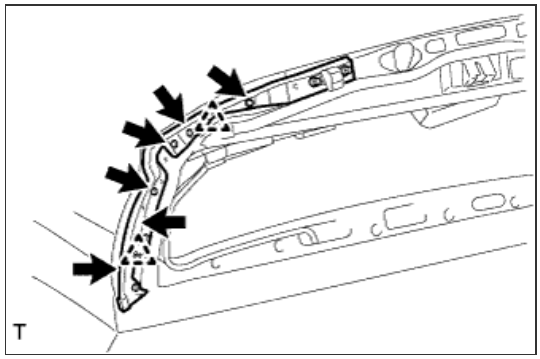
6. REMOVE POWER BACK DOOR SENSOR ASSEMBLY LH

a. Disconnect the connector.



b. Using a T25 "TORX" wrench, remove the 6 screws.

c. Detach the 2 clips and remove the power back door sensor assembly LH.



7. REMOVE POWER BACK DOOR SENSOR ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

for Preparation Click here

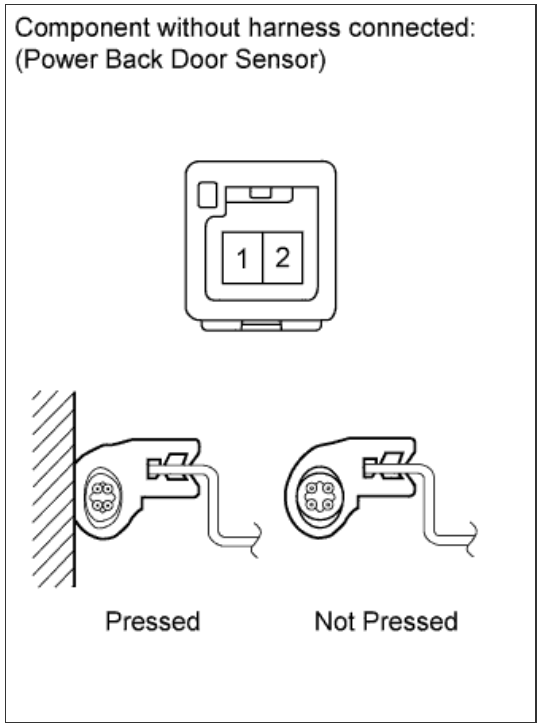
1. INSPECT POWER BACK DOOR SENSOR ASSEMBLY

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
1 - 2	Not pressed	Approximately 1 kΩ
1 - 2	Pressed	Below 100 Ω

If the result is not as specified, replace the power back door sensor assembly.

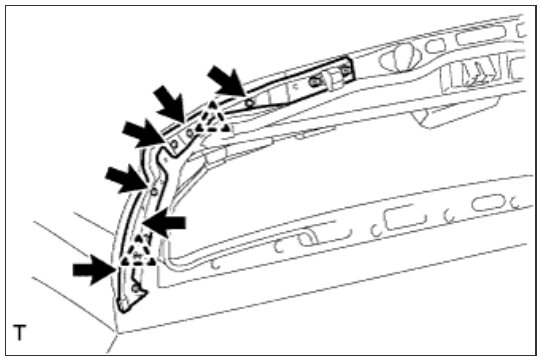


for Preparation Click here

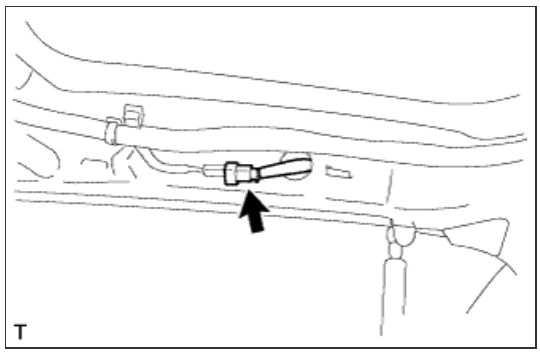
1. INSTALL POWER BACK DOOR SENSOR ASSEMBLY LH

a. Attach the 2 clips to install the power back door sensor assembly LH.

b. Using a T25 "TORX" wrench, install the 6 screws.



c. Connect the connector.



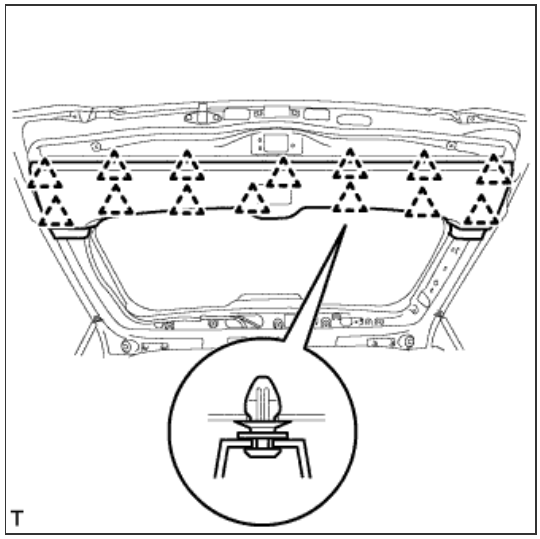
2. INSTALL POWER BACK DOOR SENSOR ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

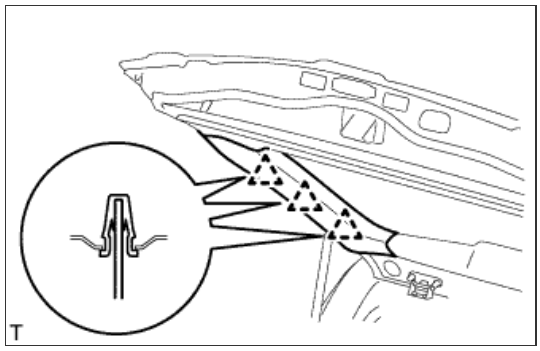
3. INSTALL BACK DOOR GARNISH

a. Attach the 14 clips to install the back door garnish.



4. INSTALL BACK DOOR SIDE GARNISH LH

a. Attach the 3 clips to install the back door side garnish.



5. INSTALL BACK DOOR SIDE GARNISH RH

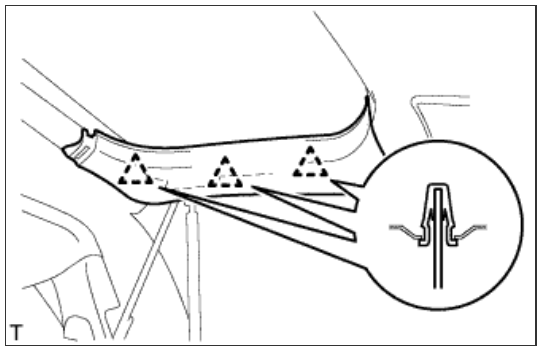
a. w/o Power Back Door:

HINT:

Use the same procedures described for the LH side.

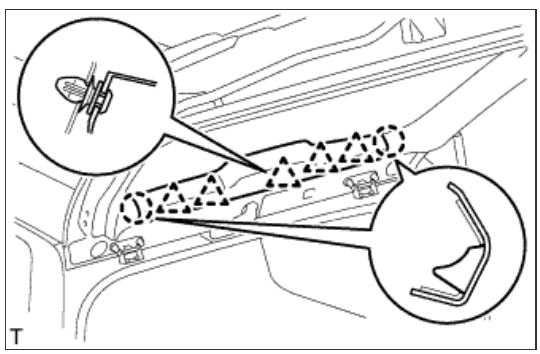
b. w/ Power Back Door:

i. Attach the 3 clips to install the back door side garnish.



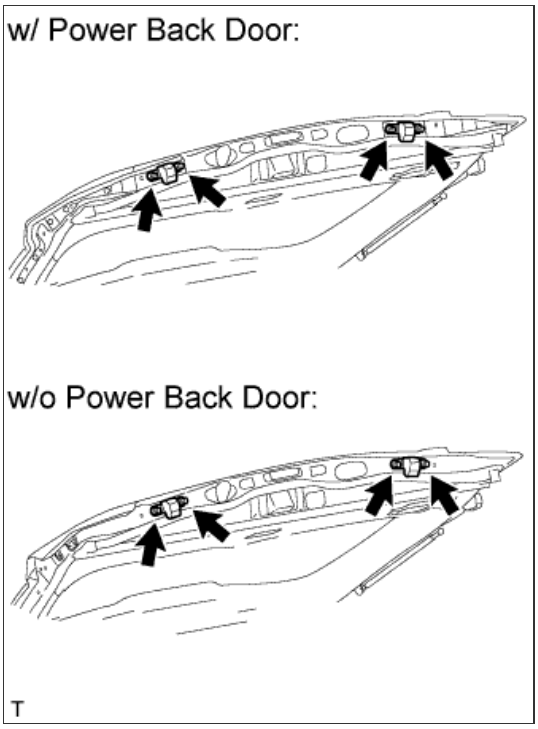
6. INSTALL CENTER BACK DOOR GARNISH

a. Attach the 5 clips and 2 claws to install the back door garnish.

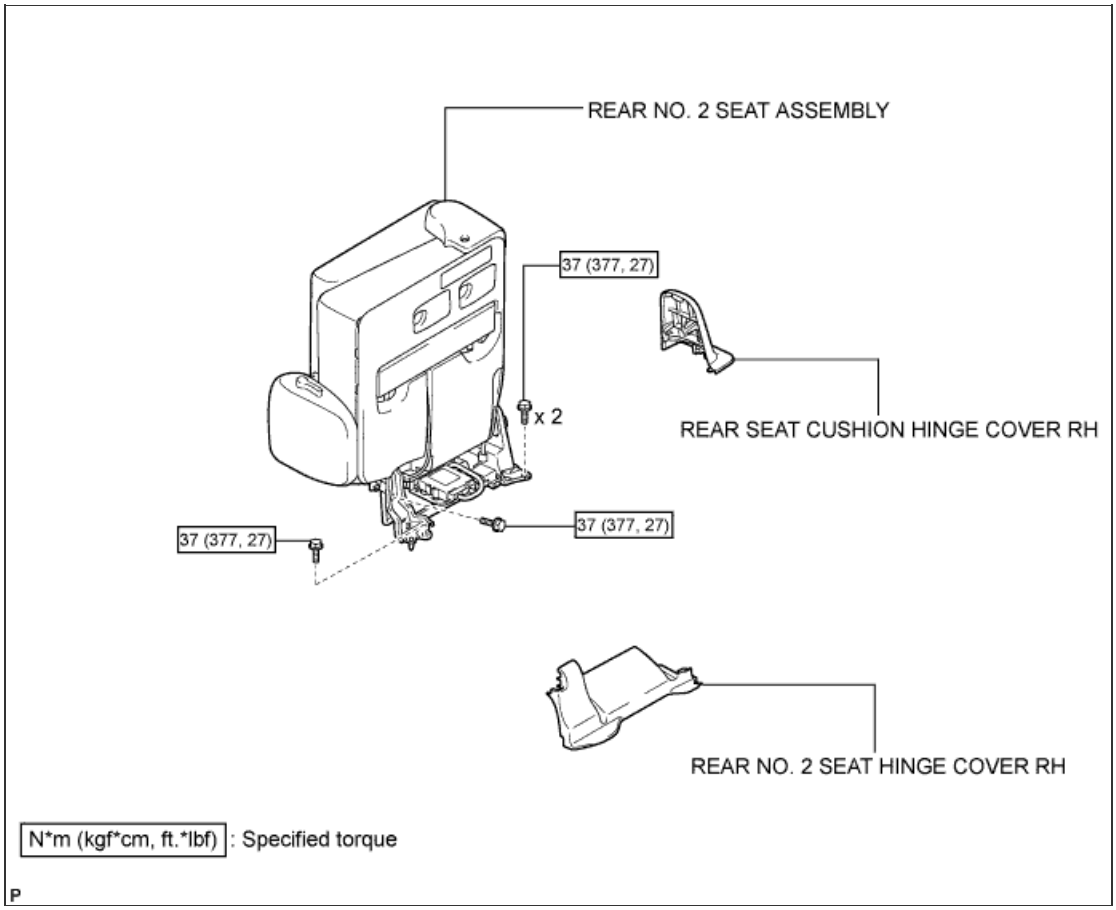


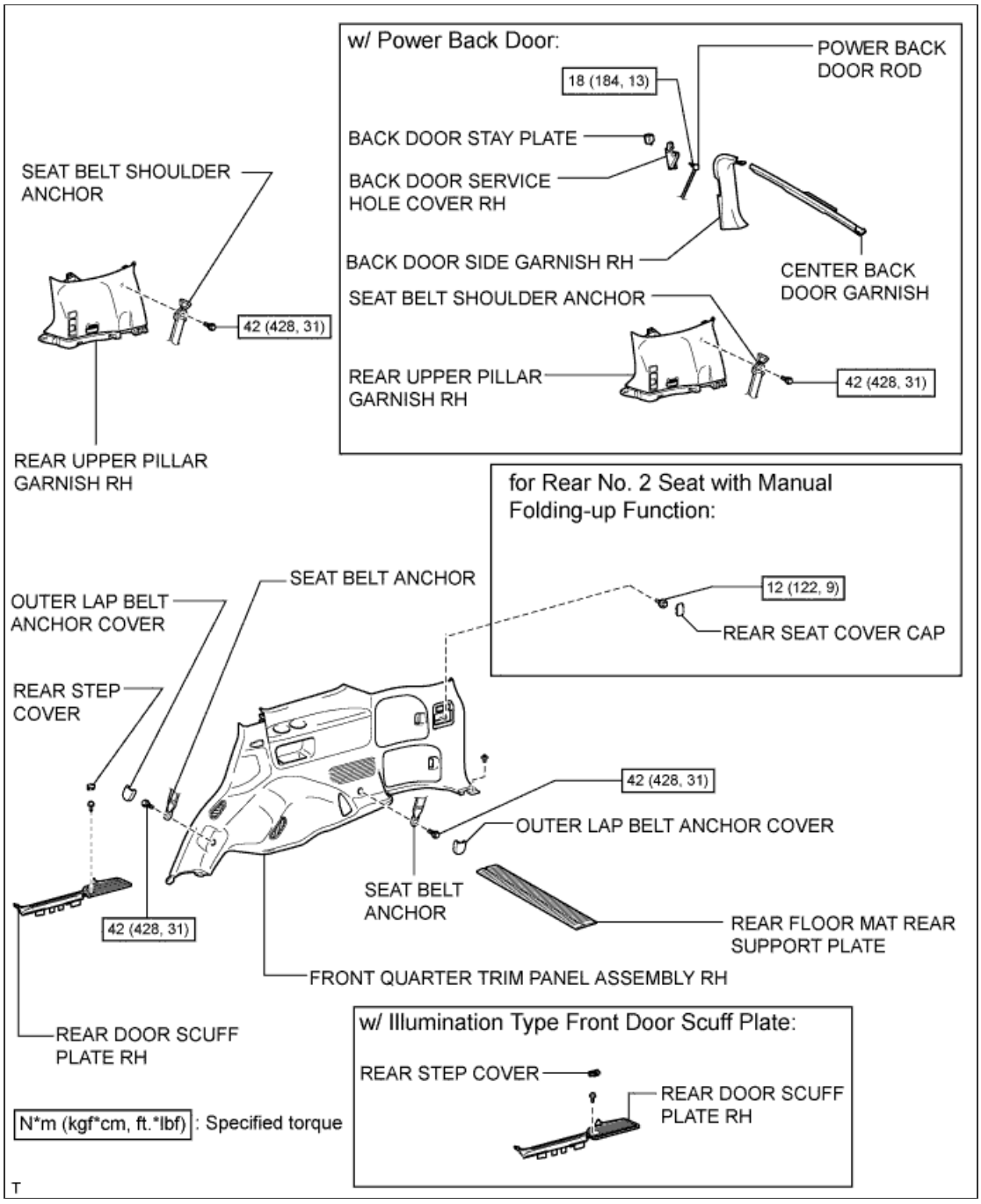
7. INSTALL LOWER BACK DOOR STOPPER CUSHION

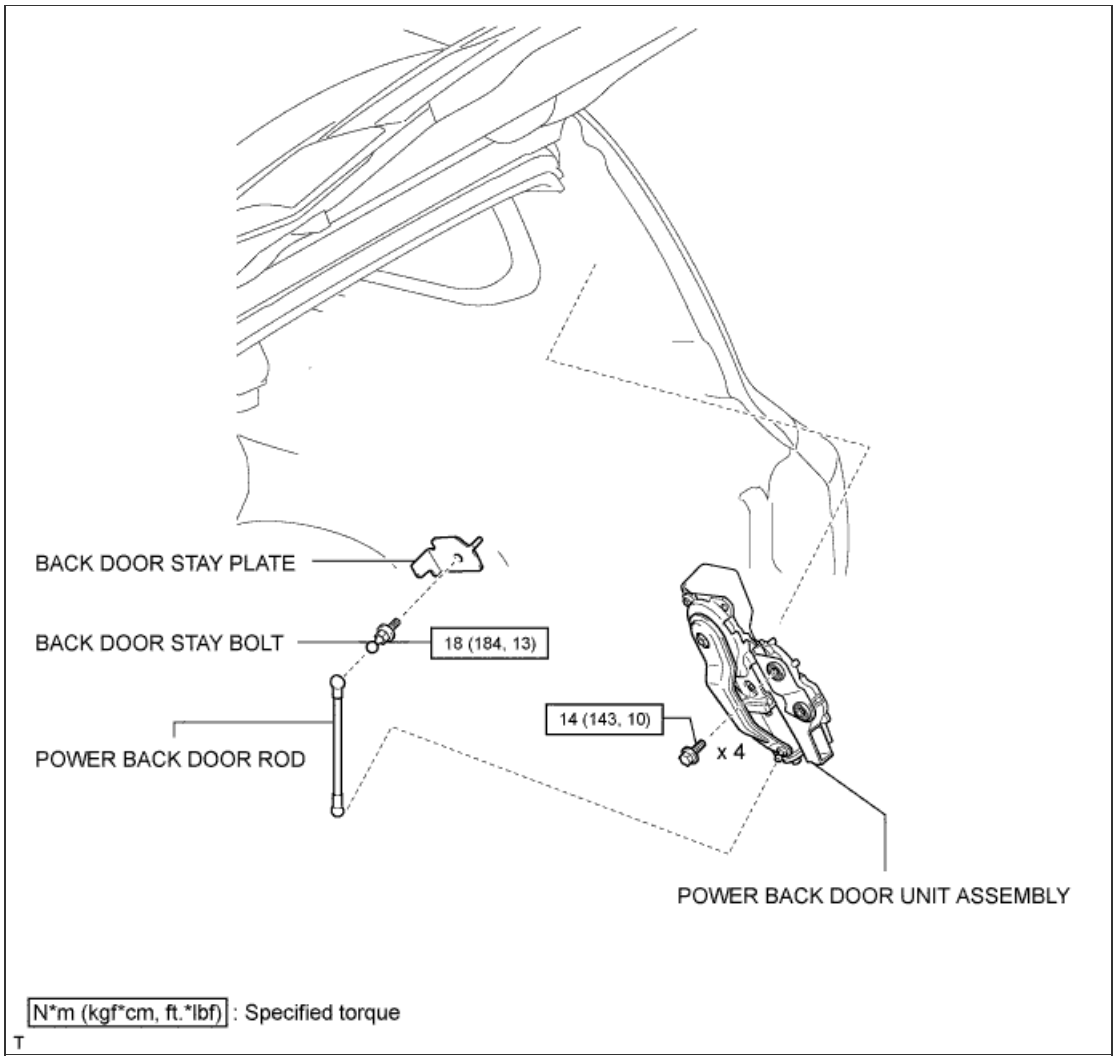
a. Install the 2 back door stopper cushions with the 4 bolts.



for Preparation Click here



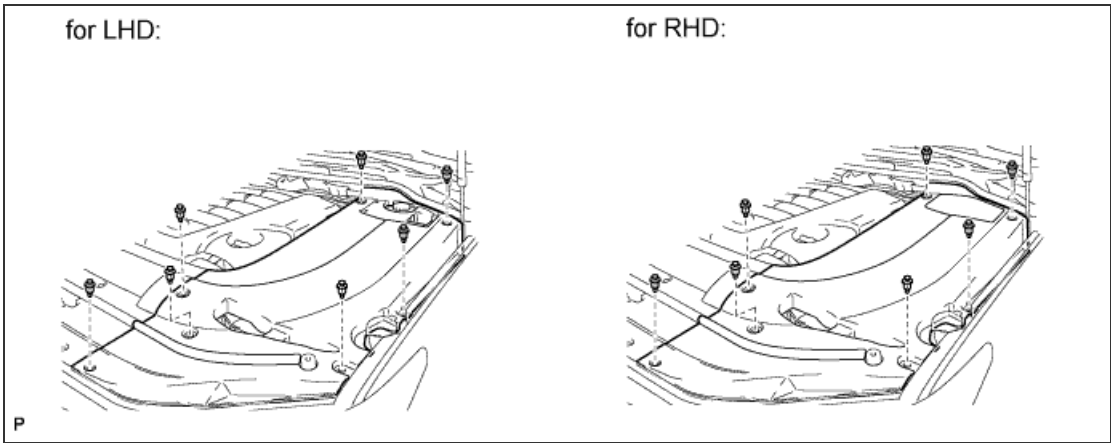

w/ Power Back Door:
POWER BACK DOOR ROD
18 (184, 13)
BACK DOOR STAY PLATE
BACK DOOR SERVICE HOLE COVER RH
BACK DOOR SIDE GARNISH RH
CENTER BACK DOOR GARNISH
SEAT BELT SHOULDER ANCHOR
REAR UPPER PILLAR GARNISH RH
42 (428, 31)
SEAT BELT SHOULDER ANCHOR
42 (428, 31)
REAR UPPER PILLAR GARNISH RH
for Rear No. 2 Seat with Manual Folding-up Function:
12 (122, 9)
REAR SEAT COVER CAP
SEAT BELT ANCHOR
OUTER LAP BELT ANCHOR COVER
REAR STEP COVER
42 (428, 31)
OUTER LAP BELT ANCHOR COVER
SEAT BELT ANCHOR
REAR FLOOR MAT REAR SUPPORT PLATE
42 (428, 31)
FRONT QUARTER TRIM PANEL ASSEMBLY RH
REAR DOOR SCUFF PLATE RH
w/ Illumination Type Front Door Scuff Plate:
REAR STEP COVER
REAR DOOR SCUFF PLATE RH
N*m (kgf*cm, ft.*lbf) : Specified torque
T


BACK DOOR STAY PLATE
BACK DOOR STAY BOLT
18 (184, 13)
POWER BACK DOOR ROD
14 (143, 10)
x 4
POWER BACK DOOR UNIT ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
T

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



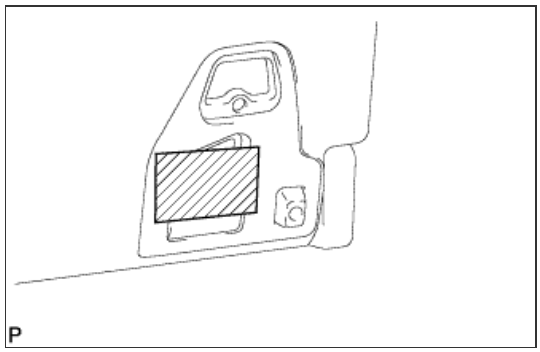
2. REMOVE REAR SEAT CUSHION HINGE COVER RH

a. Apply protective tape to the rear seatback lock striker as shown in the illustration to prevent the seat from locking.

b. Operate the power seat switch and move the seat to the storage position.

HINT:

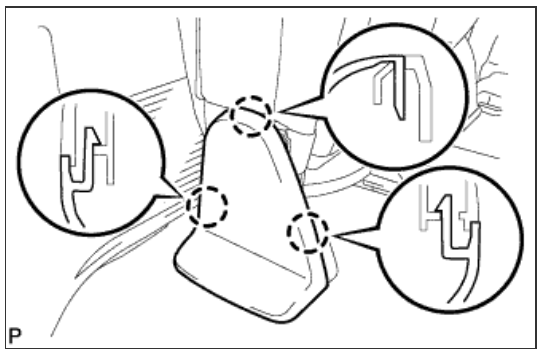
Make sure that the lock and striker are not engaged.



c. Using a screwdriver, detach the 3 claws and remove the cover.

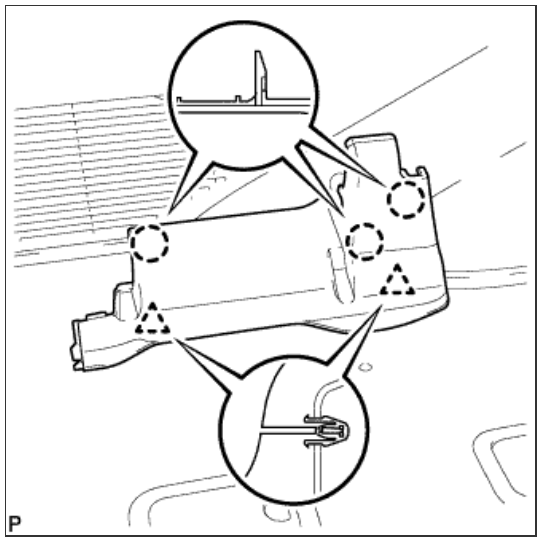
HINT:

Tape the screwdriver tip before use.



3. REMOVE REAR NO. 2 SEAT HINGE COVER RH

a. Detach the 3 claws and 2 clips, and then remove the cover.



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 REAR NO. 2 SEAT

a. w/ Automatic Folding-up Function:

i. Remove the rear No. 2 seat assembly RH (Click here).

HINT:

Use the same procedures described for the LH side.

b. w/ Manual Folding-up Function:

i. Remove the rear No. 2 seat assembly RH (Click here).

HINT:

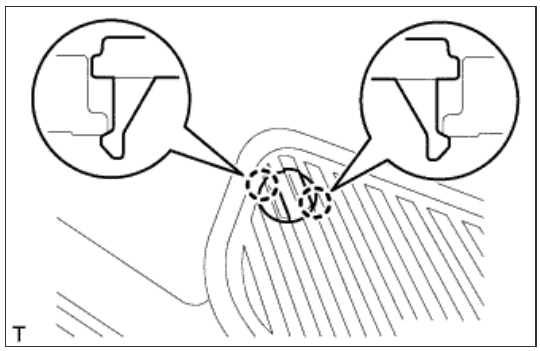
Use the same procedures described for the LH side.

6. REMOVE REAR STEP COVER

HINT:

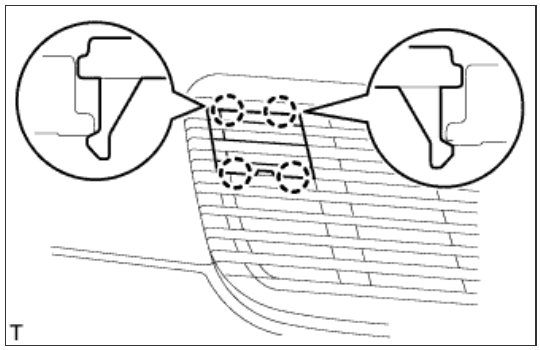
Use the same procedure to remove the step cover on the other side.

a. w/o Illumination Type Front Door Scuff Plate:
Detach the 2 claws and remove the step cover.



b. w/ Illumination Type Front Door Scuff Plate:

Detach the 4 claws and remove the step cover.



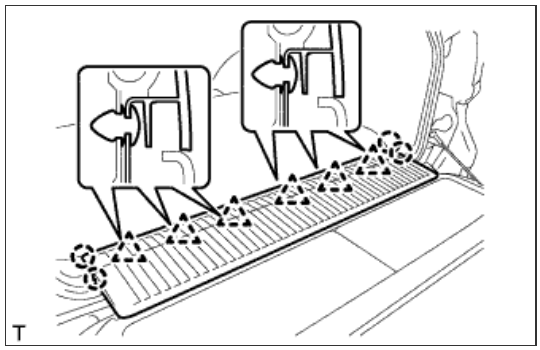
7. REMOVE REAR DOOR SCUFF PLATE RH

HINT:

Use the same procedures described for the LH side.

8. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and 4 claws, and remove the support plate.



9. REMOVE REAR SEAT COVER CAP (for Rear No. 2 Seat with Manual Folding-up Function)

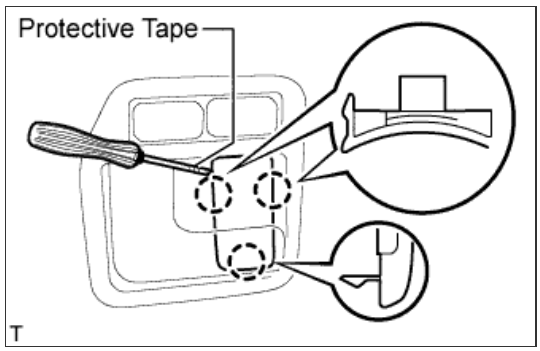
HINT:

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:

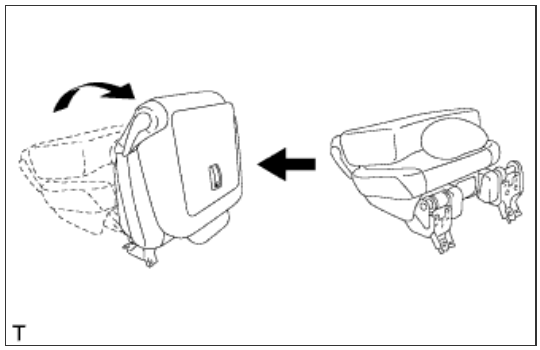
Tape the screwdriver tip before use.



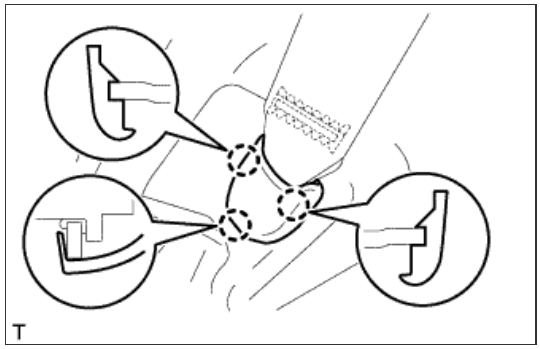
10. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY RH

HINT:

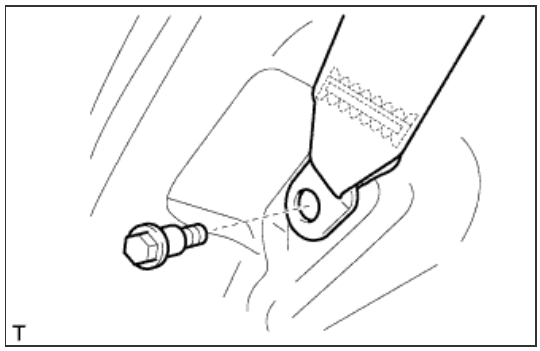
When removing the front quarter trim panel, operate the reclining adjuster release handle and move the No. 1 rear seat to the position shown in the illustration.



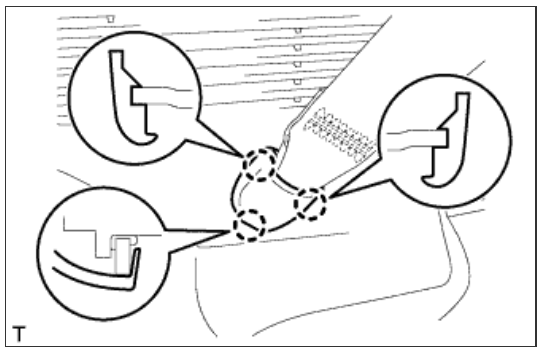
a. Detach the 3 claws and remove the cover.



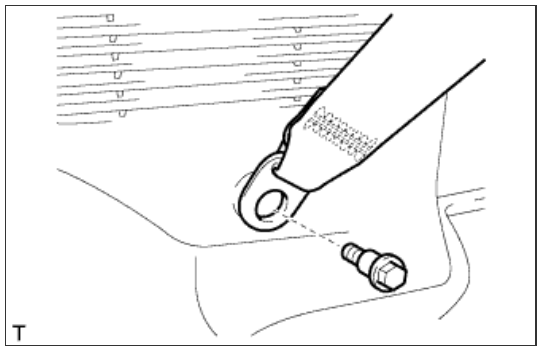
b. Remove the bolt and rear No. 1 seat belt anchor.



c. Detach the 3 claws and remove the cover.



d. Remove the bolt and rear No. 2 seat belt anchor.

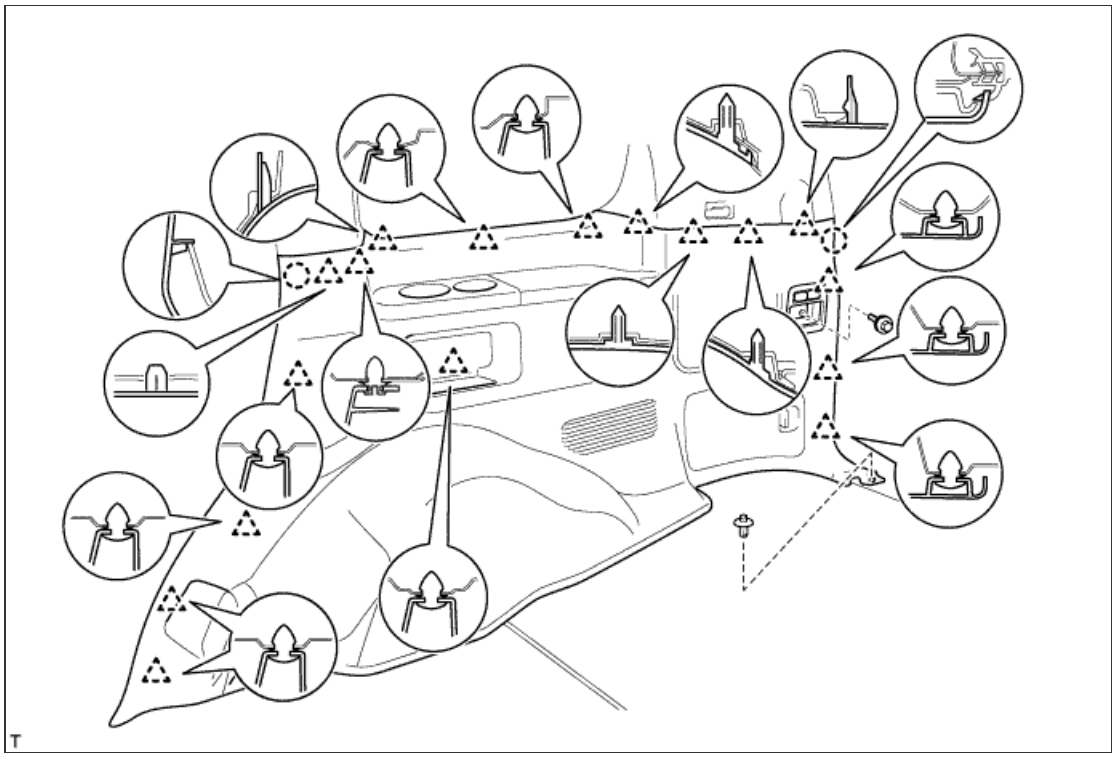


e. for Rear No. 2 Seat with Manual Folding-up Function:

i. Remove the clip and bolt.

ii. Detach the 17 clips and 2 claws.

iii. Disconnect the thermistor connector and rear seat lock control lever cable, and then remove the quarter trim panel.

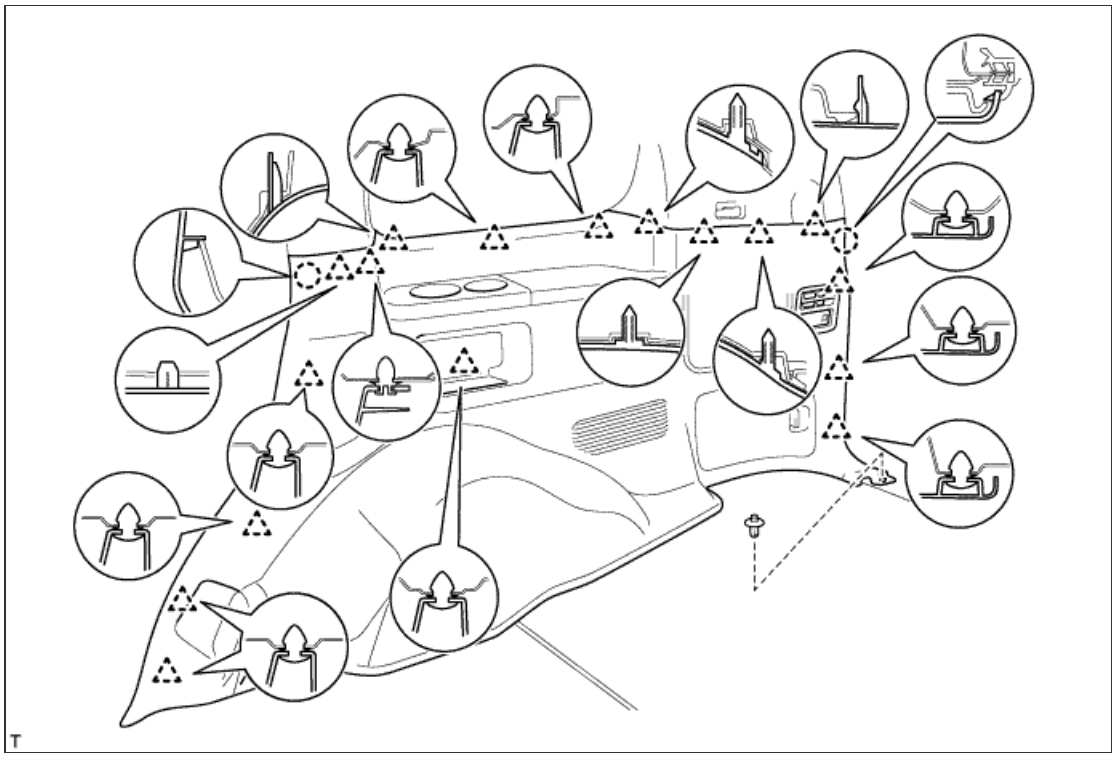


f. for Rear No. 2 Seat with Automatic Folding-up Function:

i. Remove the clip.

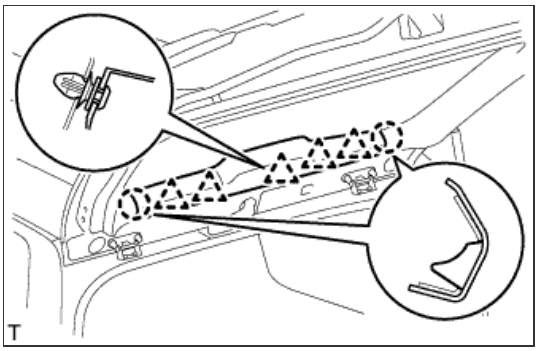
ii. Detach the 17 clips and 2 claws.

iii. Disconnect the thermistor connector and then remove the quarter trim panel.



11. REMOVE CENTER BACK DOOR GARNISH

a. Detach the 5 clips and 2 claws, and remove the back door garnish.



12. REMOVE BACK DOOR SIDE GARNISH RH

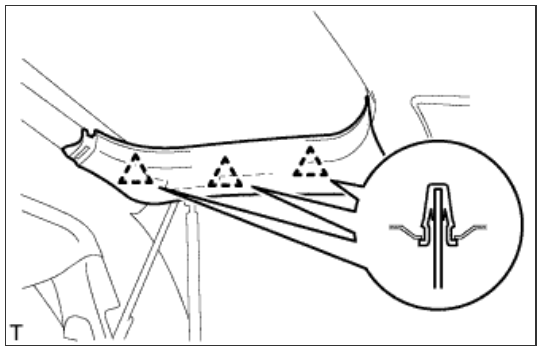
a. w/o Power Back Door:

HINT:

Use the same procedures described for the LH side.

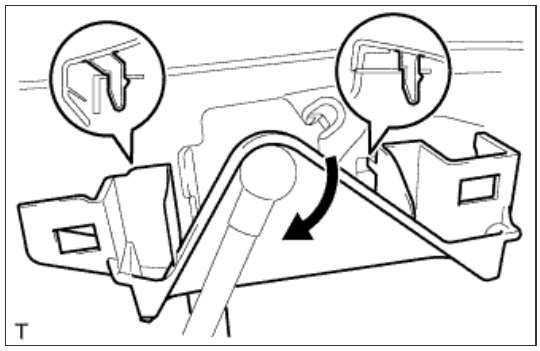
b. w/ Power Back Door:

i. Detach the 3 clips and remove the back door side garnish.



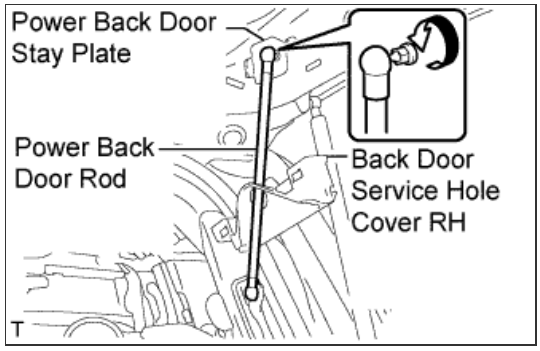
13. REMOVE BACK DOOR SERVICE HOLE COVER RH

a. Detach the 2 clips and move the service hole cover so that the rod and back door stay plate can be removed.



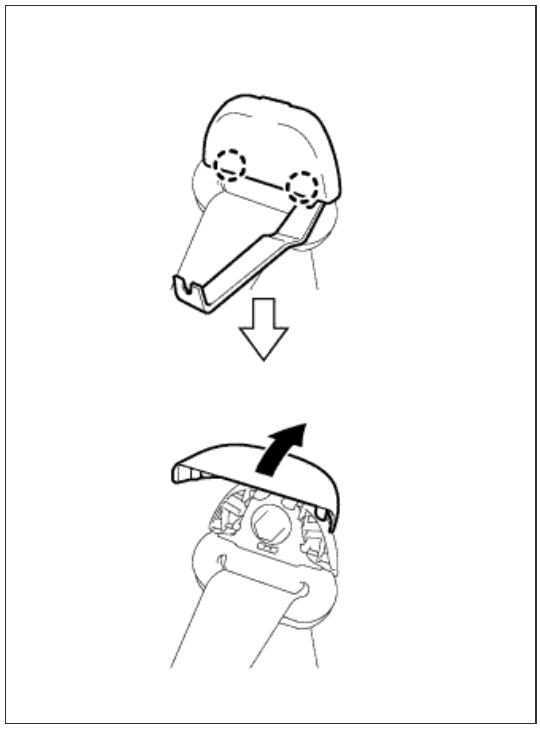
b. Remove the ball joint bolt, power back door rod and back door stay plate.

c. Remove the service hole cover from the power back door rod.

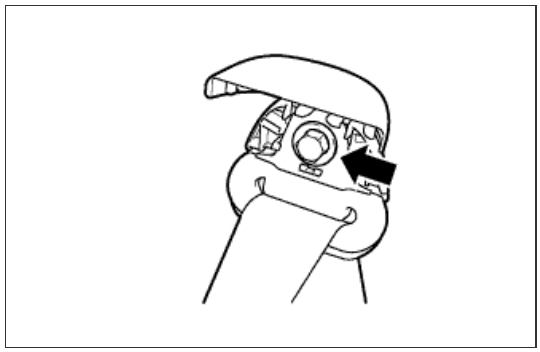


14. REMOVE REAR UPPER PILLAR GARNISH RH

a. Using a moulding remover, detach the 2 claws and open the seat belt shoulder anchor cover.

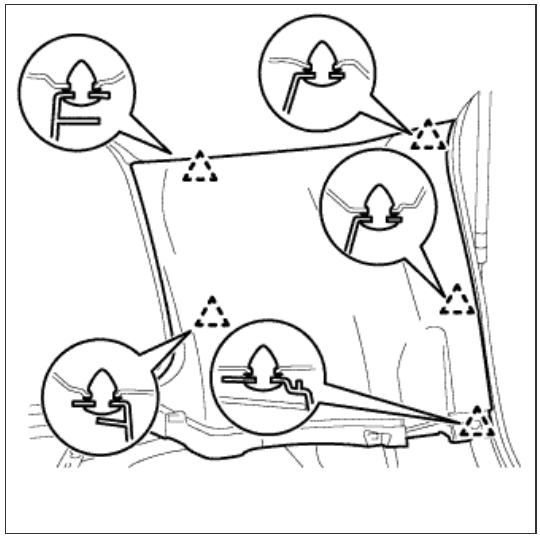


b. Remove the bolt and seat belt shoulder anchor.



c. w/o Power Back Door:

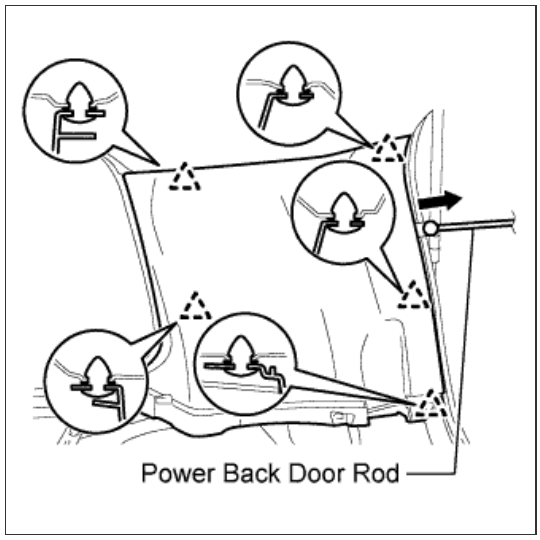
i. Detach the 5 clips and remove the rear upper pillar garnish.



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.

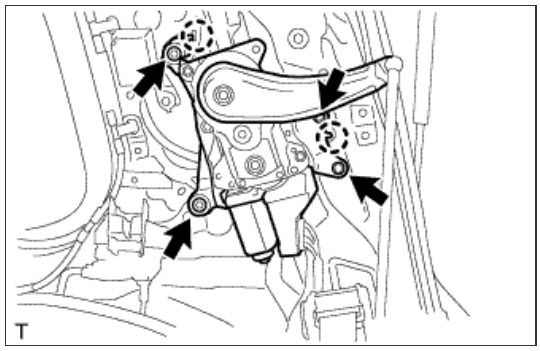


15. REMOVE POWER BACK DOOR UNIT ASSEMBLY

a. Disconnect the connector

b. Remove the 4 bolts.

c. Detach the 2 claws and remove the power back door unit.



for Preparation Click here

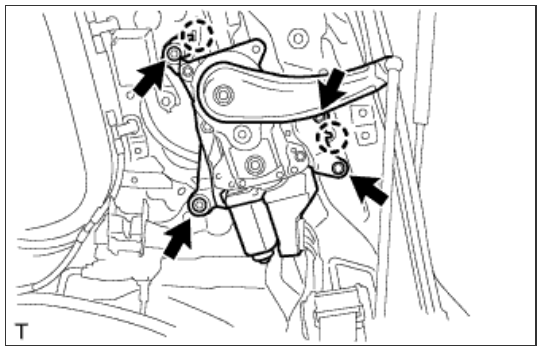
1. INSTALL POWER BACK DOOR UNIT ASSEMBLY

a. Attach the 2 claws to install the power back door unit.

b. Install the 4 bolts.

Torque:
14 N*m{ 143 kgf*cm , 10 ft.*lbf }

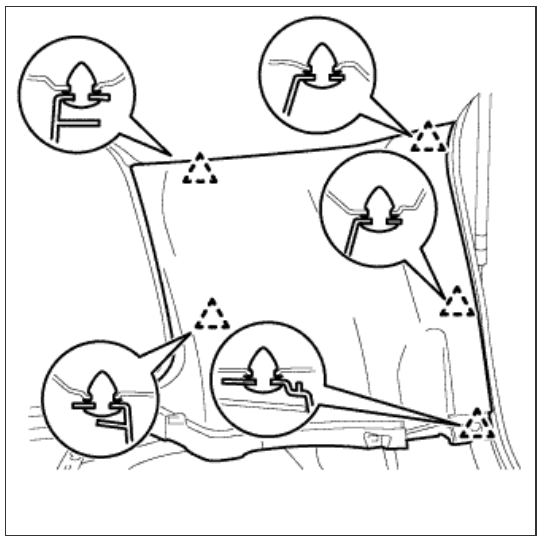
c. Connect the connector.



2. INSTALL REAR UPPER PILLAR GARNISH RH

a. w/o Power Back Door:

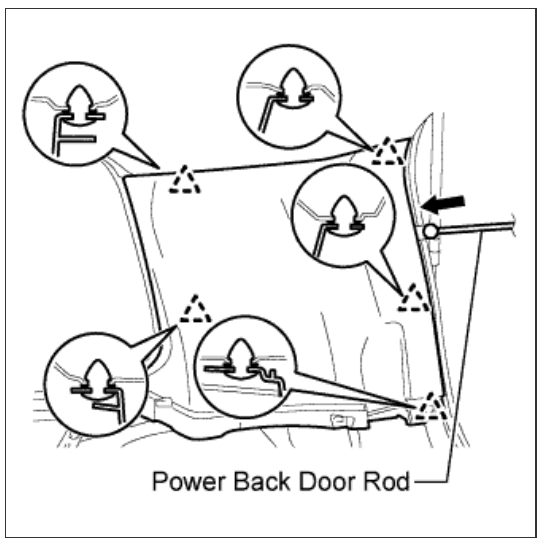
i. Attach the 5 clips to install the rear upper pillar garnish.



b. w/ Power Back Door:

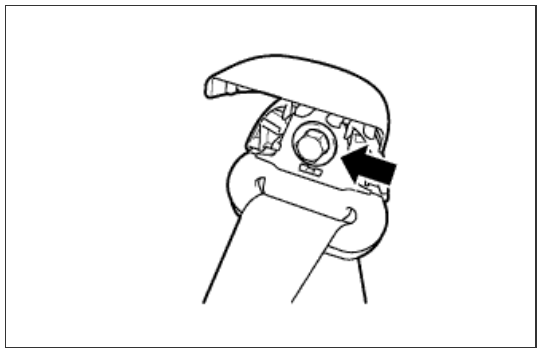
i. Pass the power back door rod through the rear upper pillar garnish.

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 }



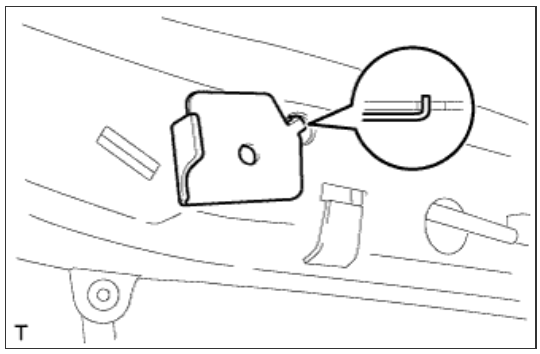
d. Attach the 2 claws to close the seat belt shoulder anchor cover.



3. INSTALL BACK DOOR SERVICE HOLE COVER RH

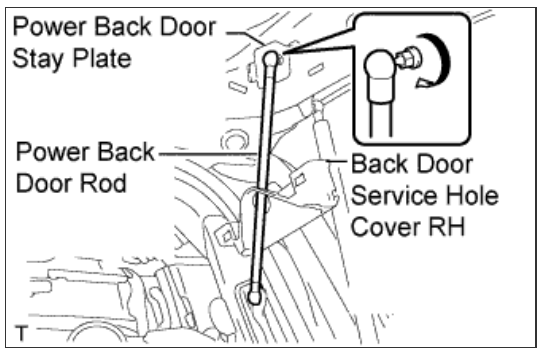
a. When reusing the power back door rod:

i. Install the back door stay plate.

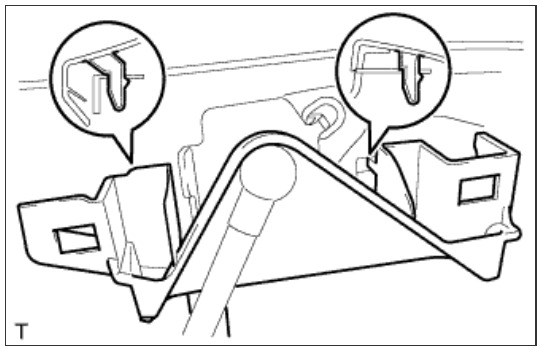


ii. Pass the power back door rod through the hole of the back door service hole cover and install the rod with the bolt.

Torque:
18 N*m{ 184 kgf*cm , 13 ft.*lbf }

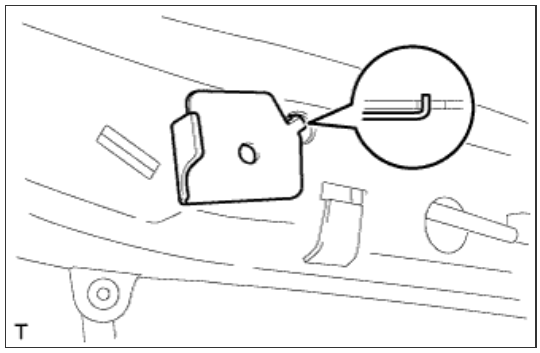


iii. Move the service hole cover and attach the 2 clips.



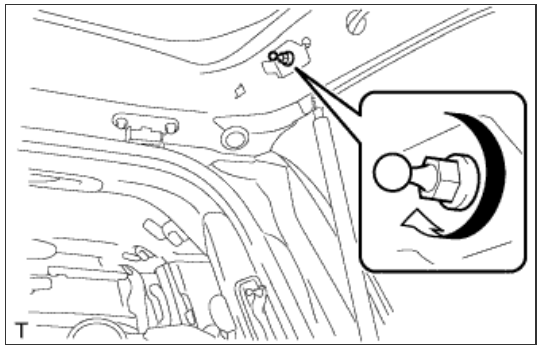
b. When installing a new power back door rod:

i. Install the back door stay plate.

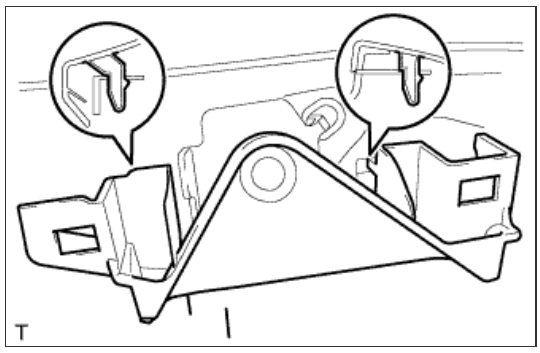


ii. Install the back door stay bolt.

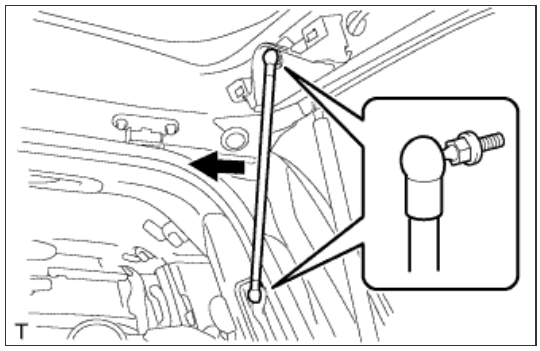
Torque:
18 N*m{ 184 kgf*cm , 13 ft.*lbf }



iii. Attach the 2 clips to install the service hole cover.



iv. Attach the ball joints to install the power back door rod.



4. INSTALL BACK DOOR SIDE GARNISH RH

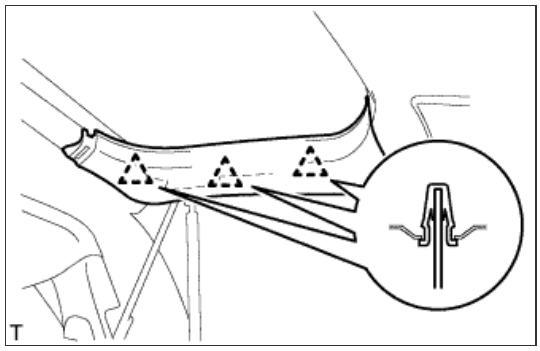
a. w/o Power Back Door:

HINT:

Use the same procedures described for the LH side.

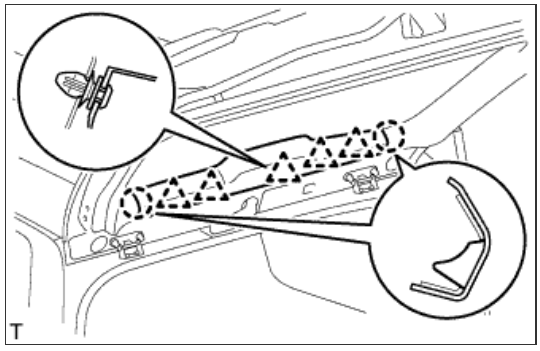
b. w/ Power Back Door:

i. Attach the 3 clips to install the back door side garnish.



5. INSTALL CENTER BACK DOOR GARNISH

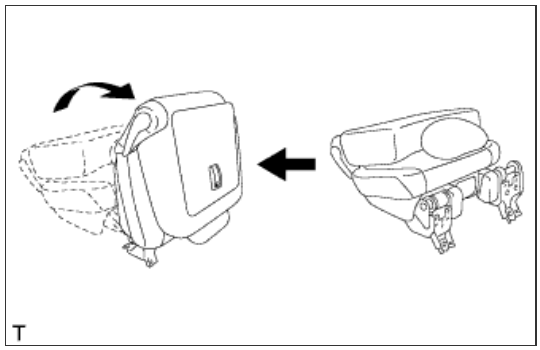
a. Attach the 5 clips and 2 claws to install the back door garnish.



6. 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.



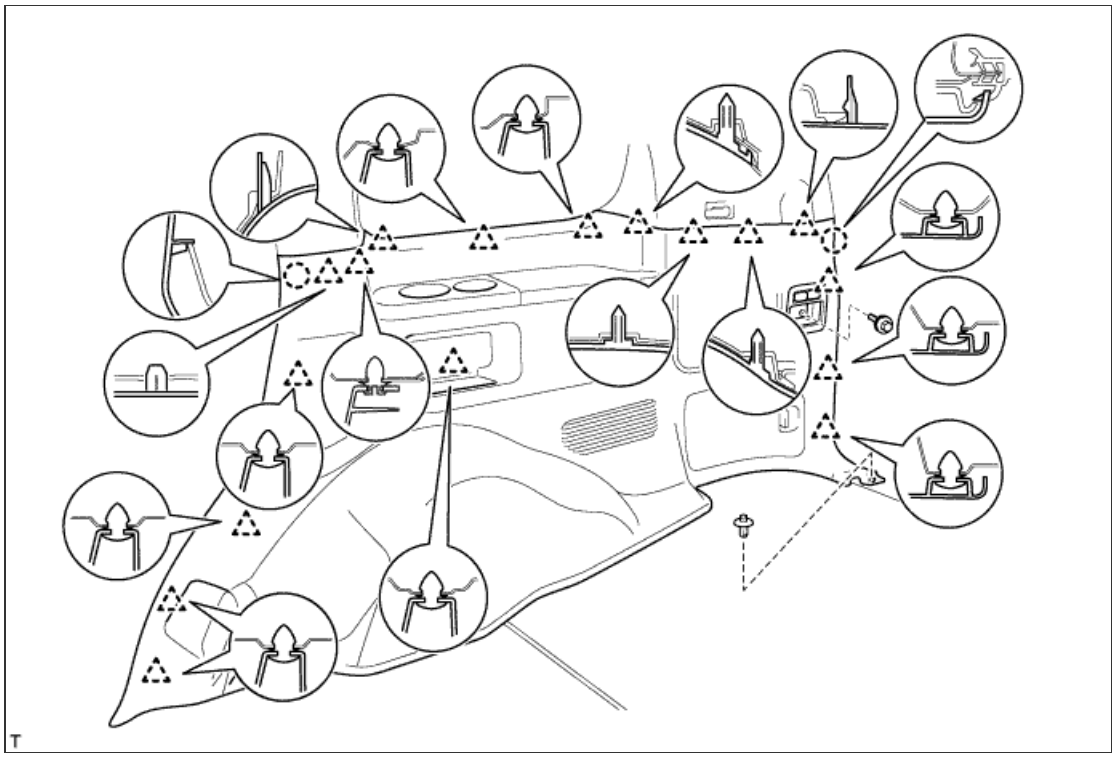
a. for Rear No. 2 Seat with Manual Folding-up Function:

i. Connect the thermistor connector and rear seat lock control lever cable.

ii. Attach the 17 clips and 2 claws to install the quarter trim panel.

iii. Install the clip and bolt.

Torque:
for bolt:
12 N*m{ 122 kgf*cm , 9 ft.*lbf }

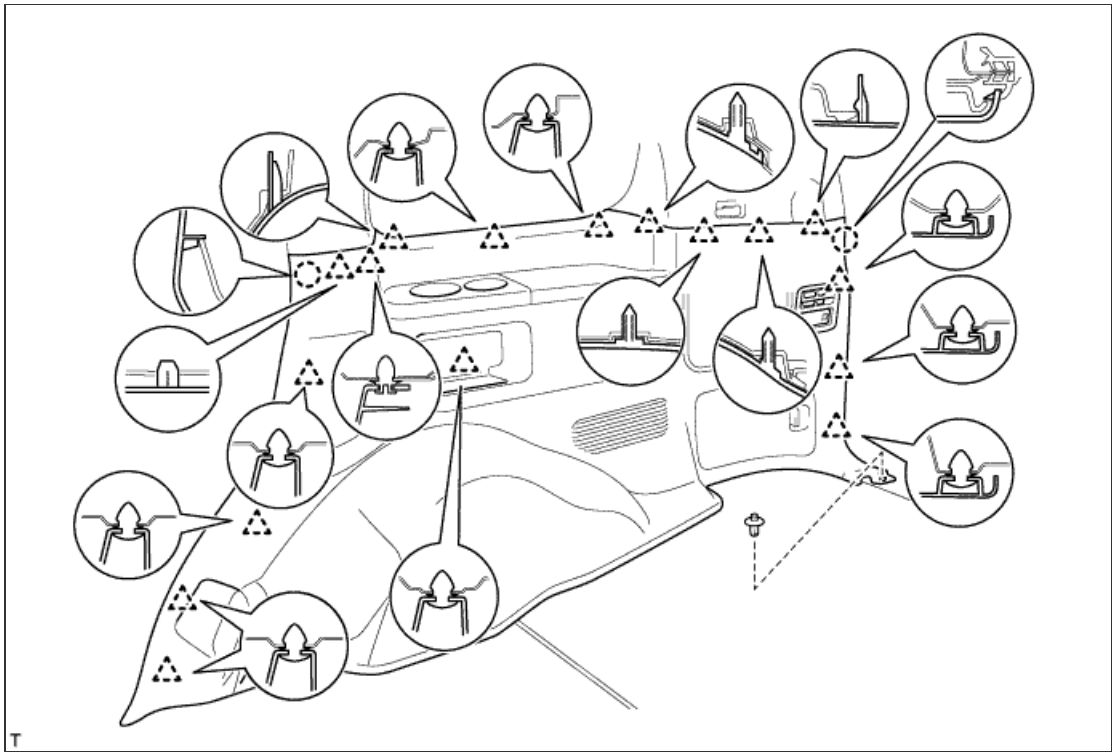


b. for Rear No. 2 Seat with Automatic Folding-up Function:

i. Connect the thermistor connector.

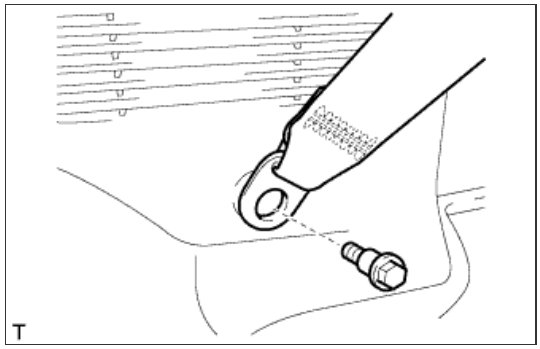
ii. Attach the 17 clips and 2 claws to install the quarter trim panel.

iii. Install the clip.

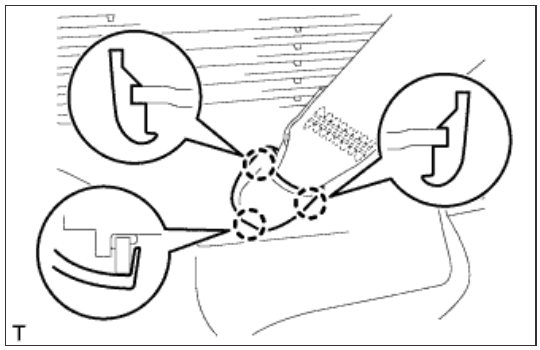


c. Install the rear No. 2 seat belt anchor with the bolt.

Torque:
42 N*m{ 428 kgf*cm , 31 ft.*lbf }

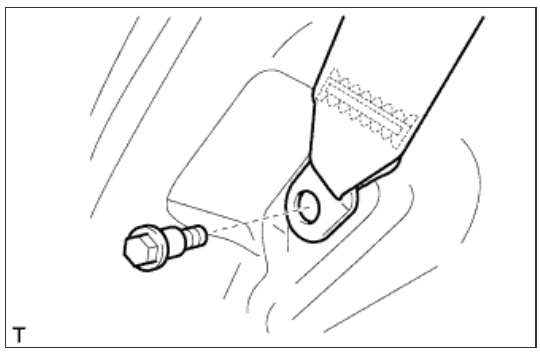


d. Attach the 3 claws to install the cover.

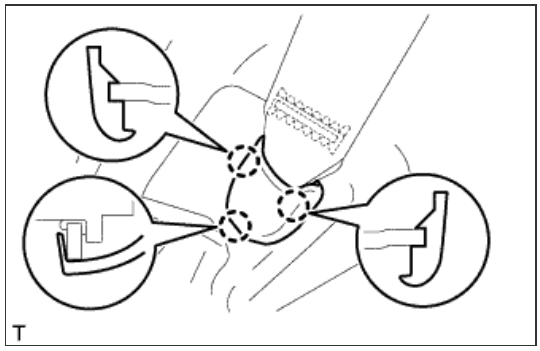


e. Install the rear No. 1 seat belt anchor with the bolt.

Torque:
42 N*m{ 428 kgf*cm , 31 ft.*lbf }



f. Attach the 3 claws to install the cover.

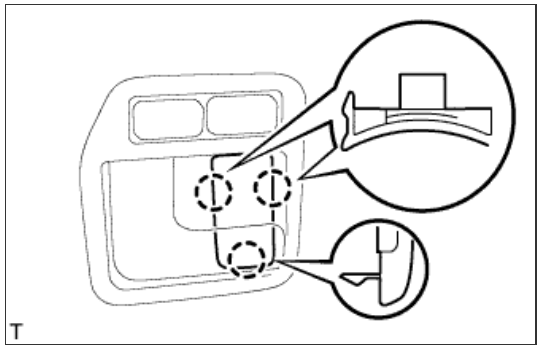


7. INSTALL REAR SEAT COVER CAP (for Rear No. 2 Seat with Manual Folding-up Function)

HINT:

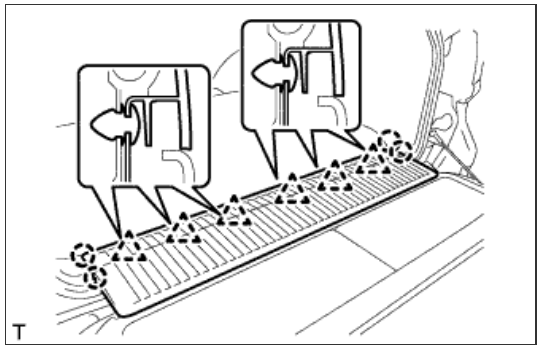
Use the same procedures to install the rear seat cover cap on the other side.

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 and 4 claws to install the support plate.



9. INSTALL REAR DOOR SCUFF PLATE RH

HINT:

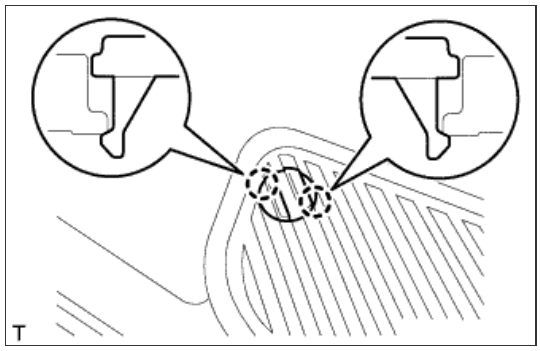
Use the same procedures described for the LH side.

10. INSTALL REAR STEP COVER

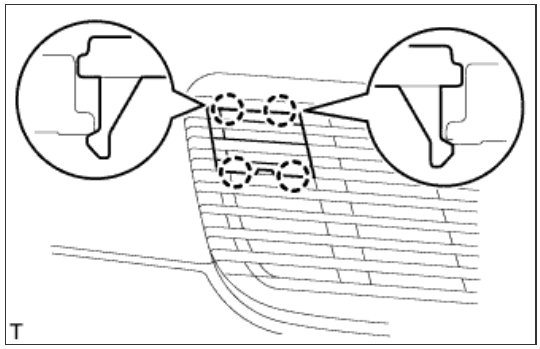
HINT:

Use the same procedure to install the step cover on the other side.

a. w/o Illumination Type Front Door Scuff Plate:
Attach the 2 claws to install the step cover.



b. w/ Illumination Type Front Door Scuff Plate:
Attach the 4 claws to install the step cover.



11. INSTALL REAR NO. 2 SEAT

a. w/ Automatic Folding-up Function:

i. Install the rear No. 2 seat assembly RH (Click here).

HINT:

Use the same procedures described for the LH side.

b. w/ Manual Folding-up Function:

i. Install the rear No. 2 seat assembly RH (Click here).

HINT:

Use the same procedures described for the LH side.

12. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

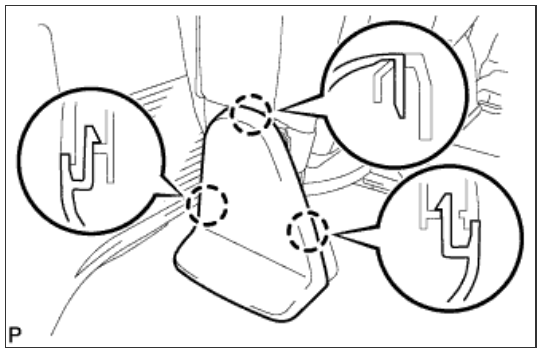
NOTICE:

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

13. INSTALL REAR NO. 2 SEAT HINGE COVER RH

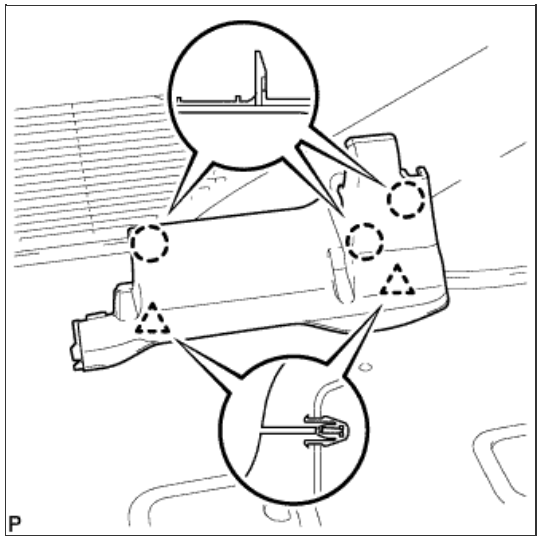
a. Attach the 3 claws to install the cover.

b. Return the seat to the upright position.



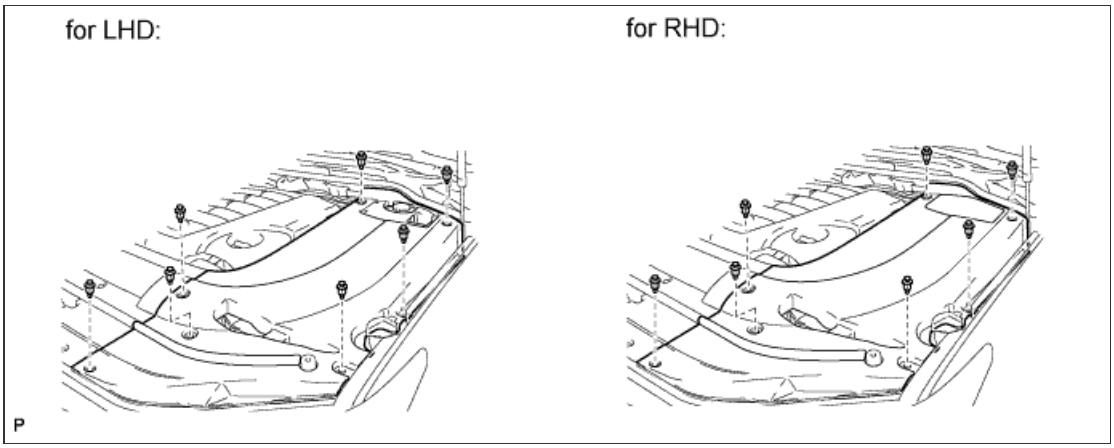
14. INSTALL REAR SEAT CUSHION HINGE COVER RH

a. Attach the 3 claws and 2 clips to install the cover.

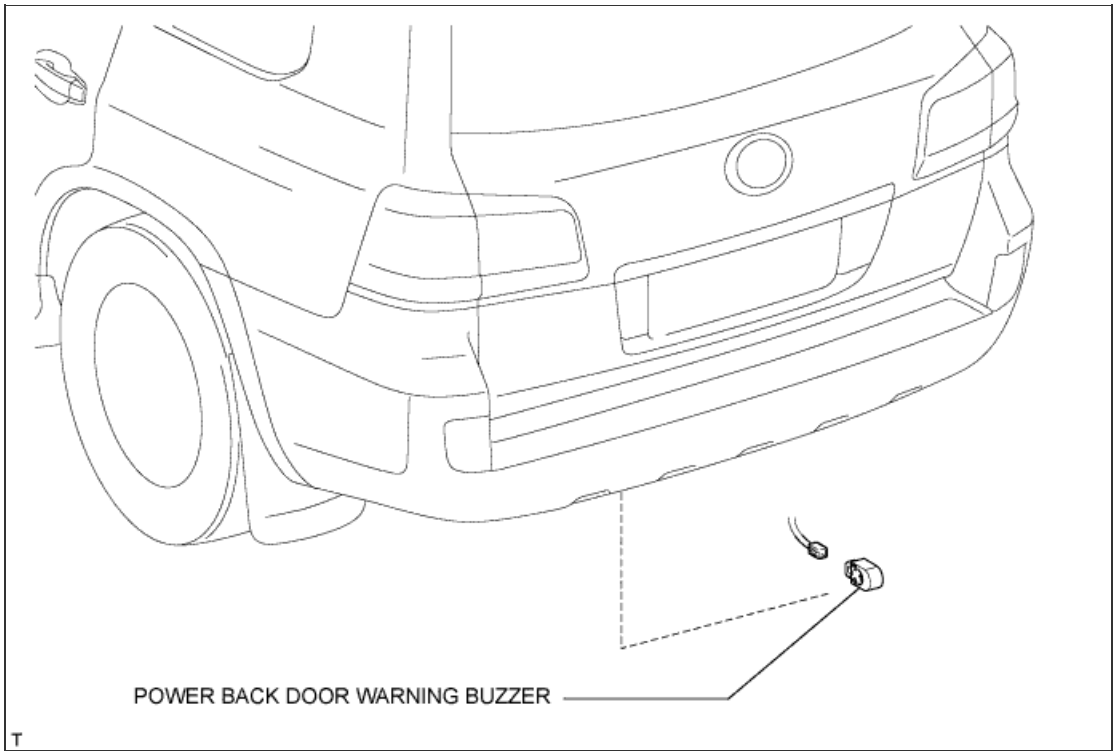


15. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



for Preparation [Click here]

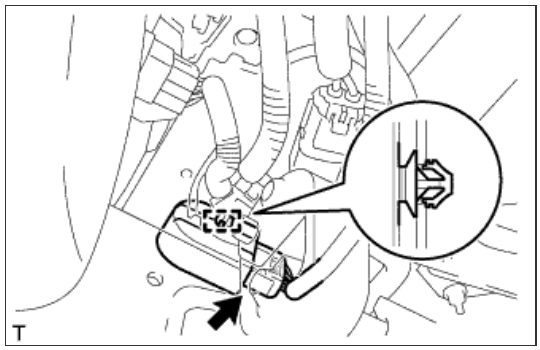


for Preparation Click here

1. REMOVE POWER BACK DOOR WARNING BUZZER

a. Detach the claw and remove the power back door warning buzzer.

b. Disconnect the connector.

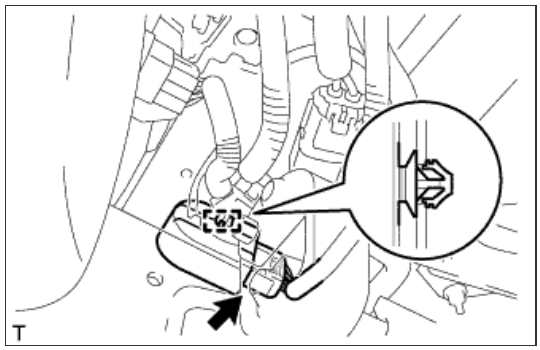


for Preparation Click here

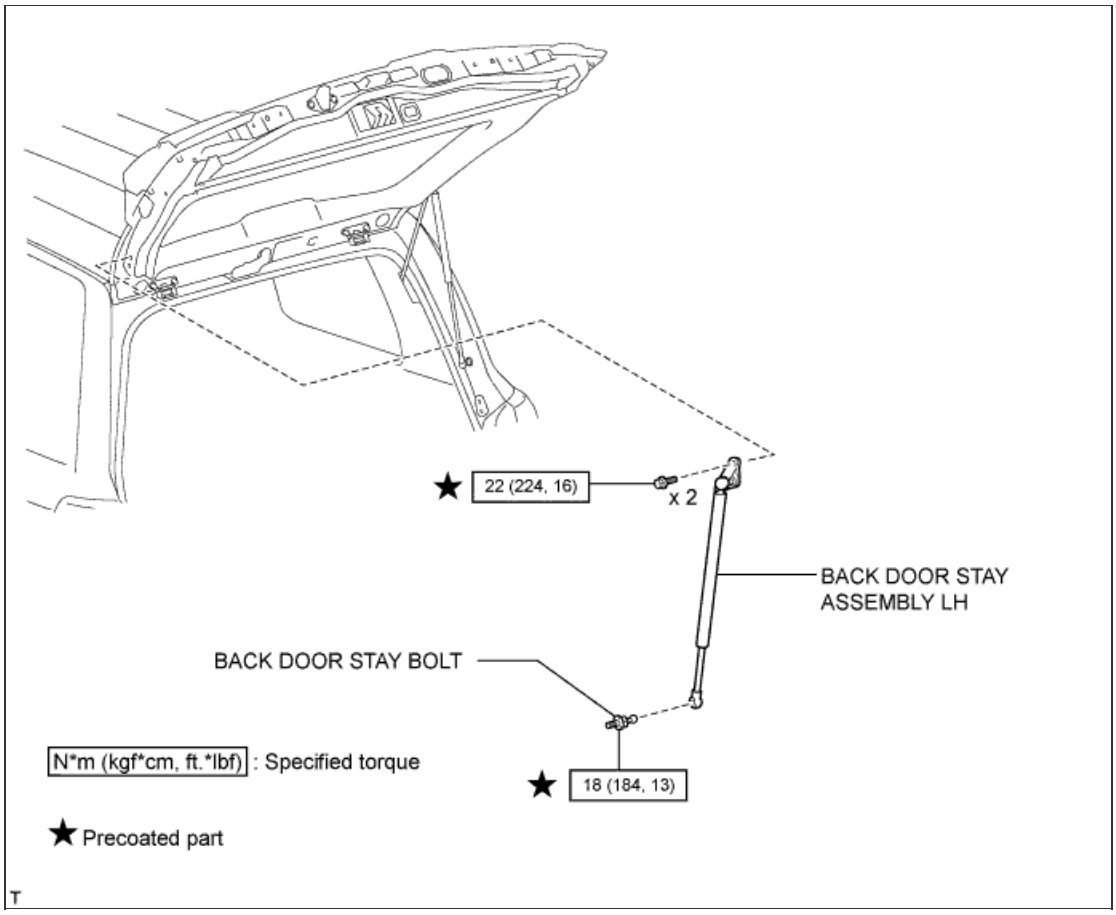
1. INSTALL POWER BACK DOOR WARNING BUZZER

a. Connect the connector.

b. Attach the claw to install the power back door warning buzzer.



for Preparation Click here



for Preparation Click here

NOTICE:

- **While holding the back door, remove the back door support.**
- **Do not touch the extendable portion of the rod to prevent foreign objects from attaching to the rod surface.**
- **Do not push sideways on the rod because the rod may bend.**

HINT:

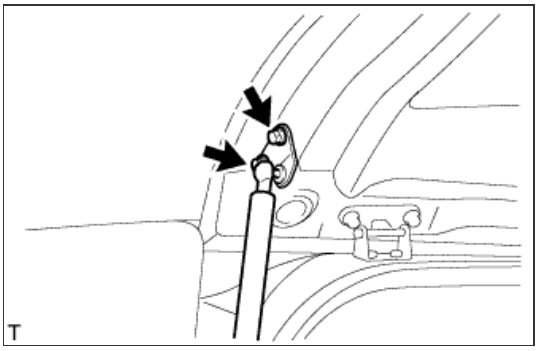
- **Use the same procedures for the RH side and LH side.**
- **The procedures listed below are for the LH side.**

1. REMOVE BACK DOOR STAY ASSEMBLY LH

a. Remove the 2 bolts.

CAUTION:

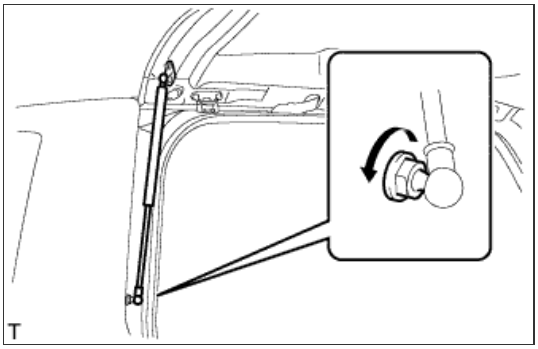
Remove the door stay while supporting the back door with one hand.



b. Remove the bolt and stay.

CAUTION:

Remove the door stay while supporting the back door with one hand.



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. INSTALL BACK DOOR STAY ASSEMBLY LH

a. When reusing the back door stay:

i. Clean the threaded surface on the vehicle body with a non-residue solvent.

ii. Apply adhesive to the threads of the 2 bolts.

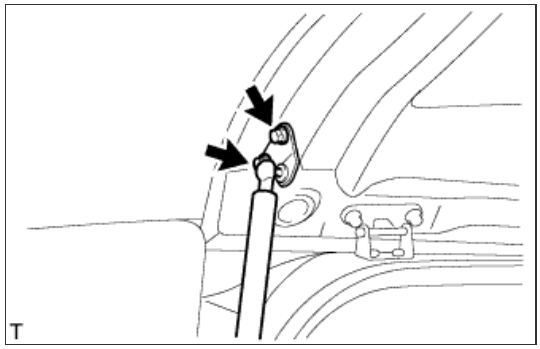
Adhesive:
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

iii. Install the back door stay with the 2 bolts.

Torque:
22 N*m{ 224 kgf*cm , 16 ft.*lbf }

CAUTION:

Install the door stay while supporting the back door with one hand.



iv. Apply adhesive to the threads of the bolt.

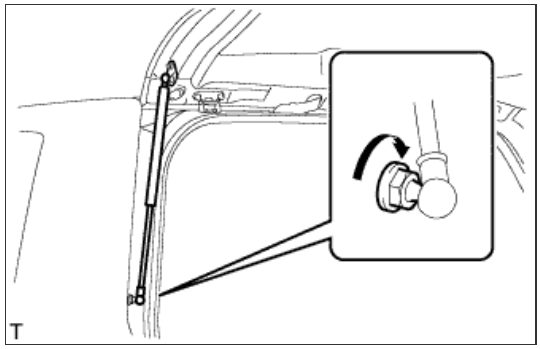
Adhesive:
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

v. Install the back door stay bolt to the body.

Torque:
18 N*m{ 184 kgf*cm , 13 ft.*lbf }

CAUTION:

Install the door stay bolt while supporting the back door with one hand.



b. When replacing the back door stay with a new one:

i. Clean the threaded surface on the vehicle body with a non-residue solvent.

ii. Apply adhesive to the threads of the bolt.

Adhesive:
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

iii. Install the back door stay bolt to the body.

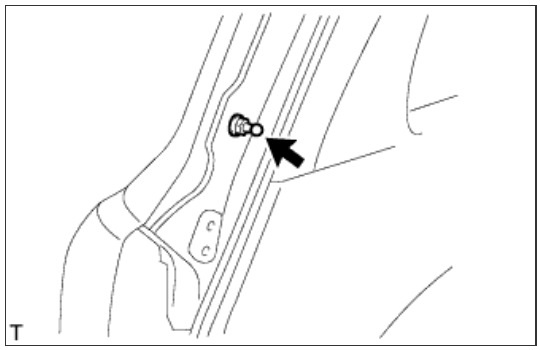
Torque:
18 N*m{ 184 kgf*cm , 13 ft.*lbf }

CAUTION:

Install the door stay bolt while supporting the back door with one hand.

iv. Apply adhesive to the threads of the 2 bolts.

Adhesive:
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent



v. Install the back door stay with the 2 bolts.

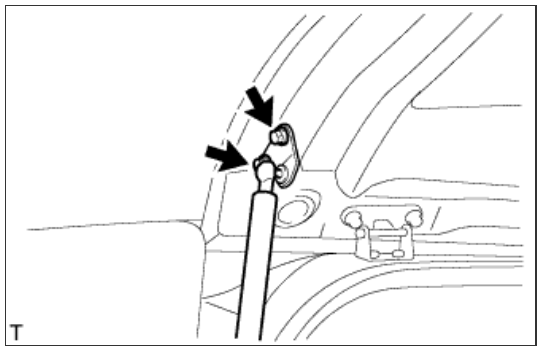
Torque:
22 N*m{ 224 kgf*cm , 16 ft.*lbf }

CAUTION:

Install the door stay while supporting the back door with one hand.

vi. Connect the ball joint of the back door stay bolt to the back door stay assembly LH.

vii. Check that the back door stay assembly is securely installed.

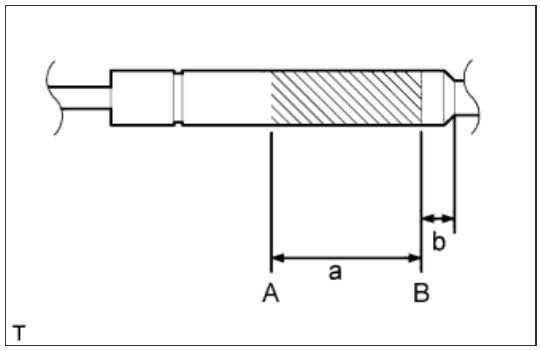


for Preparation Click here

1. DISPOSE OF BACK DOOR STAY ASSEMBLY LH

a. Horizontally fix the stay in a vise with the piston-rod pulled out.

b. Using a metal saw, gradually cut any area between A and B to release the gas.



Standard:

Area	Specified Condition
a	150 mm (5.91 in.)
b	20 mm (0.787 in.)

CAUTION:

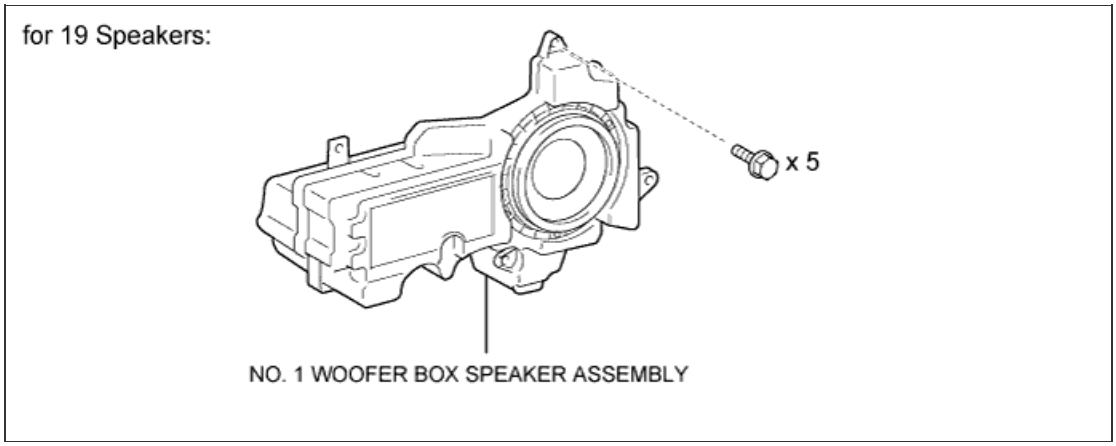
As metal debris may be blown outward by the gas, you must:

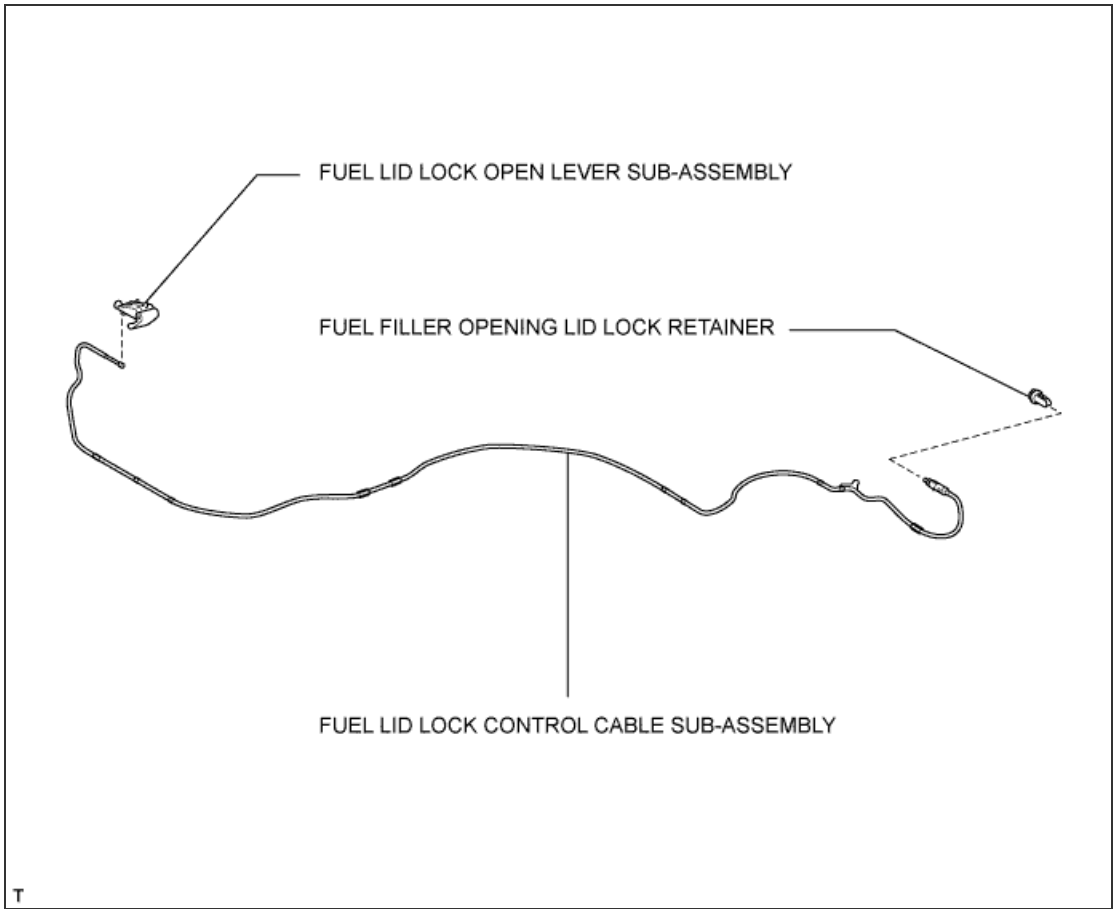
- **Wear protective glasses.**
- **Cover the area being cut.**

NOTICE:

The gas inside the back door stay is colorless, odorless and harmless. As there is a possibility that metal debris could scatter, cover the back door stay with a piece of cloth or other material.

for Preparation Click here



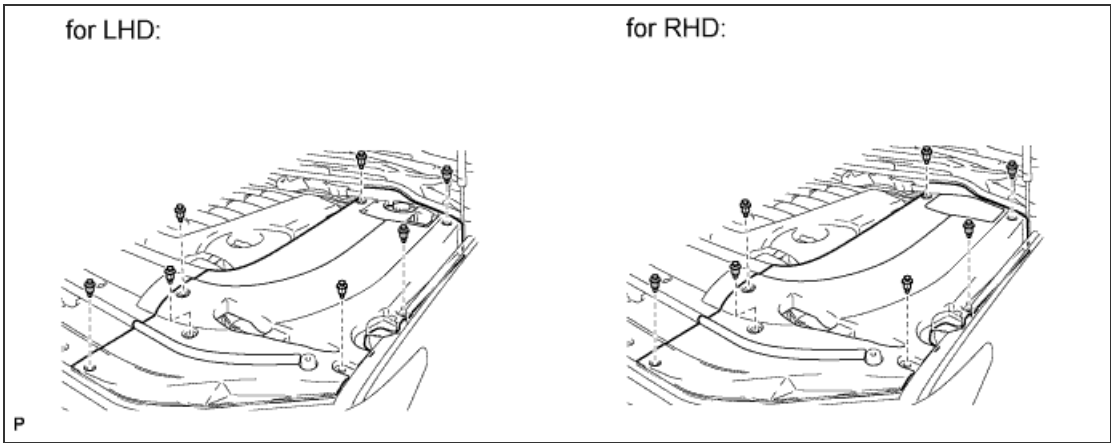


FUEL LID LOCK CONTROL CABLE ASSEMBLY (for LHD) > REMOVAL

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



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 FLOOR CARPET ASSEMBLY

a. Remove the front floor carpet assembly (Click here).

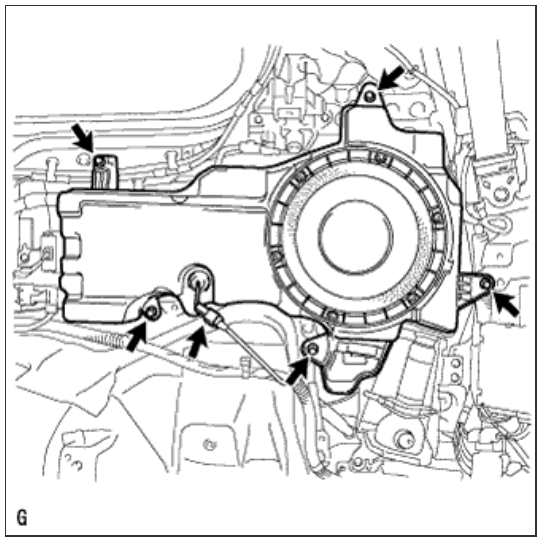
4. REMOVE FRONT QUARTER TRIM PANEL ASSEMBLY RH

a. Remove the front quarter trim panel assembly RH (Click here).

5. REMOVE NO. 1 WOOFER BOX SPEAKER ASSEMBLY (for 19 Speakers)

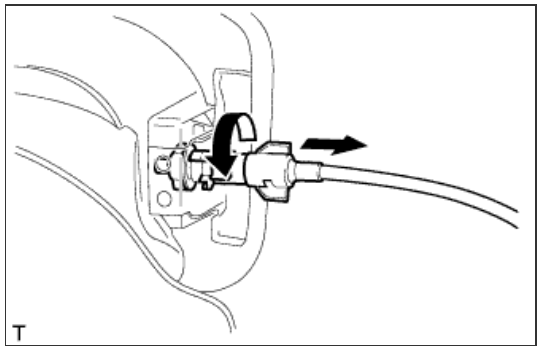
a. Disconnect the connector.

b. Remove the 5 bolts and box speaker.

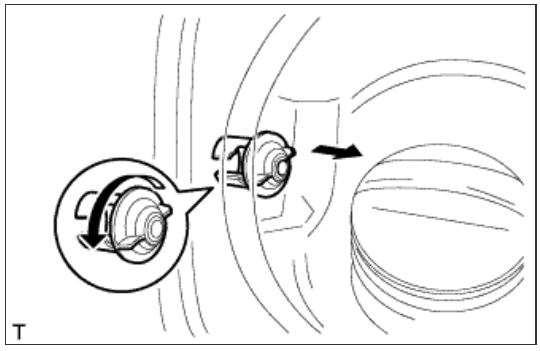


6. REMOVE FUEL FILLER OPENING LID LOCK RETAINER

a. Turn the cable counterclockwise and remove the cable from the retainer.



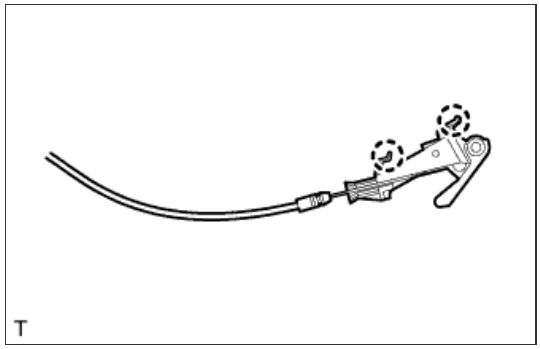
b. Turn the lock retainer counterclockwise and remove the lock retainer.



7. REMOVE FUEL LID LOCK OPEN LEVER SUB-ASSEMBLY

a. Detach the 2 claws.

b. Disconnect the fuel lid lock control cable and remove the fuel lid lock open lever.



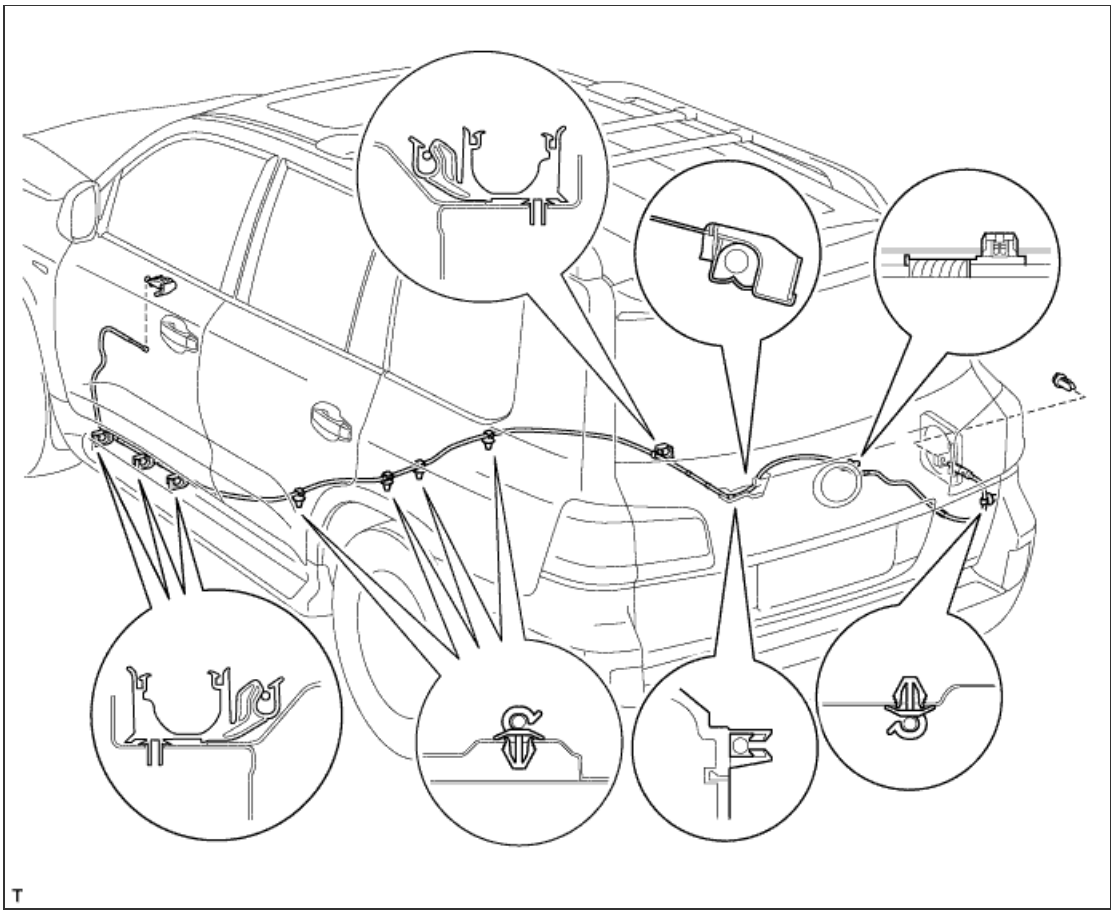
8. REMOVE FUEL LID LOCK CONTROL CABLE SUB-ASSEMBLY

a. Using a screwdriver, disconnect the clamps shown in the illustration.

HINT:

Tape the screwdriver tip before use.

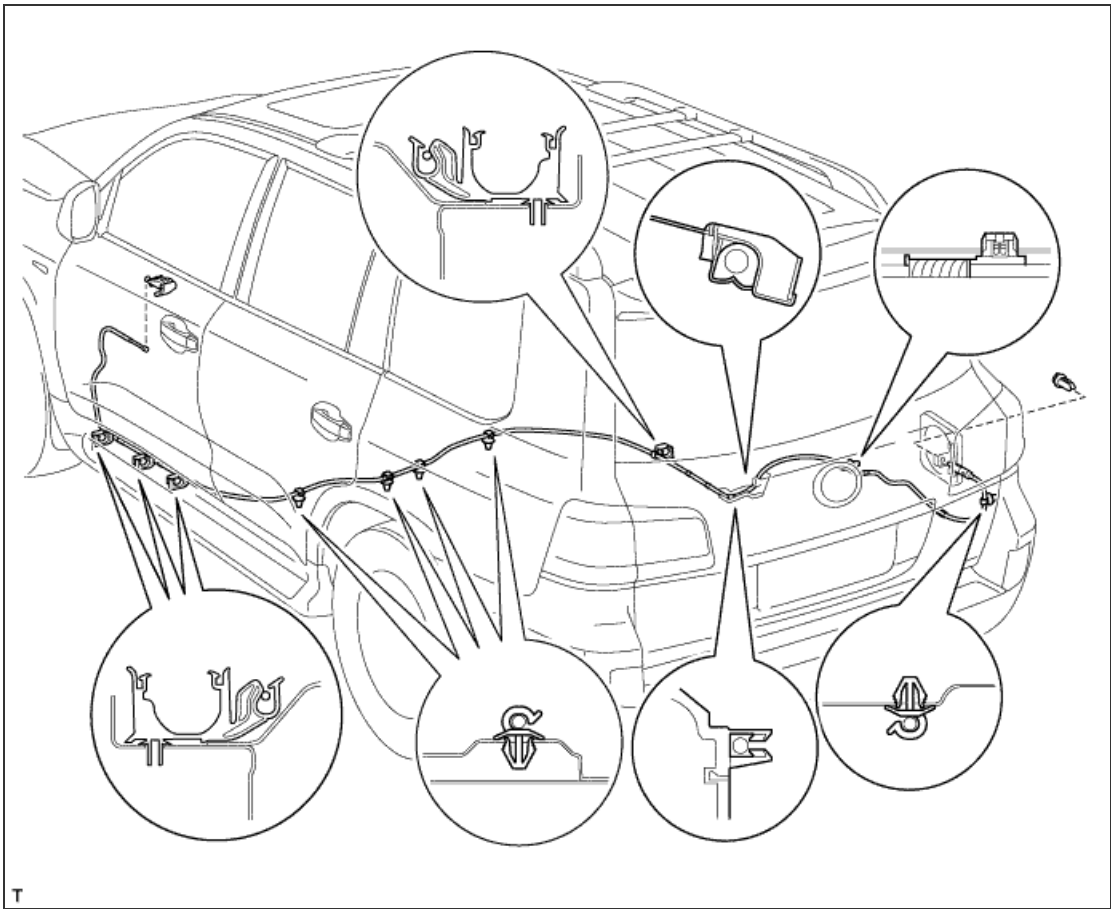
b. Remove the lock control cable.



for Preparation Click here

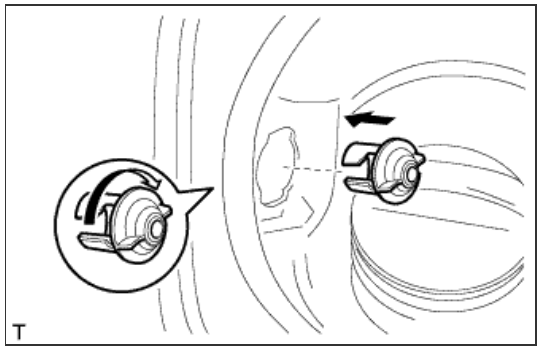
1. INSTALL FUEL LID LOCK CONTROL CABLE SUB-ASSEMBLY

a. Connect the cable to the clamps shown in the illustration to install the cable.

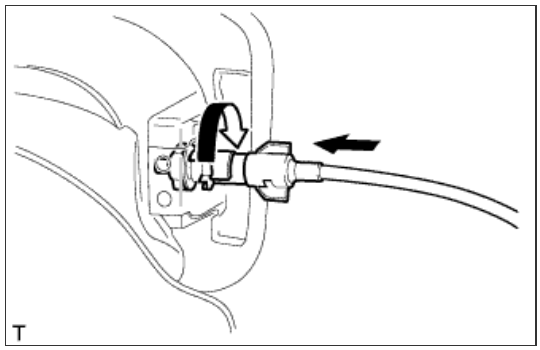


2. INSTALL FUEL FILLER OPENING LID LOCK RETAINER

a. Install the lock retainer and turn it clockwise as shown in the illustration.



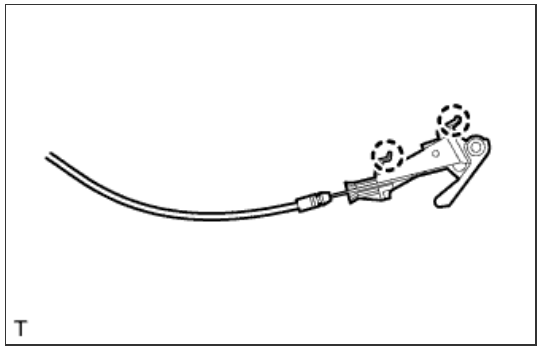
b. Install the cable to the retainer and turn it clockwise as shown in the illustration.



3. INSTALL FUEL LID LOCK OPEN LEVER SUB-ASSEMBLY

a. Connect the fuel lid lock control cable to the fuel lid lock open lever.

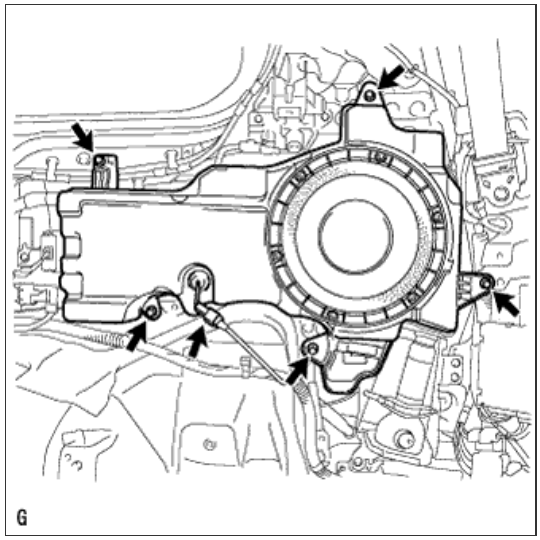
b. Attach the 2 claws to install the fuel lid lock open lever.



4. INSTALL NO. 1 WOOFER BOX SPEAKER ASSEMBLY (for 19 Speakers)

a. Install the box speaker with the 5 bolts.

b. Connect the connector.



5. INSTALL FRONT QUARTER TRIM PANEL ASSEMBLY RH

a. Install the front quarter trim panel RH (Click here).

6. INSTALL FRONT FLOOR CARPET ASSEMBLY

a. Install the front carpet assembly (Click here).

7. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

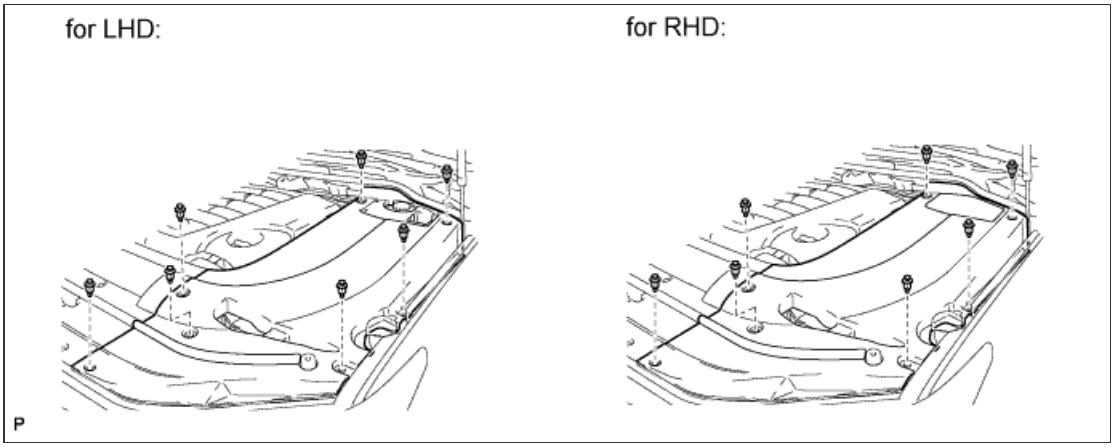
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

8. CHECK SRS WARNING LIGHT

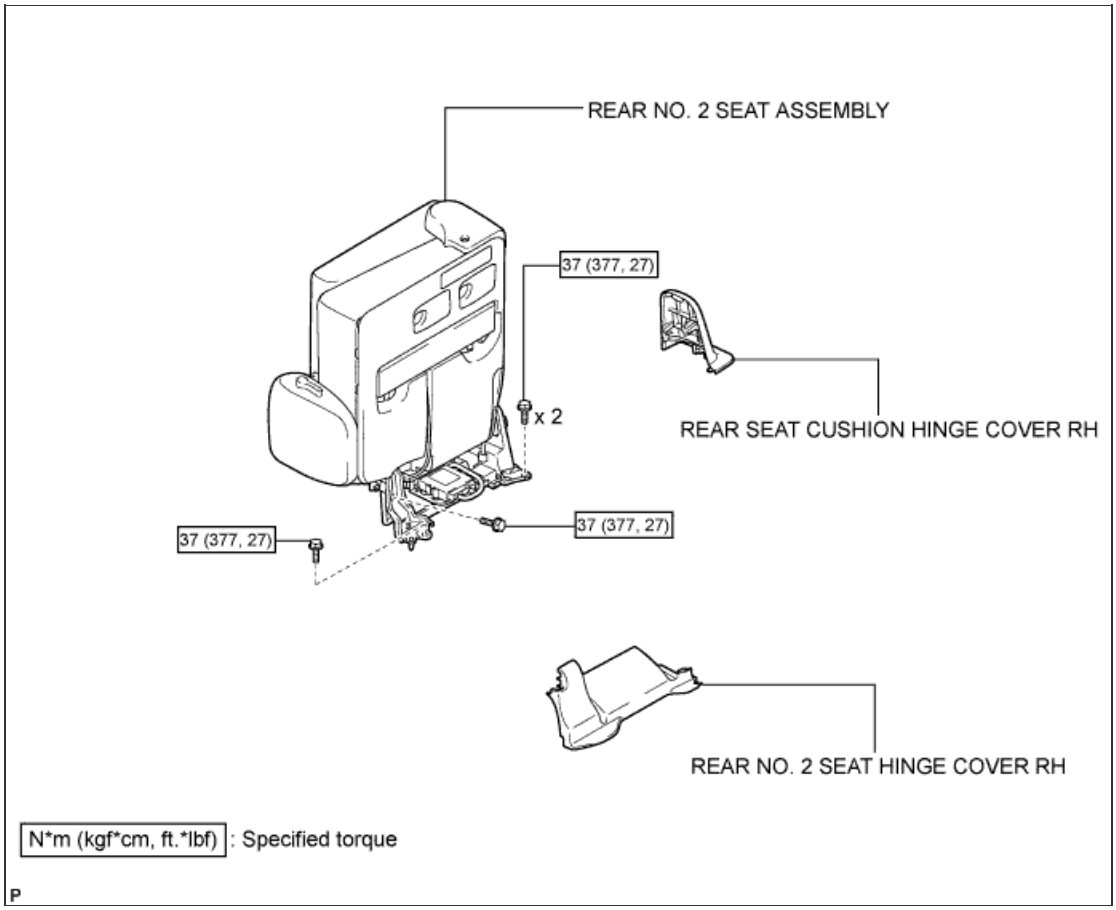
a. Check the SRS warning light (Click here).

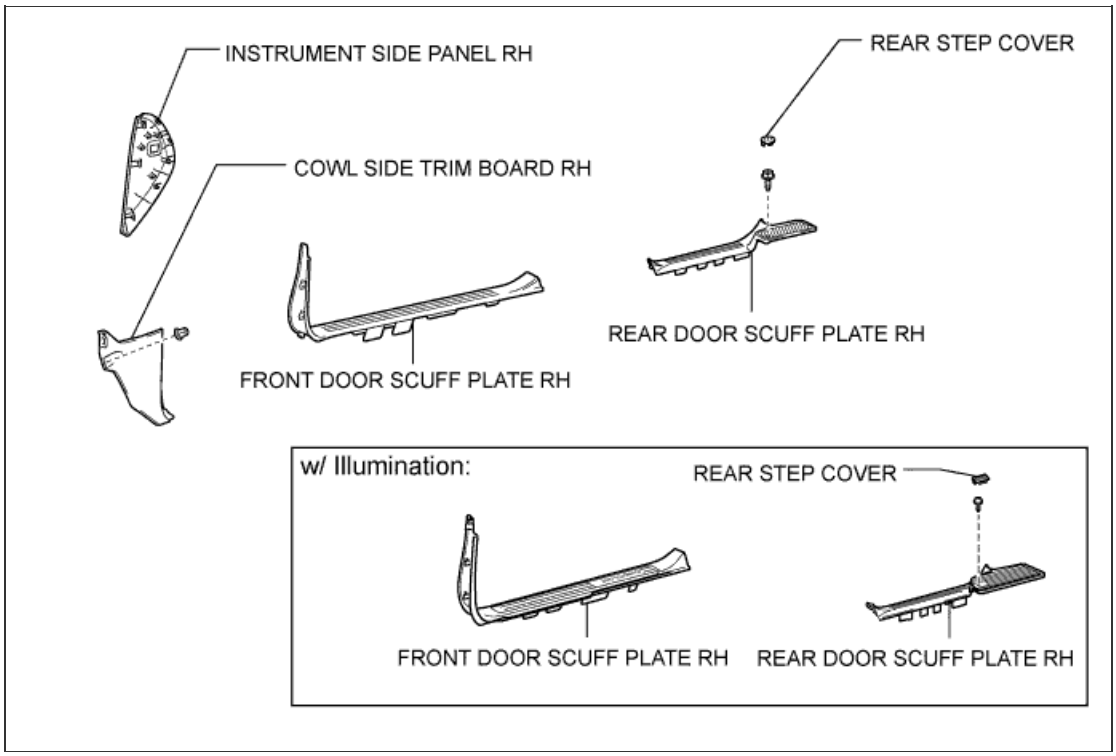
9. INSTALL ENGINE ROOM SIDE COVER LH

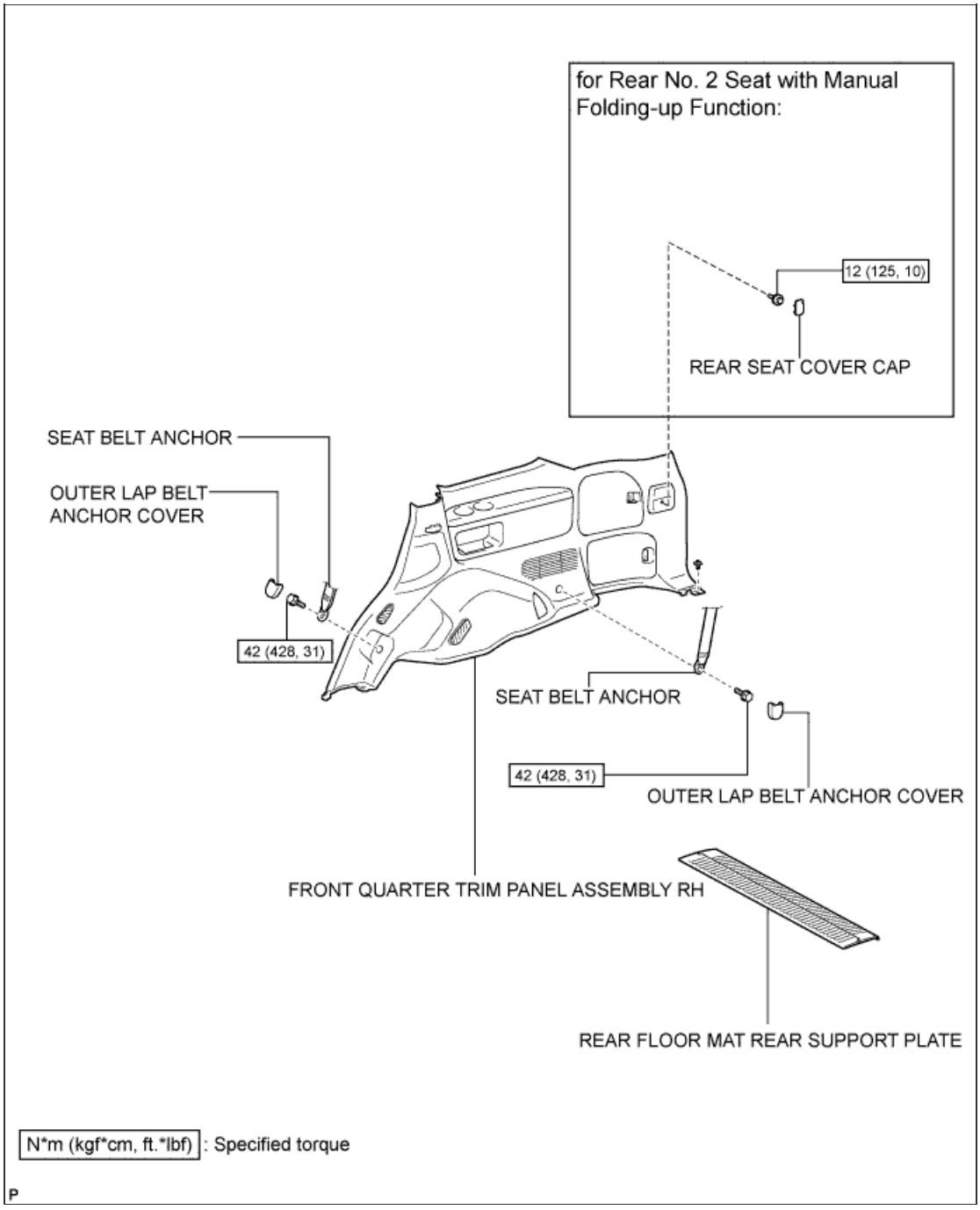
a. Install the engine room side cover with the 7 clips.



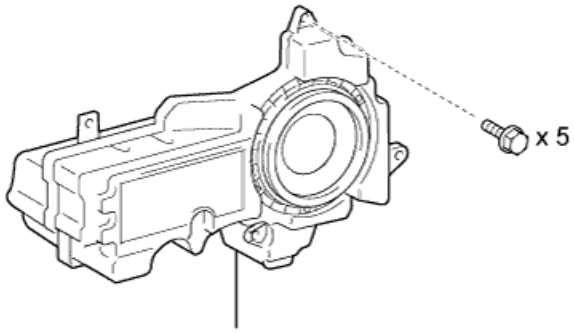
for Preparation Click here

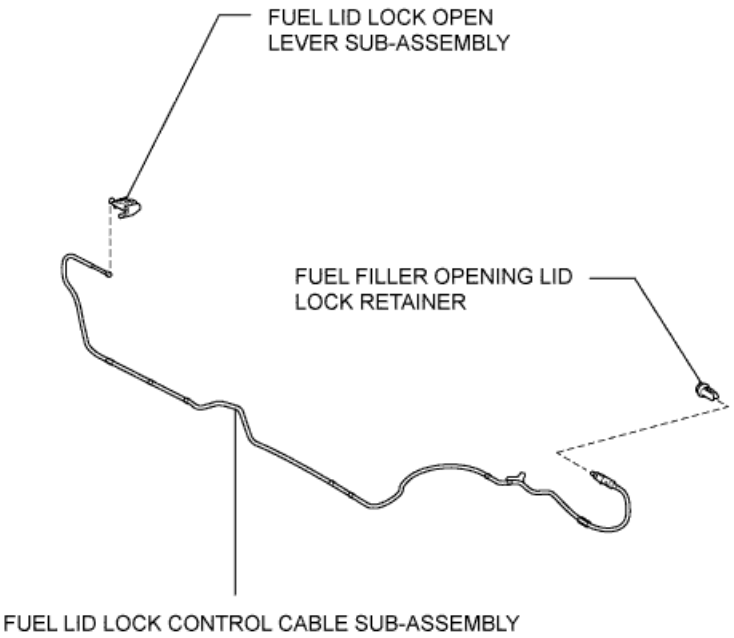





for Rear No. 2 Seat with Manual Folding-up Function:
12 (125, 10)
REAR SEAT COVER CAP
SEAT BELT ANCHOR
OUTER LAP BELT ANCHOR COVER
42 (428, 31)
SEAT BELT ANCHOR
42 (428, 31)
OUTER LAP BELT ANCHOR COVER
FRONT QUARTER TRIM PANEL ASSEMBLY RH
REAR FLOOR MAT REAR SUPPORT PLATE
N*m (kgf*cm, ft.*lbf) : Specified torque
P

for 19 Speakers:



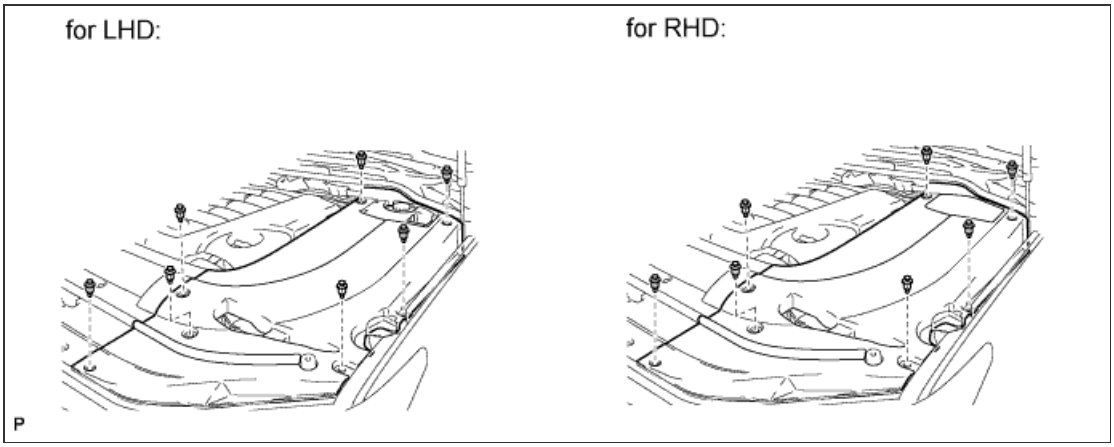


T

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



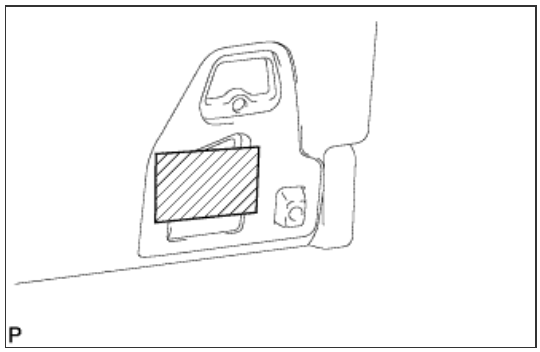
2. REMOVE REAR SEAT CUSHION HINGE COVER RH

a. Apply protective tape to the rear seatback lock striker as shown in the illustration to prevent the seat from locking.

b. Operate the power seat switch and move the seat to the storage position.

HINT:

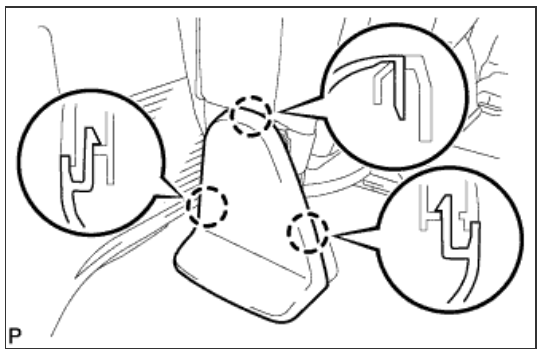
Make sure that the lock and striker are not engaged.



c. Using a screwdriver, detach the 3 claws and remove the cover.

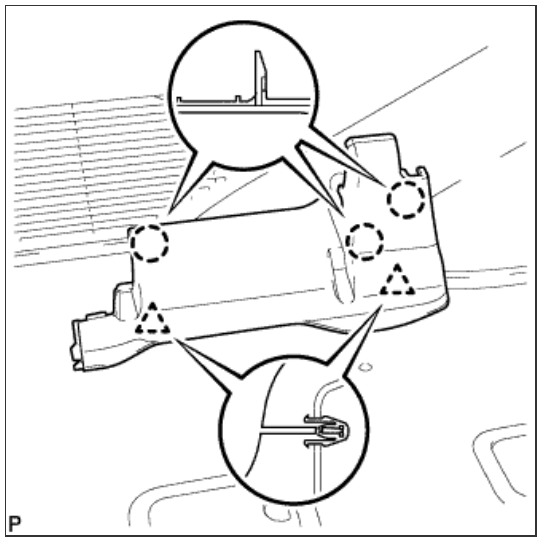
HINT:

Tape the screwdriver tip before use.



3. REMOVE REAR NO. 2 SEAT HINGE COVER RH

a. Detach the 3 claws and 2 clips, and then remove the cover.



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 NO. 2 SEAT

a. w/ Automatic Folding-up Function:

i. Remove the rear No. 2 seat assembly (Click here).

b. w/ Manual Folding-up Function:

i. Remove the rear No. 2 seat assembly (Click here).

6. REMOVE INSTRUMENT SIDE PANEL RH

a. w/o Airbag Cut Off Switch:

i. Place protective tape as shown in the illustration.

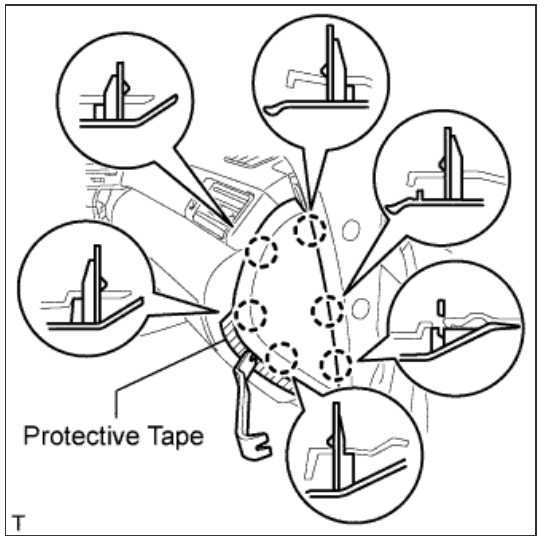
ii. Using a moulding remover, detach the 6 claws and remove the side panel.

b. w/ Airbag Cut Off Switch:

i. Place protective tape as shown in the illustration.

ii. Using a moulding remover, detach the 6 claws.

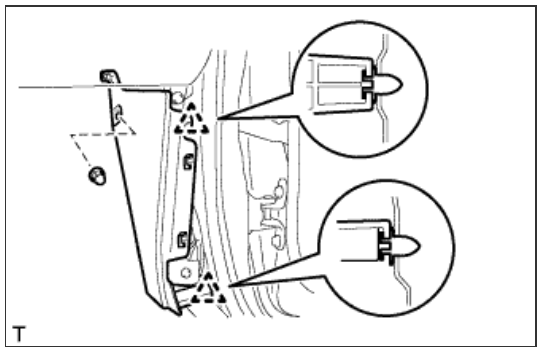
iii. Remove the side panel and disconnect the connector.



7. REMOVE COWL SIDE TRIM BOARD RH

a. Remove the cap nut.

b. Detach the 2 clips and remove the trim board.



8. REMOVE FRONT DOOR SCUFF PLATE RH

HINT:

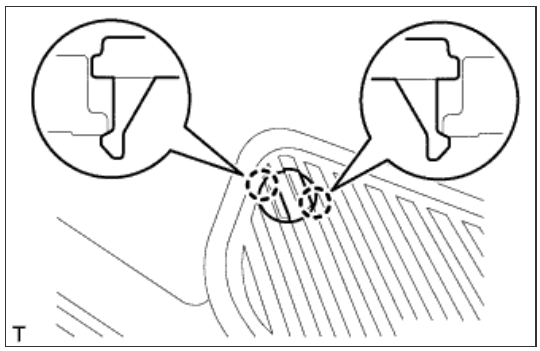
Use the same procedures described for the LH side.

9. REMOVE REAR STEP COVER

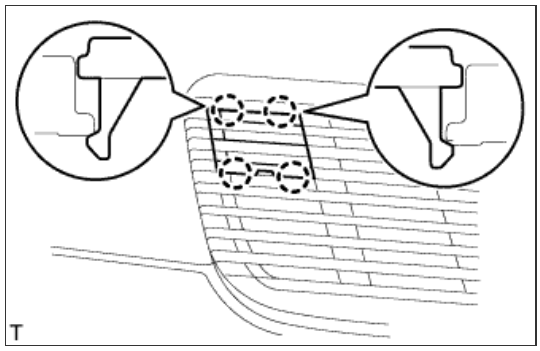
HINT:

Use the same procedure to remove the step cover on the other side.

a. w/o Illumination Type Front Door Scuff Plate:
Detach the 2 claws and remove the step cover.



b. w/ Illumination Type Front Door Scuff Plate:
Detach the 4 claws and remove the step cover.



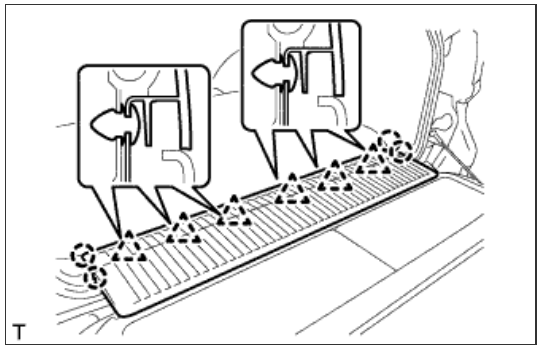
10. REMOVE REAR DOOR SCUFF PLATE RH

HINT:

Use the same procedures described for the LH side.

11. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and 4 claws, and remove the support plate.



12. REMOVE REAR SEAT COVER CAP (for Rear No. 2 Seat with Manual Folding-up Function)

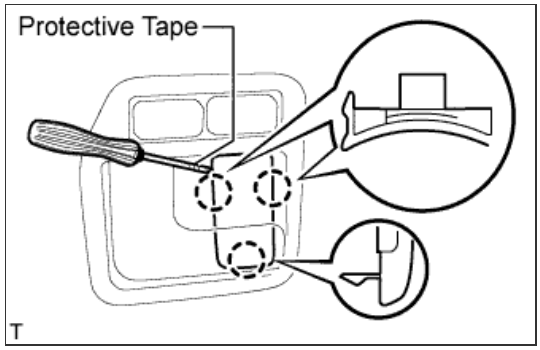
HINT:

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 RH

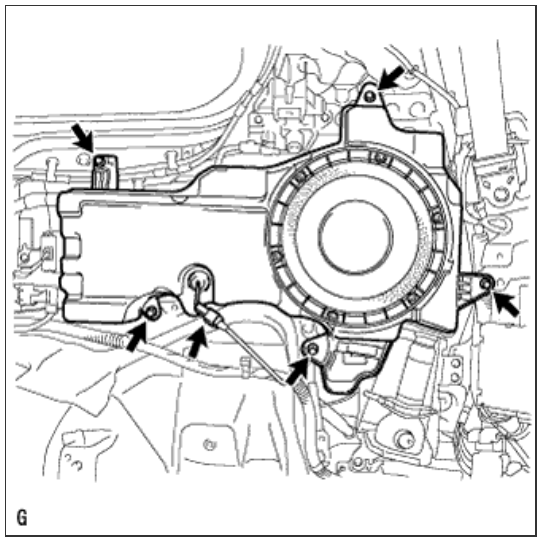
HINT:

Use the same procedures described for the LH side.

14. REMOVE NO. 1 WOOFER BOX SPEAKER ASSEMBLY (for 19 Speakers)

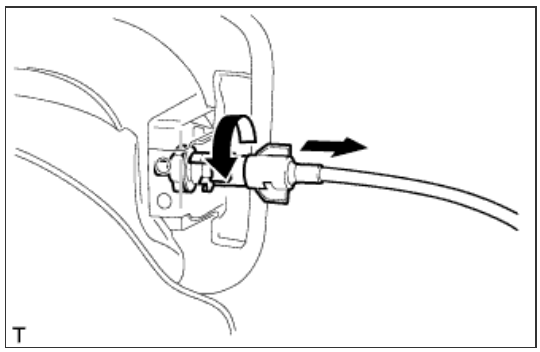
a. Disconnect the connector.

b. Remove the 5 bolts and box speaker.

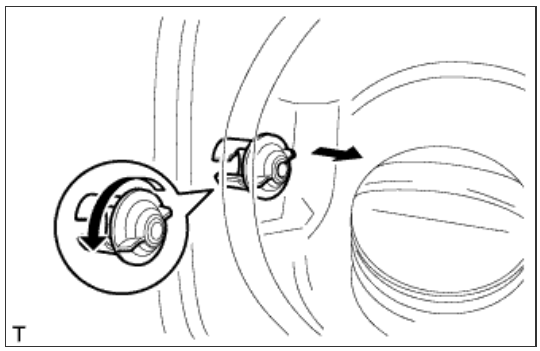


15. REMOVE FUEL FILLER OPENING LID LOCK RETAINER

a. Turn the cable counterclockwise and remove the cable from the retainer.



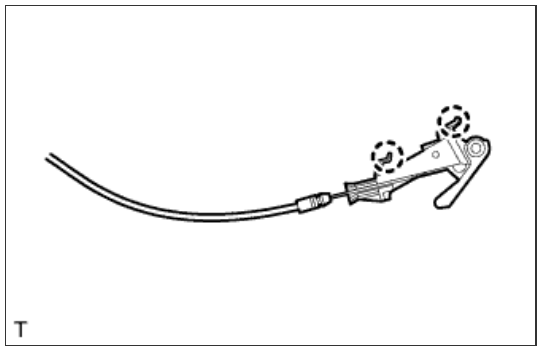
b. Turn the lock retainer counterclockwise and remove the lock retainer.



16. REMOVE FUEL LID LOCK OPEN LEVER SUB-ASSEMBLY

a. Detach the 2 claws.

b. Disconnect the fuel lid lock control cable and remove the fuel lid lock open lever.

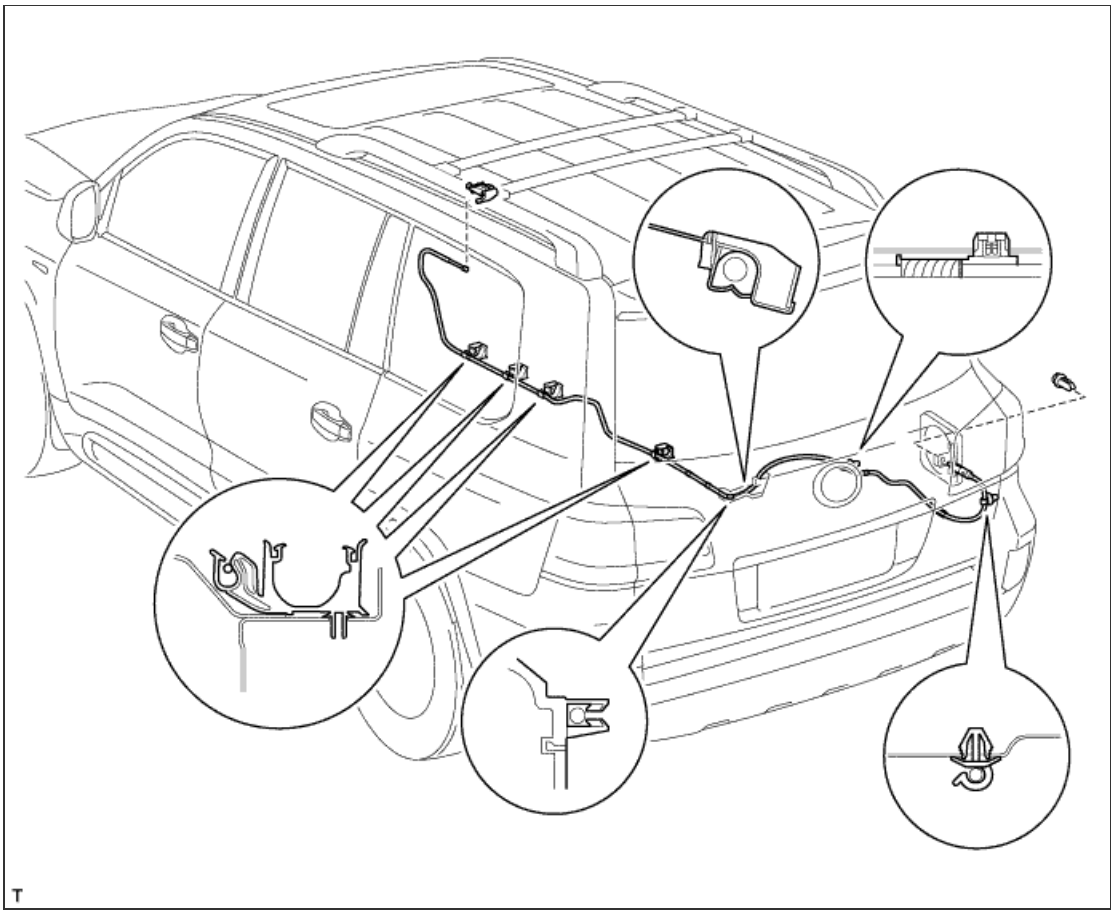


17. REMOVE FUEL LID LOCK CONTROL CABLE SUB-ASSEMBLY

a. Using a screwdriver, disconnect the clamps shown in the illustration.

HINT:

Tape the screwdriver tip before use.

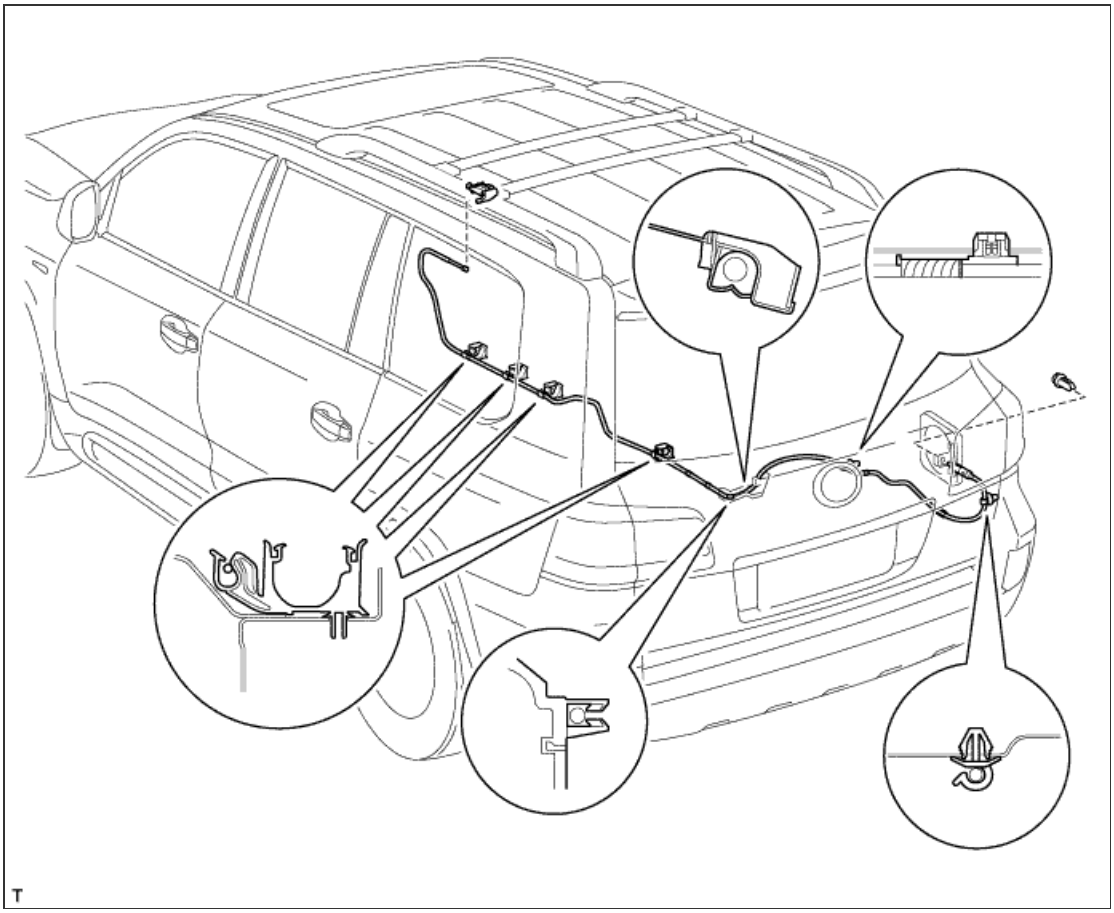


b. Remove the lock control cable.

for Preparation Click here

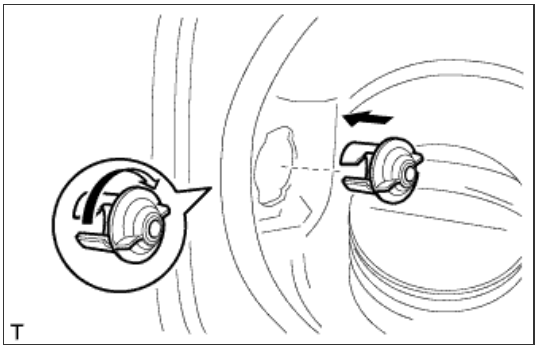
1. INSTALL FUEL LID LOCK CONTROL CABLE SUB-ASSEMBLY

a. Connect the cable to the clamps shown in the illustration to install the cable.

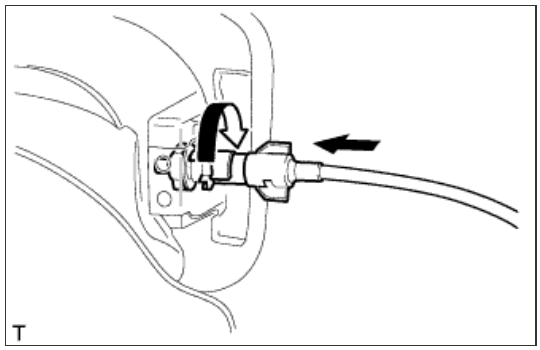


2. INSTALL FUEL FILLER OPENING LID LOCK RETAINER

a. Install the lock retainer and turn it clockwise as shown in the illustration.



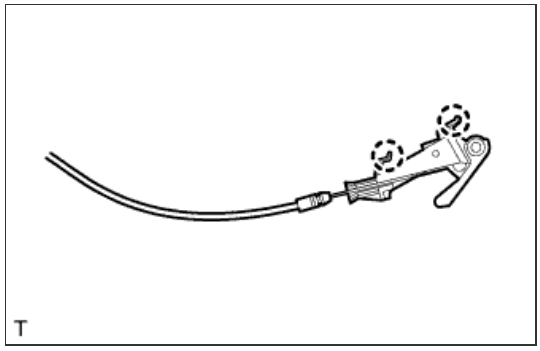
b. Install the cable to the retainer and turn it clockwise as shown in the illustration.



3. INSTALL FUEL LID LOCK OPEN LEVER SUB-ASSEMBLY

a. Connect the fuel lid lock control cable to the fuel lid lock open lever.

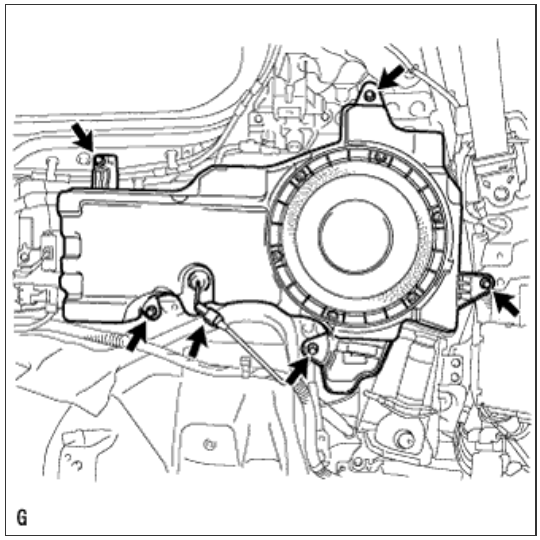
b. Attach the 2 claws to install the fuel lid lock open lever.



4. INSTALL NO. 1 WOOFER BOX SPEAKER ASSEMBLY (for 19 Speakers)

a. Install the box speaker with the 5 bolts.

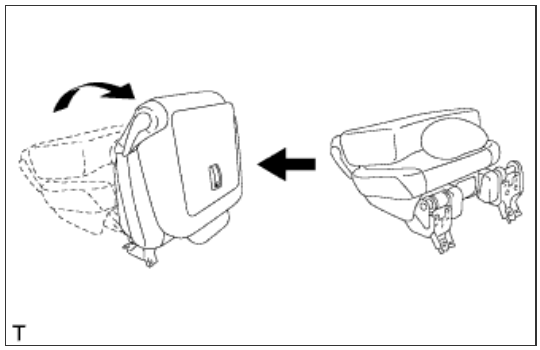
b. Connect the connector.



5. 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.



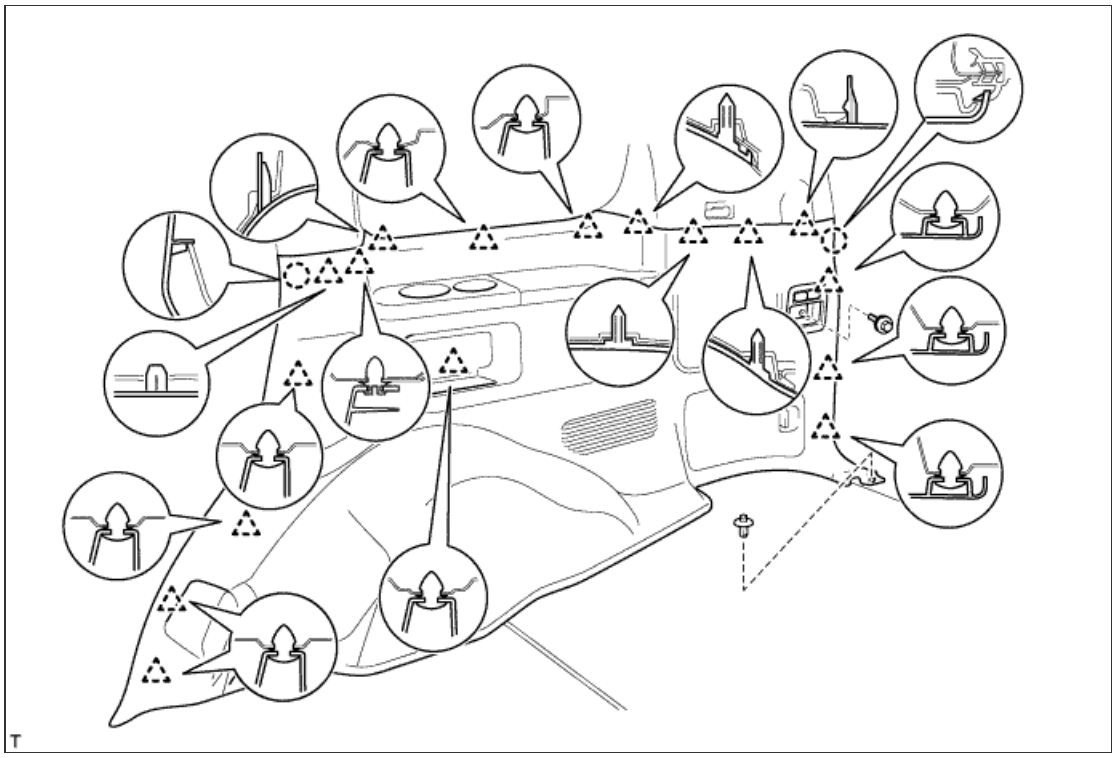
a. for Rear No. 2 Seat with Manual Folding-up Function:

i. Connect the thermistor connector and rear seat lock control lever cable.

ii. Attach the 17 clips and 2 claws to install the quarter trim panel.

iii. Install the clip and bolt.

Torque:
for bolt:
12 N*m{ 122 kgf*cm , 9 ft.*lbf }

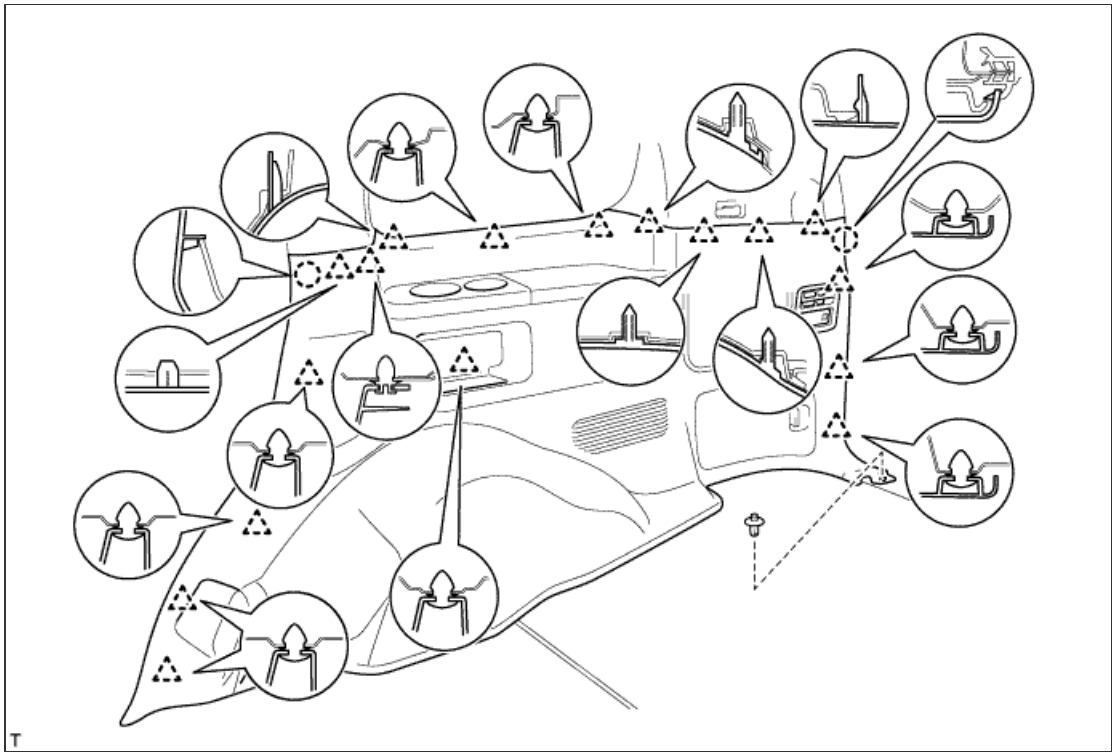


b. for Rear No. 2 Seat with Automatic Folding-up Function:

i. Connect the thermistor connector.

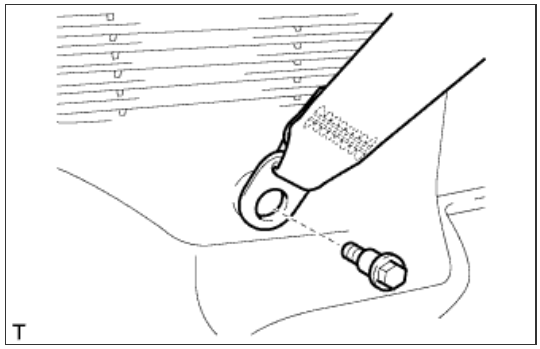
ii. Attach the 17 clips and 2 claws to install the quarter trim panel.

iii. Install the clip.

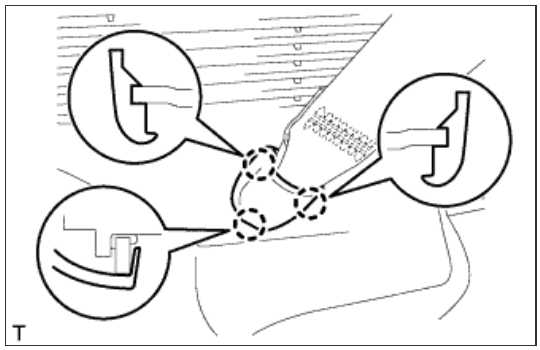


c. Install the rear No. 2 seat belt anchor with the bolt.

Torque:
42 N*m{ 428 kgf*cm , 31 ft.*lbf }

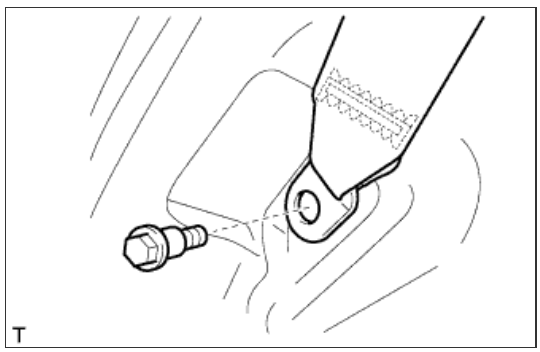


d. Attach the 3 claws to install the cover.

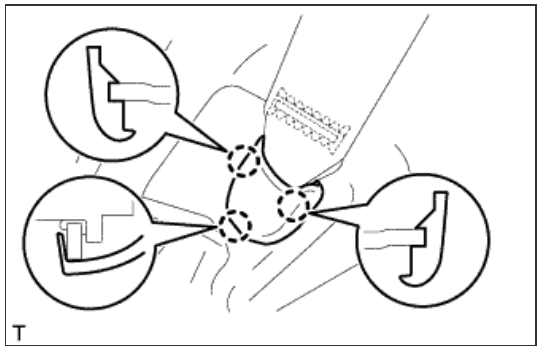


e. Install the rear No. 1 seat belt anchor with the bolt.

Torque:
42 N*m{ 428 kgf*cm , 31 ft.*lbf }



f. Attach the 3 claws to install the cover.

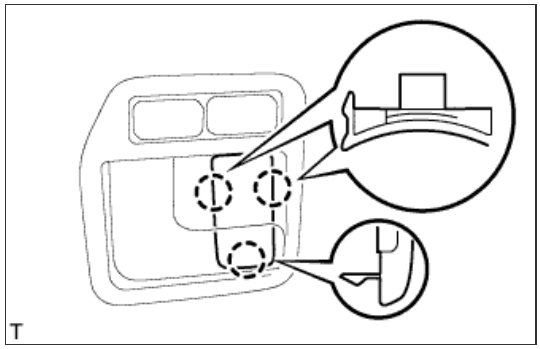


6. INSTALL REAR SEAT COVER CAP (for Rear No. 2 Seat with Manual Folding-up Function)

HINT:

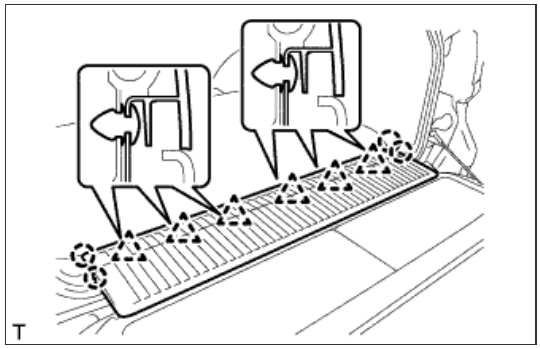
Use the same procedures to install the rear seat cover cap on the other side.

a. Attach the 3 claws to install the rear seat cover cap.



7. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

a. Attach the 6 clips and 4 claws to install the support plate.



8. INSTALL REAR DOOR SCUFF PLATE RH

HINT:

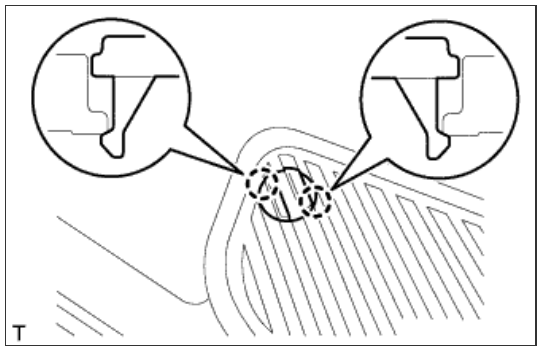
Use the same procedures described for the LH side.

9. INSTALL REAR STEP COVER

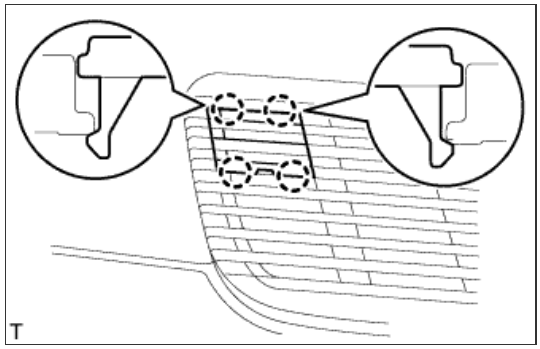
HINT:

Use the same procedure to install the step cover on the other side.

a. w/o Illumination Type Front Door Scuff Plate:
Attach the 2 claws to install the step cover.



b. w/ Illumination Type Front Door Scuff Plate:
Attach the 4 claws to install the step cover.



10. INSTALL FRONT DOOR SCUFF PLATE RH

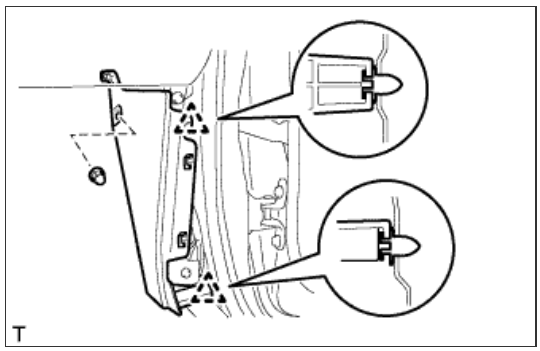
HINT:

Use the same procedures described for the LH side.

11. INSTALL COWL SIDE TRIM BOARD RH

a. Attach the 2 clips to install the trim board.

b. Install the cap nut.



12. INSTALL INSTRUMENT SIDE PANEL RH

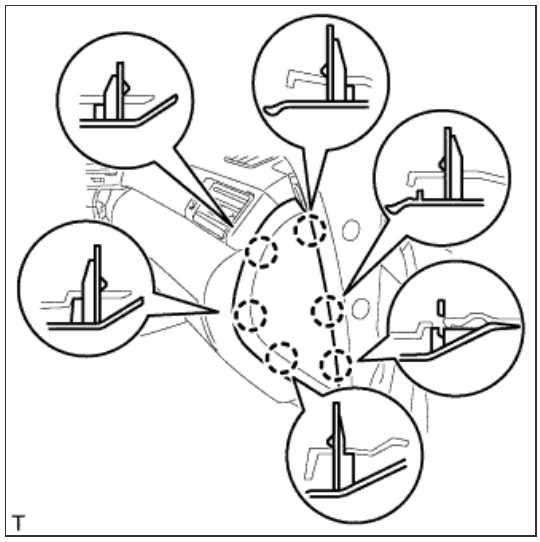
a. w/o Airbag Cut Off Switch:

i. Attach the 6 claws to install the side panel.

b. w/ Airbag Cut Off Switch:

i. Connect the connector.

ii. Attach the 6 claws to install the side panel.



13. INSTALL REAR NO. 2 SEAT

a. w/ Automatic Folding-up Function:

i. Install the rear No. 2 seat assembly (Click here).

b. w/ Manual Folding-up Function:

i. Install the rear No. 2 seat assembly (Click here).

14. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

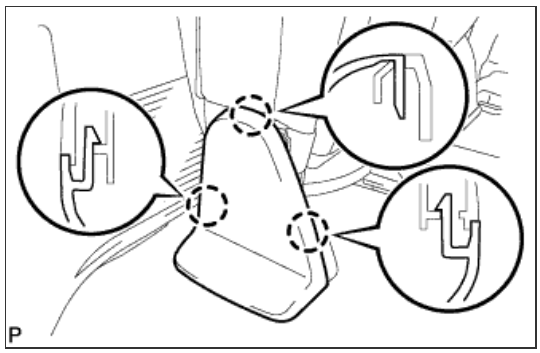
NOTICE:

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

15. INSTALL REAR NO. 2 SEAT HINGE COVER RH

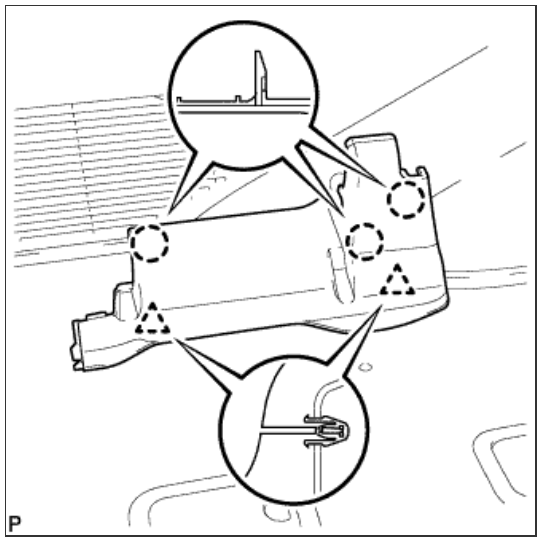
a. Attach the 3 claws to install the cover.

b. Return the seat to the upright position.



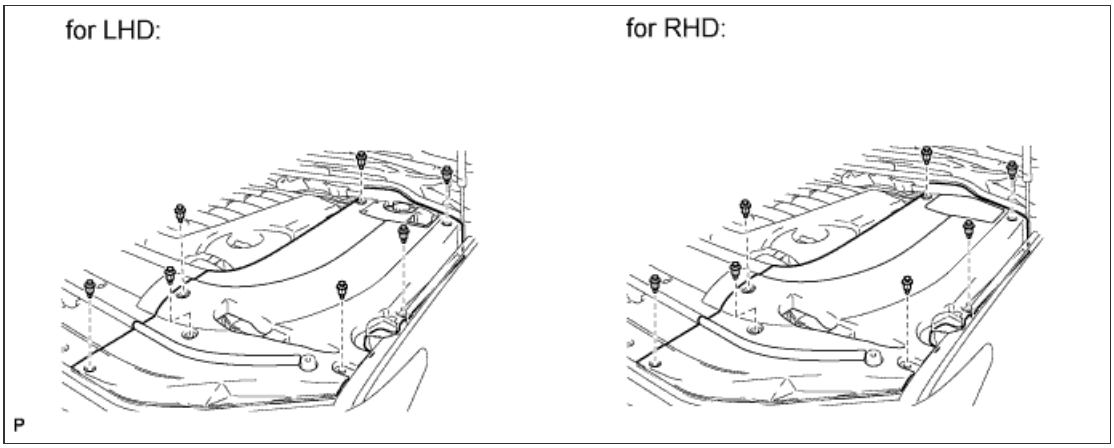
16. INSTALL REAR SEAT CUSHION HINGE COVER RH

a. Attach the 3 claws and 2 clips to install the cover.

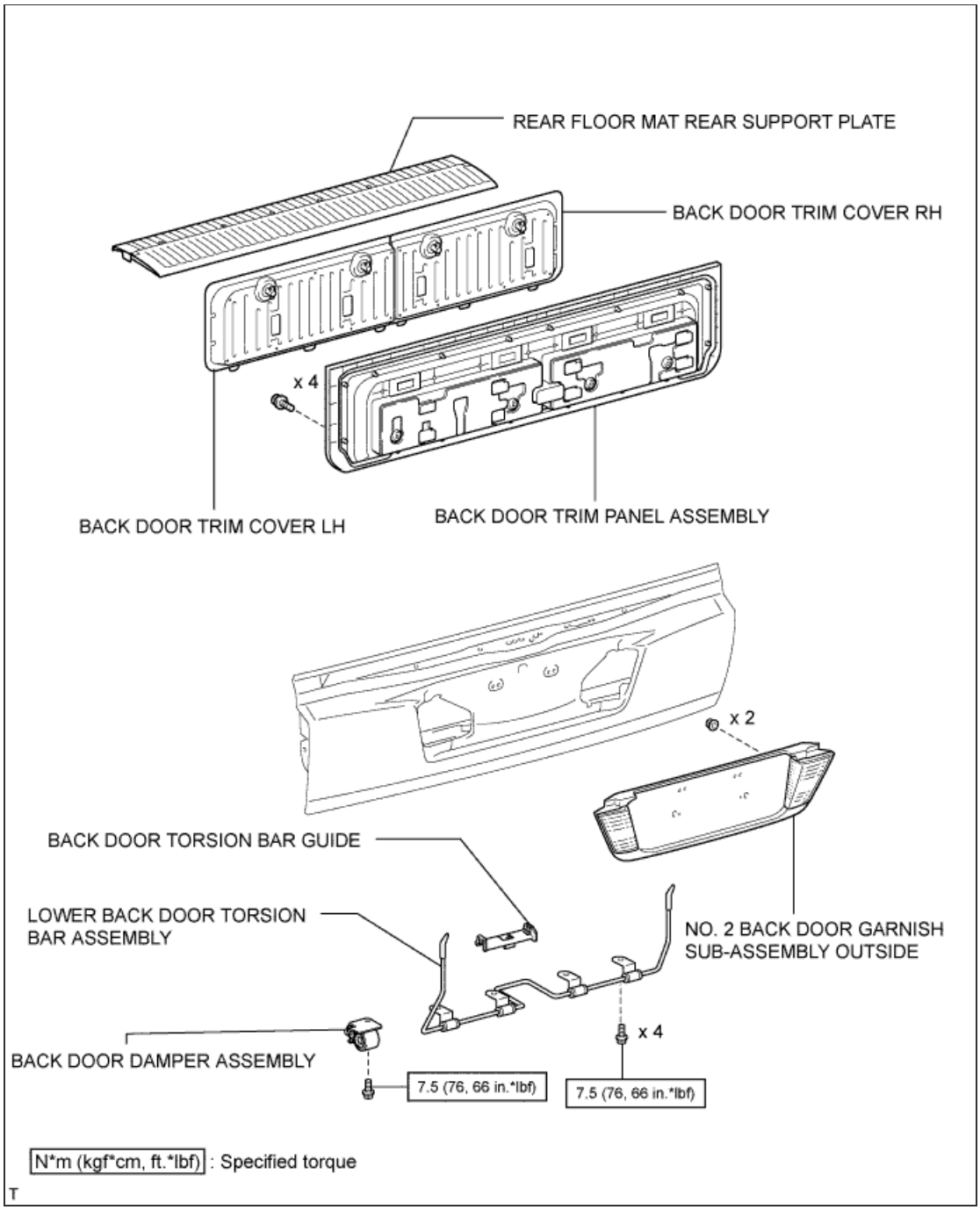


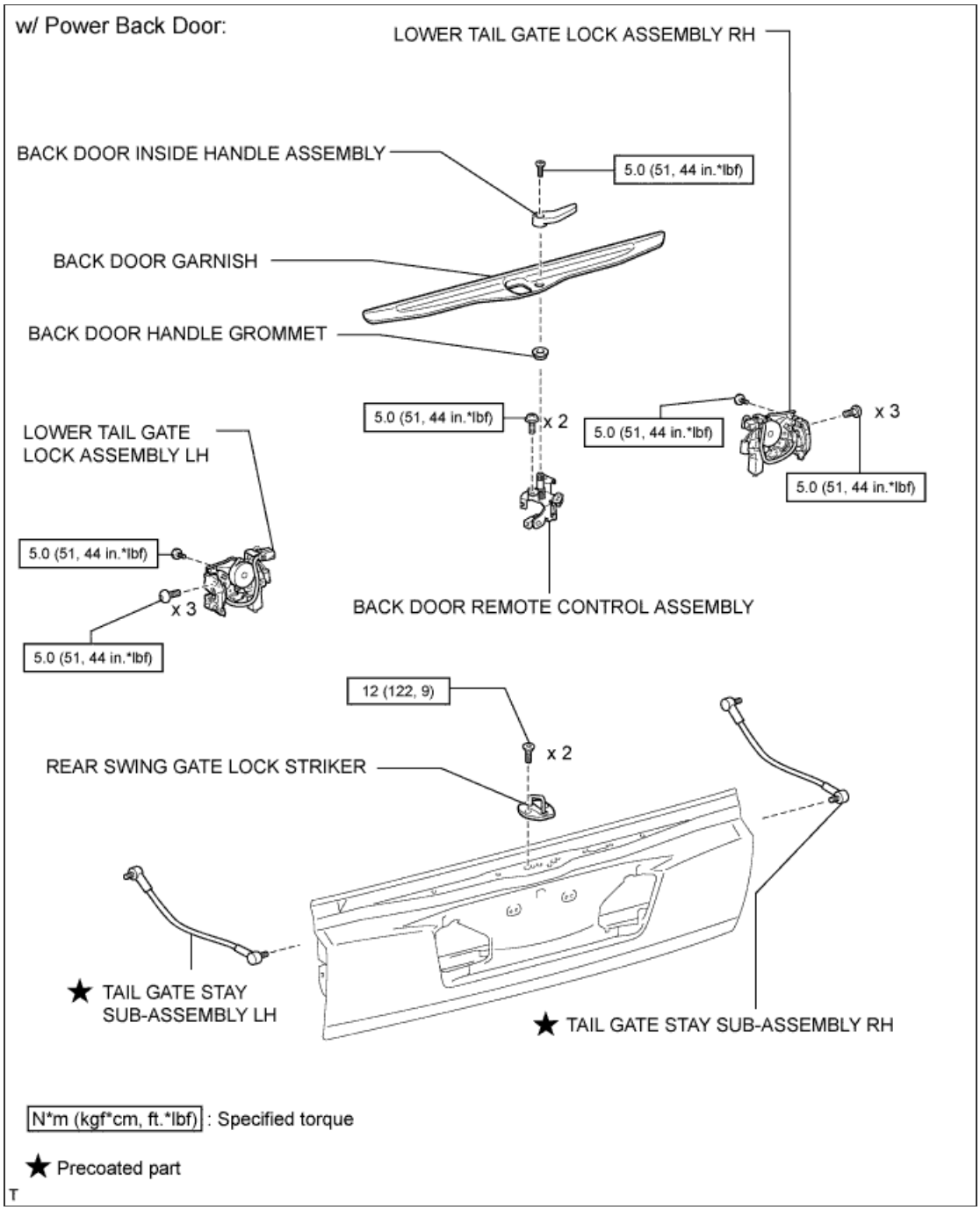
17. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

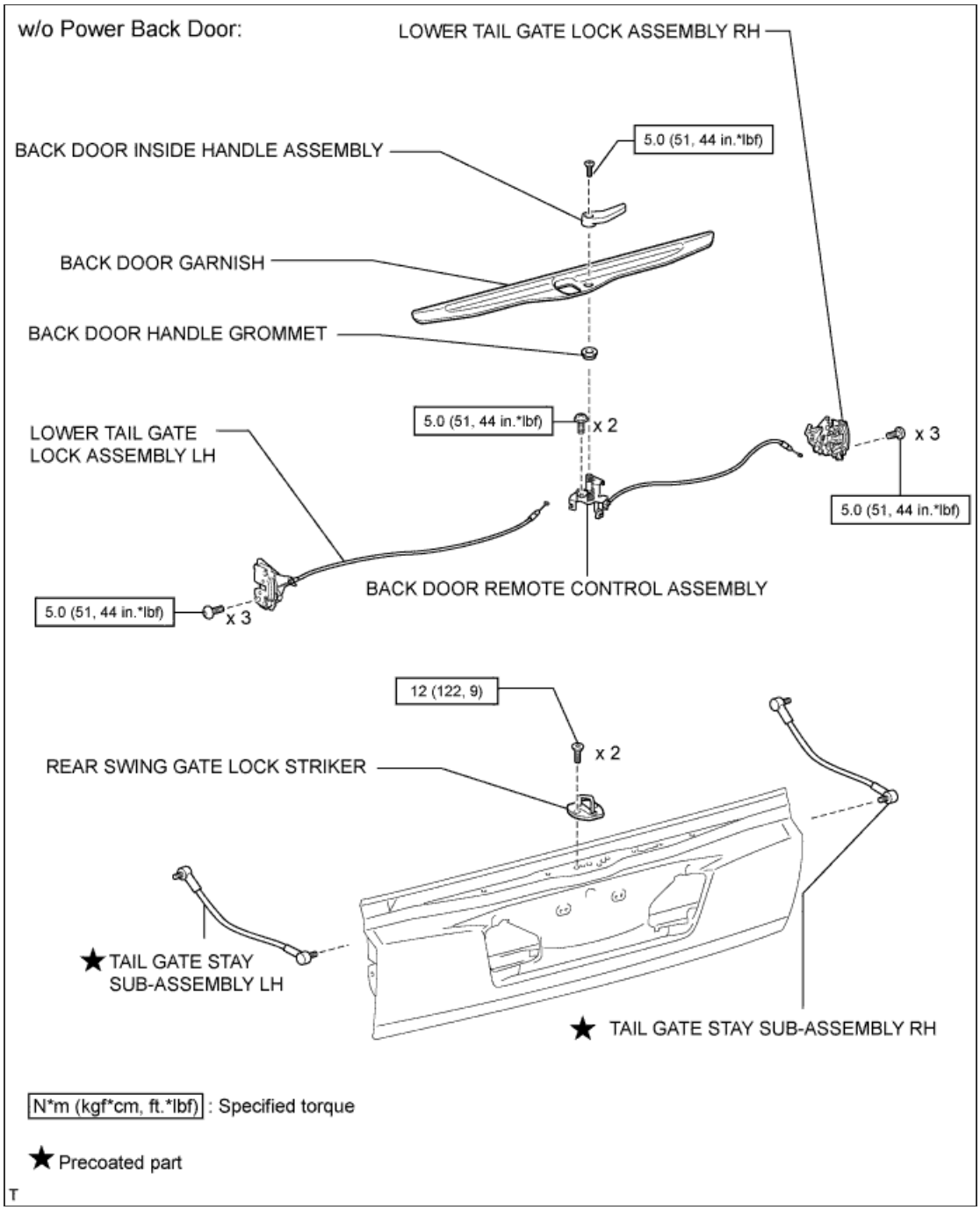


for Preparation Click here




w/ Power Back Door:
LOWER TAIL GATE LOCK ASSEMBLY RH
BACK DOOR INSIDE HANDLE ASSEMBLY
5.0 (51, 44 in.*lbf)
BACK DOOR GARNISH
BACK DOOR HANDLE GROMMET
5.0 (51, 44 in.*lbf)
x 2
5.0 (51, 44 in.*lbf)
x 3
5.0 (51, 44 in.*lbf)
LOWER TAIL GATE LOCK ASSEMBLY LH
5.0 (51, 44 in.*lbf)
x 3
5.0 (51, 44 in.*lbf)
BACK DOOR REMOTE CONTROL ASSEMBLY
12 (122, 9)
x 2
REAR SWING GATE LOCK STRIKER
★ TAIL GATE STAY SUB-ASSEMBLY LH
★ TAIL GATE STAY SUB-ASSEMBLY RH
N*m (kgf*cm, ft.*lbf) : Specified torque
★ Precoated part

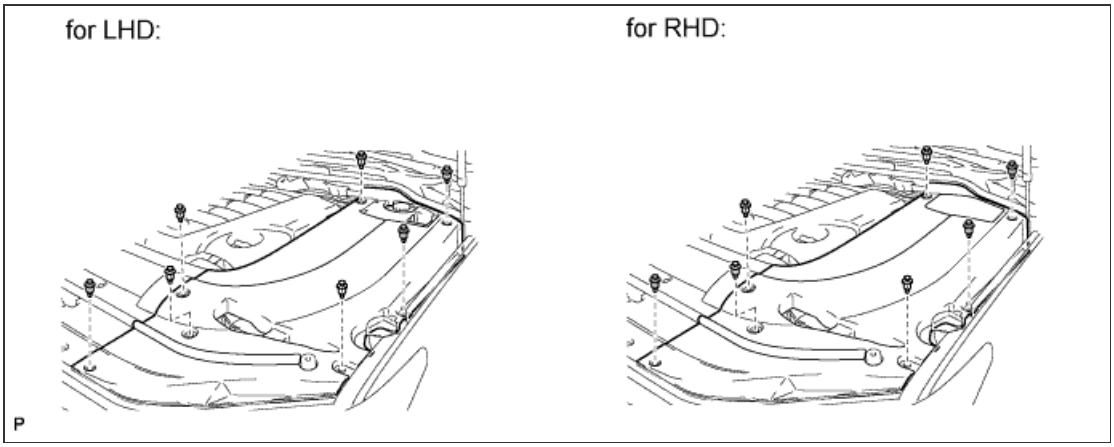
T


w/o Power Back Door:
LOWER TAIL GATE LOCK ASSEMBLY RH
BACK DOOR INSIDE HANDLE ASSEMBLY
5.0 (51, 44 in.*lbf)
BACK DOOR GARNISH
BACK DOOR HANDLE GROMMET
LOWER TAIL GATE LOCK ASSEMBLY LH
5.0 (51, 44 in.*lbf) x 2
x 3
5.0 (51, 44 in.*lbf)
BACK DOOR REMOTE CONTROL ASSEMBLY
5.0 (51, 44 in.*lbf) x 3
12 (122, 9)
x 2
REAR SWING GATE LOCK STRIKER
★ TAIL GATE STAY SUB-ASSEMBLY LH
★ TAIL GATE STAY SUB-ASSEMBLY RH
N*m (kgf*cm, ft.*lbf) : Specified torque
★ Precoated part
T

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



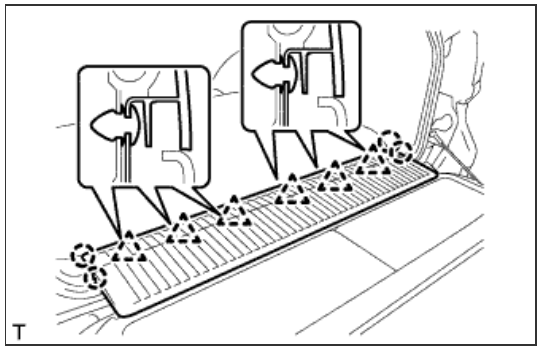
2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

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

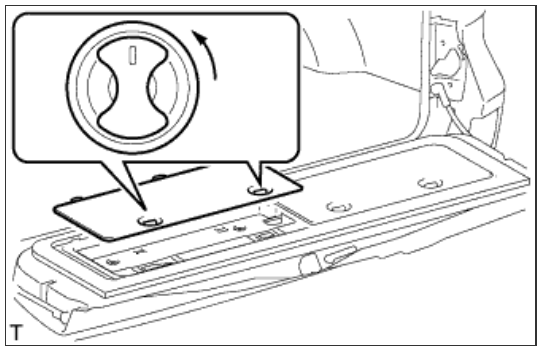
3. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and 4 claws, and remove the support plate.



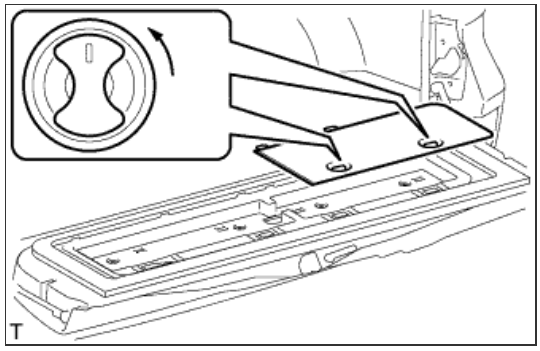
4. REMOVE BACK DOOR TRIM COVER LH

a. Remove the back door trim cover LH as shown in the illustration.



5. REMOVE BACK DOOR TRIM COVER RH

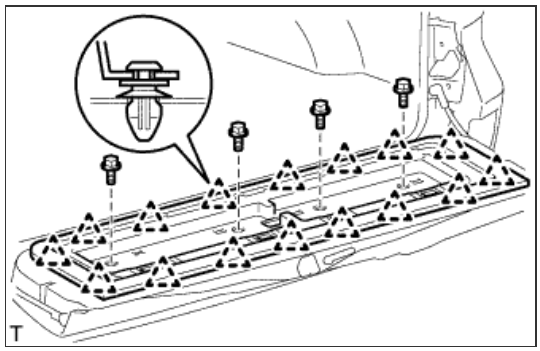
a. Remove the back door trim cover RH as shown in the illustration.



6. REMOVE BACK DOOR TRIM PANEL ASSEMBLY

a. Remove the 4 bolts.

b. Detach the 16 clips and remove the back door trim panel.



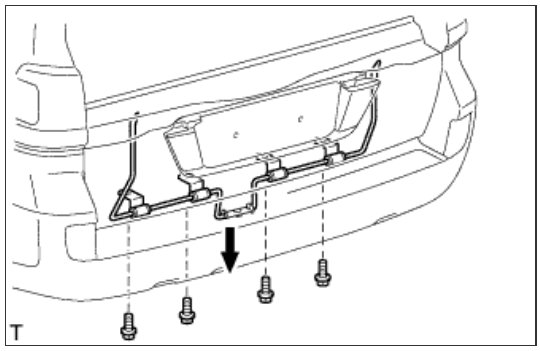
7. REMOVE REAR BUMPER COVER

a. Remove the bumper cover (Click here).

8. REMOVE SPARE TIRE

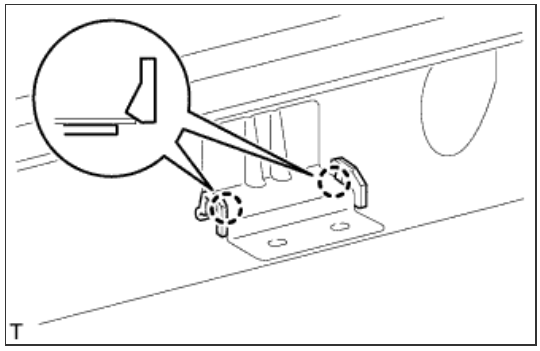
9. REMOVE LOWER BACK DOOR TORSION BAR ASSEMBLY

a. Remove the 4 bolts and lower back door torsion bar.



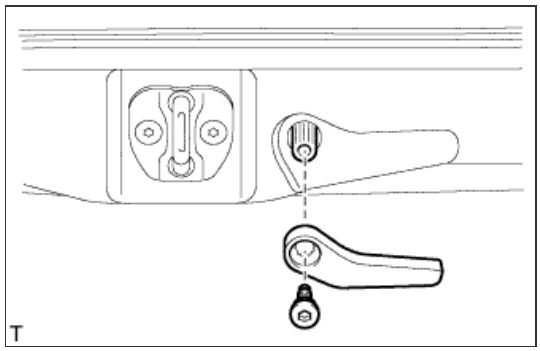
10. REMOVE BACK DOOR TORSION BAR GUIDE

a. Detach the 2 claws and remove the back door torsion bar guide.



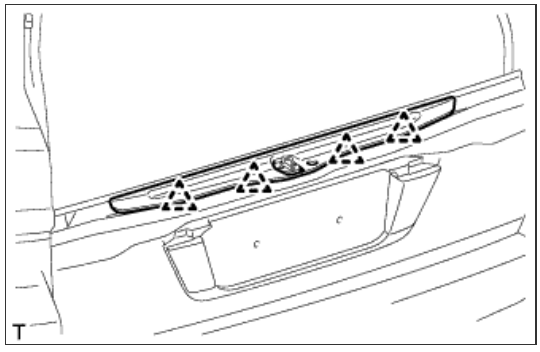
11. REMOVE BACK DOOR INSIDE HANDLE ASSEMBLY

a. Remove the screw and back door inside handle.



12. REMOVE BACK DOOR GARNISH

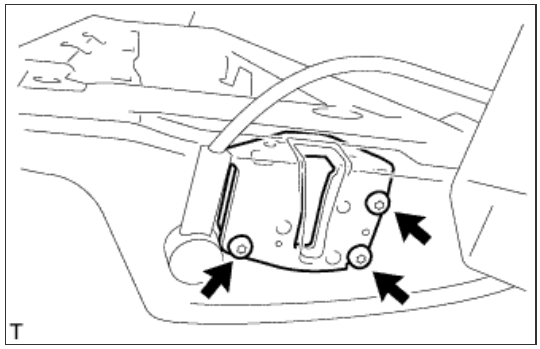
a. Detach the 4 clips and remove the back door garnish.



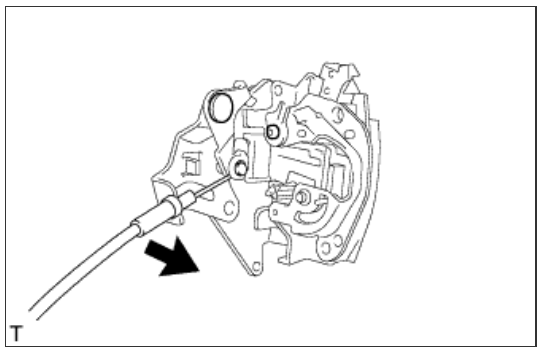
13. REMOVE LOWER TAIL GATE LOCK ASSEMBLY RH

a. w/o Power Back Door:

i. Using a T30 "TORX" wrench, remove the 3 screws and lower tail gate lock.

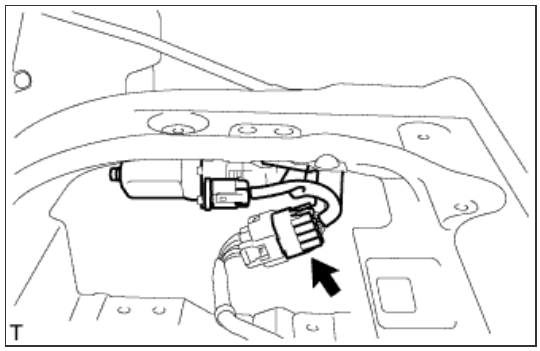


ii. Disconnect the cable from the lower tail gate lock.

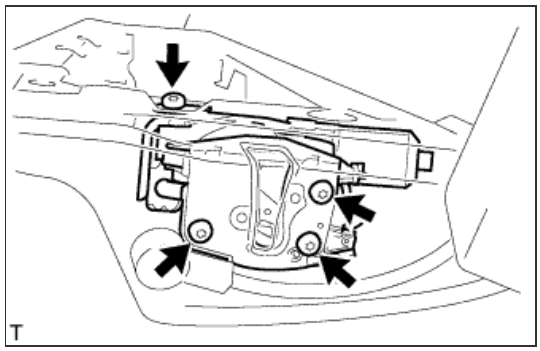


b. w/ Power Back Door:

i. Disconnect the connector.



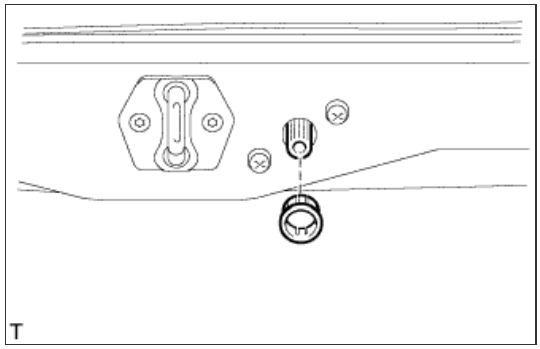
ii. Using a T30 "TORX" wrench, remove the 4 screws and lower tail gate lock.



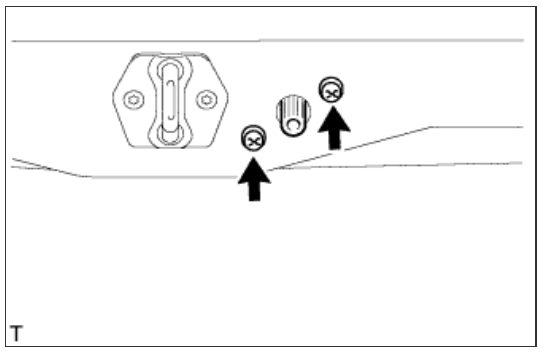
14. REMOVE BACK DOOR REMOTE CONTROL ASSEMBLY

a. w/o Power Back Door:

i. Remove the back door handle grommet.

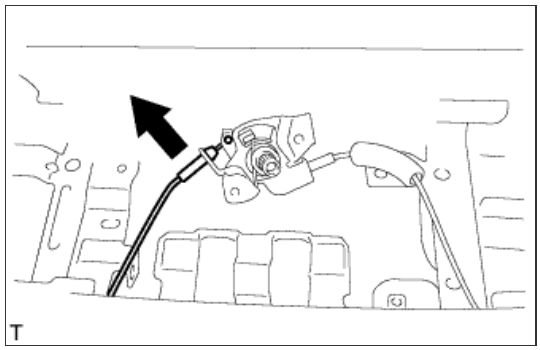


ii. Remove the 2 screws.



iii. Disconnect the left side cable.

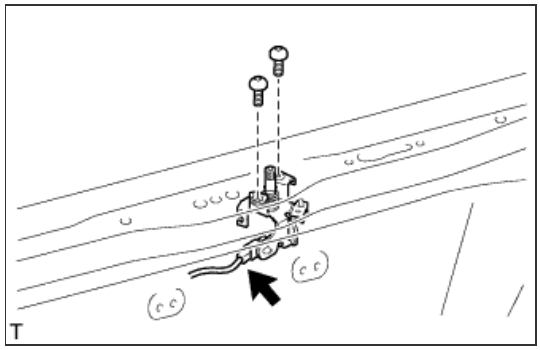
iv. Remove the back door remote control.



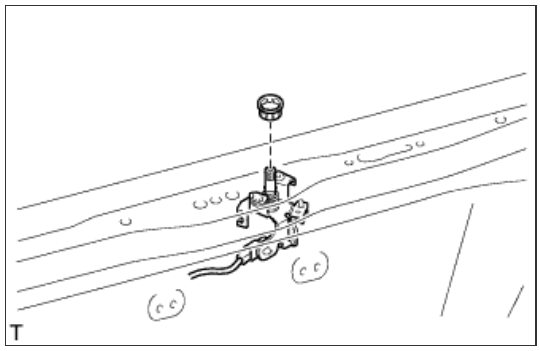
b. w/ Power Back Door:

i. Disconnect the connector.

ii. Remove the 2 screws and back door remote control.



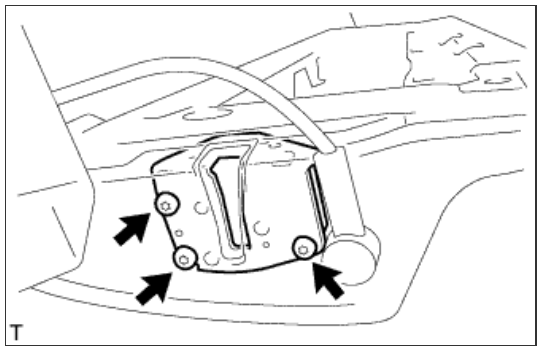
iii. Remove the back door handle grommet.



15. REMOVE LOWER TAIL GATE LOCK ASSEMBLY LH

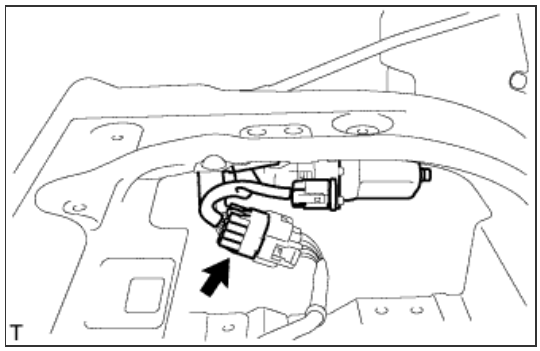
a. w/o Power Back Door:

i. Using a T30 "TORX" wrench, remove the 3 screws and lower tail gate lock.

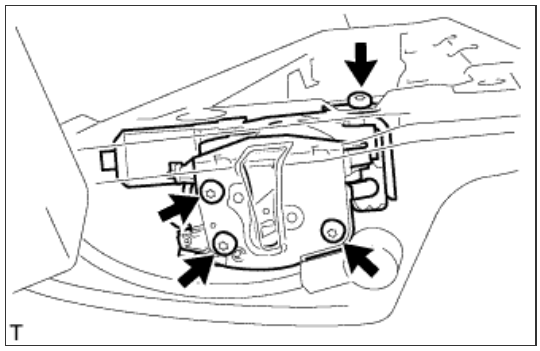


b. w/ Power Back Door:

i. Disconnect the connector.

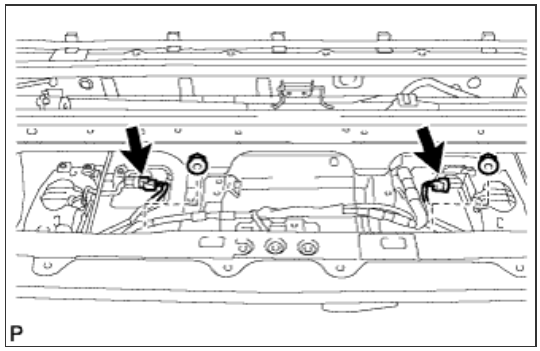


ii. Using a T30 "TORX" wrench, remove the 4 screws and lower tail gate lock.



16. REMOVE NO. 2 BACK DOOR GARNISH SUB-ASSEMBLY OUTSIDE

a. Remove the 2 nuts and disconnect the 2 connectors.

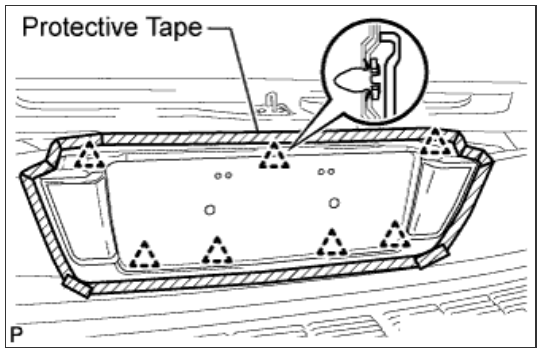


b. Put protective tape around the garnish.

c. Detach the 7 clips and remove the garnish.

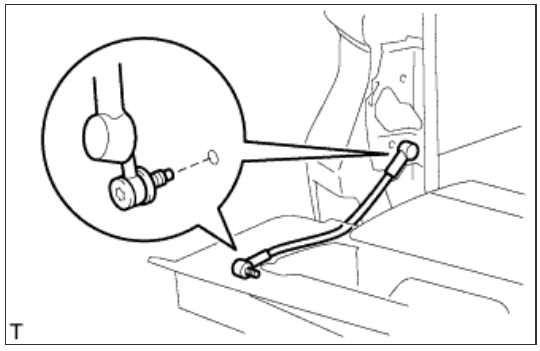
HINT:

Detach the clips from the backside of the garnish.



17. REMOVE TAIL GATE STAY SUB-ASSEMBLY LH

a. Using a T40 "TORX" socket, remove the 2 screws and tail gate stay.



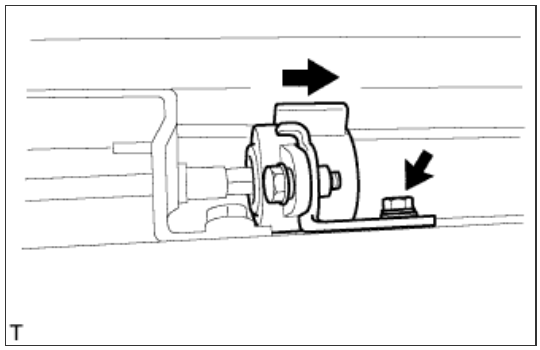
18. REMOVE TAIL GATE STAY SUB-ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

19. REMOVE BACK DOOR DAMPER ASSEMBLY

a. Remove the bolt and back door damper.


T

for Preparation Click here

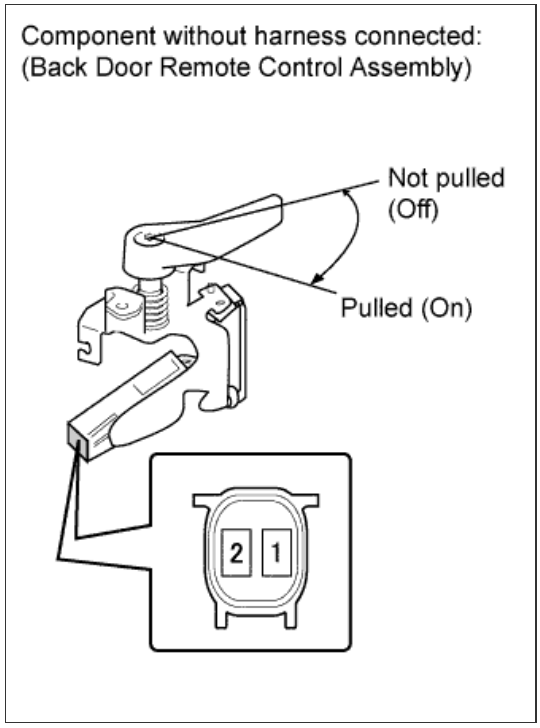
1. INSPECT BACK DOOR REMOTE CONTROL ASSEMBLY

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - 2	Back door remote control is pulled (on)	Below 1 Ω
1 - 2	Back door remote control is not pulled (off)	10 kΩ or higher

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



2. INSPECT LOWER TAIL GATE LOCK ASSEMBLY LH

a. Operation check:

i. Set the lower tail gate lock LH to the full-latch position.

ii. Apply battery voltage and check operation of the lower tail gate lock motor LH.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 6 (ACT-) Battery negative (-) → Terminal 5 (ACT+)	Latch turns to open-latch position

If the result is not as specified, replace the lower tail gate lock assembly LH.

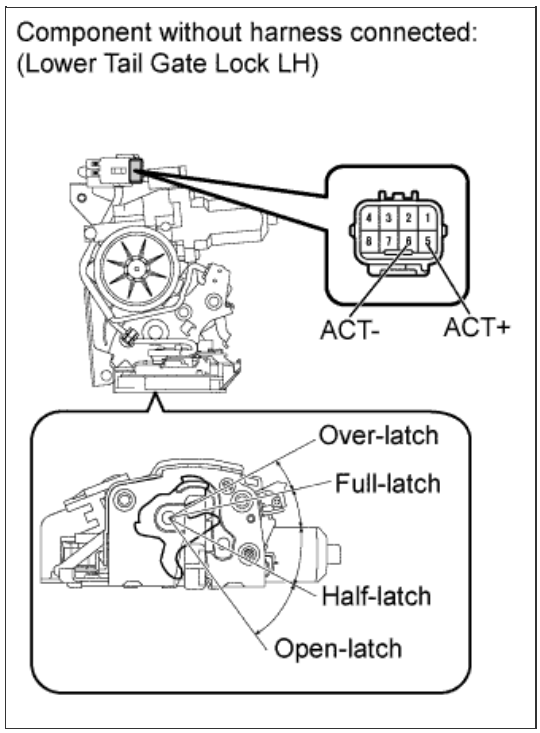
iii. Set the lower tail gate lock LH to the half-latch position.

iv. Apply battery voltage and check operation of the lower tail gate lock motor LH.

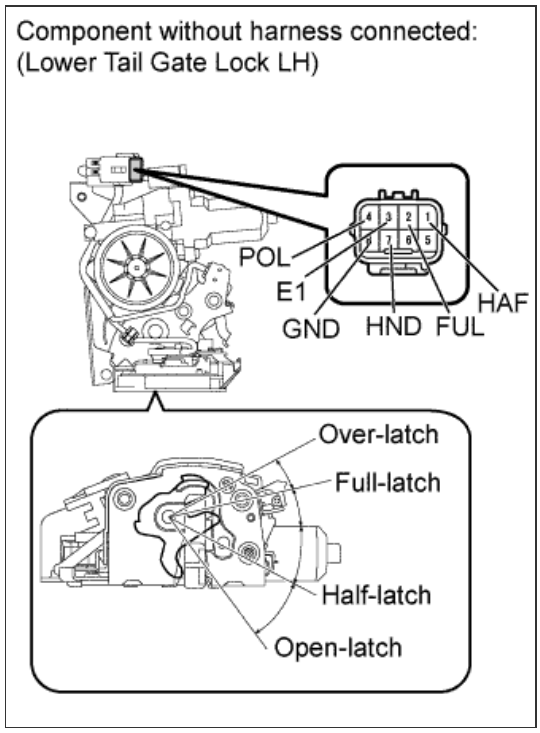
OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 5 (ACT+) Battery negative (-) → Terminal 6 (ACT-)	Latch turns to over-latch position

If the result is not as specified, replace the lower tail gate lock assembly LH.



b. Resistance check:



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

Standard Resistance:

Close Position Switch

Tester Connection	Condition	Specified Condition
7 (HND) - 8 (GND)	Over-latch	Below 1 Ω
7 (HND) - 8 (GND)	Full-latch	10 kΩ or higher
7 (HND) - 8 (GND)	Half-latch	10 kΩ or higher
7 (HND) - 8 (GND)	Open-latch	10 kΩ or higher

If the result is not as specified, replace the lower tail gate lock assembly LH.

Lower Tail Gate Courtesy Switch:

Tester Connection	Condition	Specified Condition
2 (FUL) - 3 (E1)	Over-latch	10 kΩ or higher
2 (FUL) - 3 (E1)	Full-latch	10 kΩ or higher
2 (FUL) - 3 (E1)	Half-latch	Below 1 Ω
2 (FUL) - 3 (E1)	Open-latch	Below 1 Ω

If the result is not as specified, replace the lower tail gate lock assembly LH.

Half-latch Switch:

Tester Connection	Condition	Specified Condition
1 (HAF) - 3 (E1)	Over-latch	10 kΩ or higher
1 (HAF) - 3 (E1)	Full-latch	Below 1 Ω
1 (HAF) - 3 (E1)	Half-latch	10 kΩ or higher
1 (HAF) - 3 (E1)	Open-latch	Below 1 Ω

If the result is not as specified, replace the lower tail gate lock assembly LH.

Pawl Switch:

Tester Connection	Condition	Specified Condition
4 (POL) - 3 (E1)	Over-latch	10 kΩ or higher
4 (POL) - 3 (E1)	Full-latch	Below 1 Ω
4 (POL) - 3 (E1)	Half-latch	Below 1 Ω
4 (POL) - 3 (E1)	Open-latch	10 kΩ or higher

If the result is not as specified, replace the lower tail gate lock assembly LH.

3. INSPECT LOWER TAIL GATE LOCK ASSEMBLY RH

a. Operation check:

i. Set the lower tail gate lock RH to the full-latch position.

ii. Apply battery voltage and check operation of the lower tail gate lock motor RH.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 6 (ACT-) Battery negative (-) →	Latch turns to open-latch position

Terminal 5 (ACT+)

If the result is not as specified, replace the lower tail gate lock assembly RH.

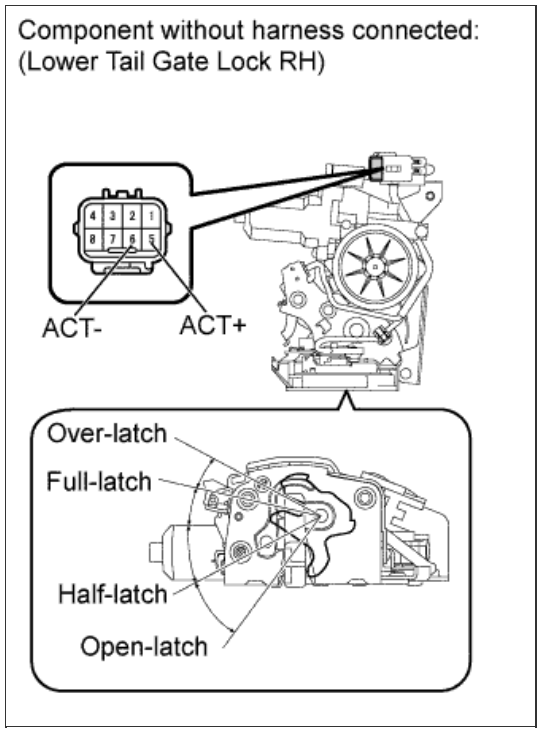
iii. Set the lower tail gate lock RH to the half-latch position.

iv. Apply battery voltage and check operation of the lower tail gate lock motor RH.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 5 (ACT+) Battery negative (-) → Terminal 6 (ACT-)	Latch turns to over-latch position

If the result is not as specified, replace the lower tail gate lock assembly RH.



b. Resistance check:

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

Standard Resistance:

Close Position Switch

Tester Connection	Condition	Specified Condition
7 (HND) - 8 (GND)	Over-latch	Below 1 Ω
7 (HND) - 8 (GND)	Full-latch	10 kΩ or higher
7 (HND) - 8 (GND)	Half-latch	10 kΩ or higher
7 (HND) - 8 (GND)	Open-latch	10 kΩ or higher

If the result is not as specified, replace the lower tail gate lock assembly RH.

Lower Tail Gate Courtesy Switch:

Tester Connection	Condition	Specified Condition
2 (FUL) - 3 (E1)	Over-latch	10 kΩ or higher
2 (FUL) - 3 (E1)	Full-latch	10 kΩ or higher
2 (FUL) - 3 (E1)	Half-latch	Below 1 Ω
2 (FUL) - 3 (E1)	Open-latch	Below 1 Ω

If the result is not as specified, replace the lower tail gate lock assembly RH.

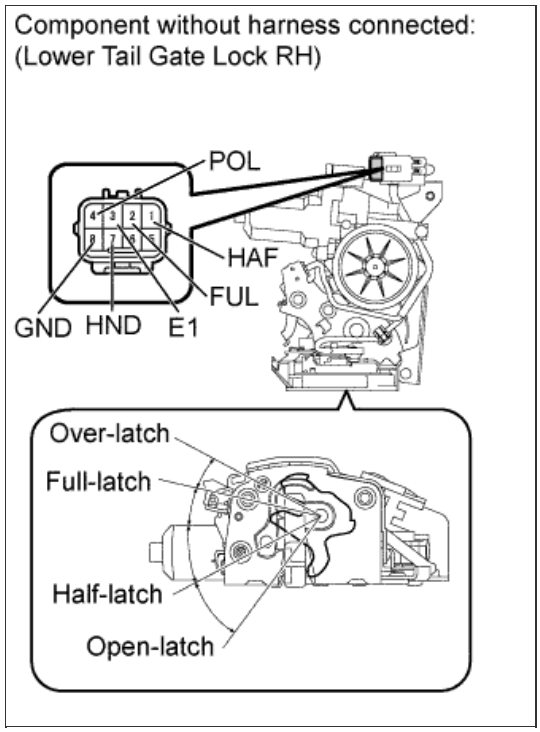
Half-latch Switch:

Tester Connection	Condition	Specified Condition
1 (HAF) - 3 (E1)	Over-latch	10 kΩ or higher
1 (HAF) - 3 (E1)	Full-latch	Below 1 Ω
1 (HAF) - 3 (E1)	Half-latch	10 kΩ or higher
1 (HAF) - 3 (E1)	Open-latch	Below 1 Ω

If the result is not as specified, replace the lower tail gate lock assembly RH.

Pawl Switch:

Tester Connection	Condition	Specified Condition
4 (POL) - 3 (E1)	Over-latch	10 kΩ or higher
4 (POL) - 3 (E1)	Full-latch	Below 1 Ω



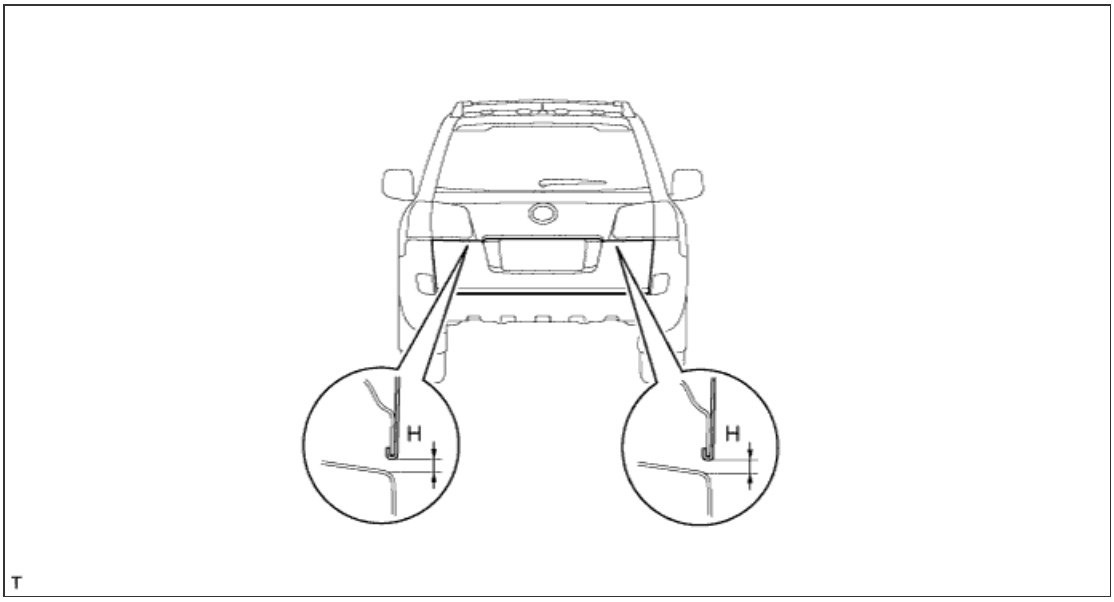
4 (POL) - 3 (E1)	Half-latch	Below 1 Ω
4 (POL) - 3 (E1)	Open-latch	10 kΩ or higher

If the result is not as specified, replace the lower tail gate lock assembly RH.

for Preparation Click here

1. INSPECT TAIL GATE PANEL SUB-ASSEMBLY

a. Check that the clearance measurements of area H are within the standard range.



Standard:

Area	Specified Condition
H	3.6 to 6.6 mm (0.142 to 0.260 in.)

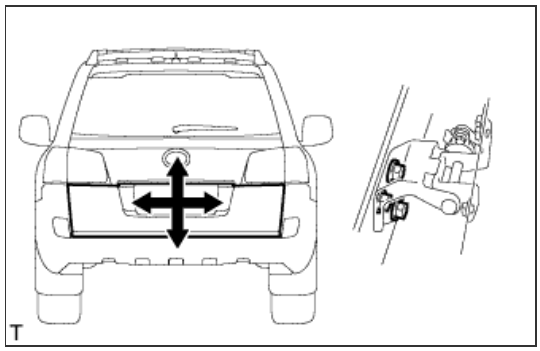
2. ADJUST TAIL GATE PANEL SUB-ASSEMBLY

a. Loosen the hinge bolts.

b. Adjust the tail gate by moving it up and down and left and right so that the dimensions are within the specified range.

c. Tighten the hinge bolts.

Torque:
28 N*m{ 286 kgf*cm , 21 ft.*lbf }

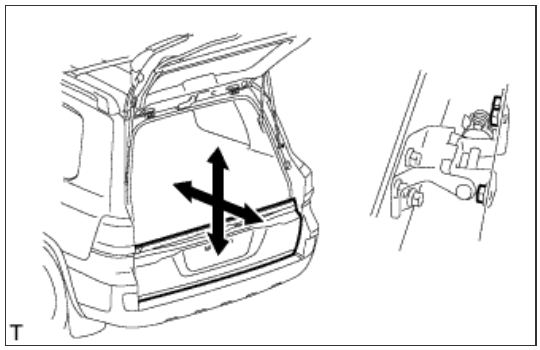


d. Loosen the hinge bolts.

e. Adjust the tail gate by moving it up and down and forward and backward so that the dimensions are within the specified range.

f. Tighten the hinge bolts.

Torque:
31 N*m{ 316 kgf*cm , 23 ft.*lbf }

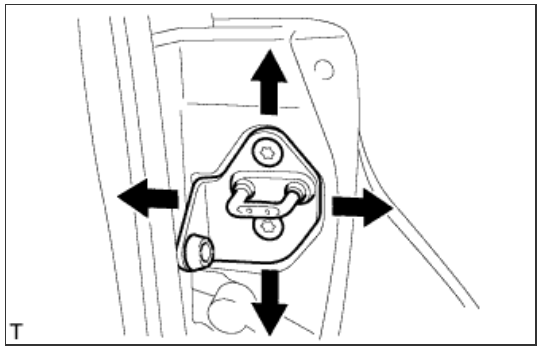


3. ADJUST DOOR LOCK STRIKER

a. Using a T40 "TORX" socket, adjust the striker position by slightly loosening the striker mounting screws and hitting the striker with a plastic-faced hammer.

b. Using a T40 "TORX" socket, tighten the striker mounting screws after the adjustment.

Torque:
12 N*m{ 122 kgf*cm , 9 ft.*lbf }



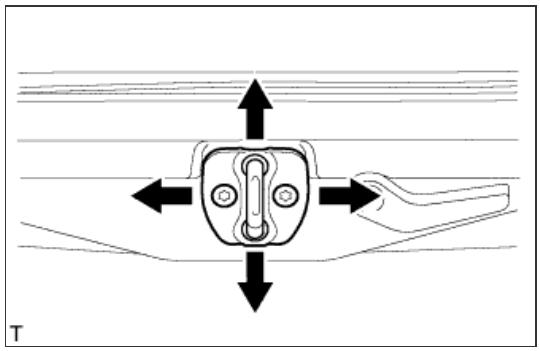
4. ADJUST REAR SWING GATE LOCK STRIKER

a. Check that the door fit and door linkages are adjusted correctly.

b. Using a T40 "TORX" socket, adjust the striker position by slightly loosening the striker mounting screws and hitting the striker with a plastic-faced hammer.

c. Using a T40 "TORX" socket, tighten the striker mounting screws after the adjustment.

Torque:
12 N*m{ 122 kgf*cm , 9 ft.*lbf }

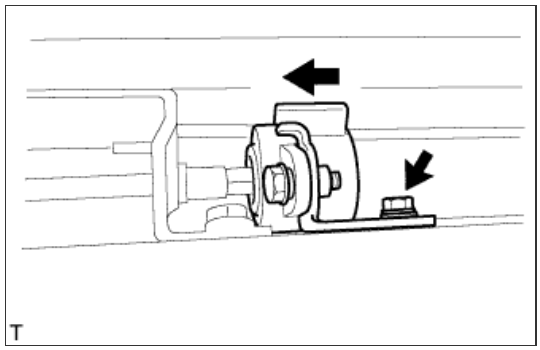


for Preparation Click here

1. INSTALL BACK DOOR DAMPER ASSEMBLY

a. Install the bolt and back door damper.

Torque:
7.5 N*m{ 76 kgf*cm , 66 in.*lbf }



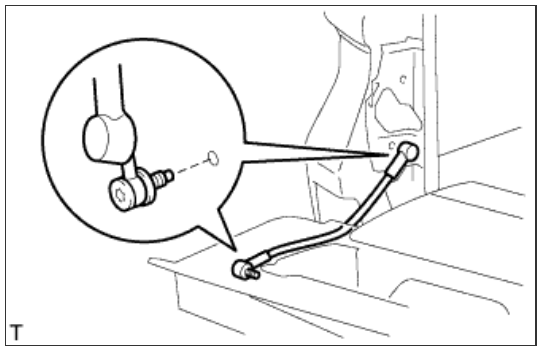
2. INSTALL TAIL GATE STAY SUB-ASSEMBLY LH

a. Clean the threaded surface on the vehicle body with a non-residue solvent.

b. Apply adhesive to the threads of the screws.

Adhesive:
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

c. Using a T40 "TORX" wrench, install the tail gate stay with the 2 screws.



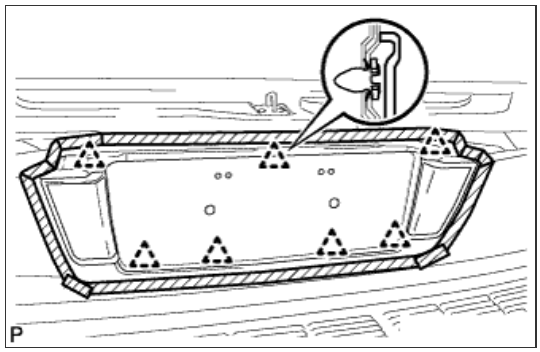
3. INSTALL TAIL GATE STAY SUB-ASSEMBLY RH

HINT:

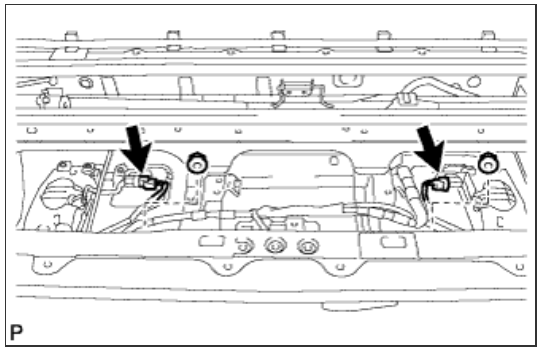
Use the same procedures described for the LH side.

4. INSTALL NO. 2 BACK DOOR GARNISH SUB-ASSEMBLY OUTSIDE

a. Attach the 7 clips to install the garnish.



b. Install the 2 nuts and connect the 2 connectors.

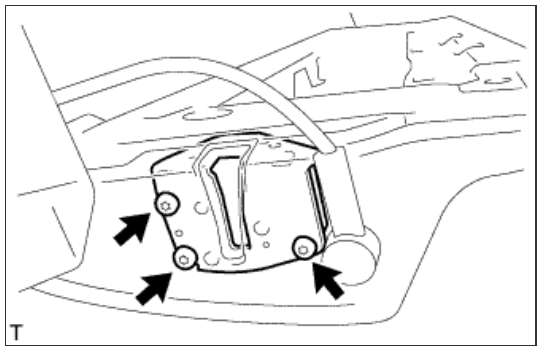


5. INSTALL LOWER TAIL GATE LOCK ASSEMBLY LH

a. w/o Power Back Door:

i. Using a T30 "TORX" wrench, install the lower tail gate lock with the 3 screws.

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



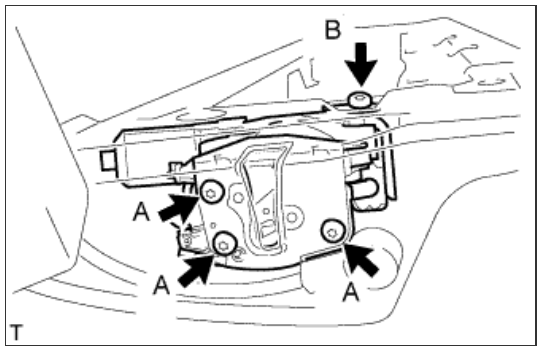
b. w/ Power Back Door:

i. Using a T30 "TORX" wrench, install the lower tail gate lock with the 3 screws labeled A.

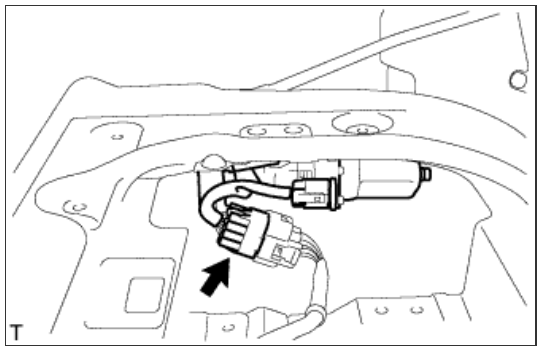
Torque:
5.0 N*m{ 51 kgf*cm , 44 in.*lbf }

ii. Using a T30 "TORX" wrench, install the screw labeled B.

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



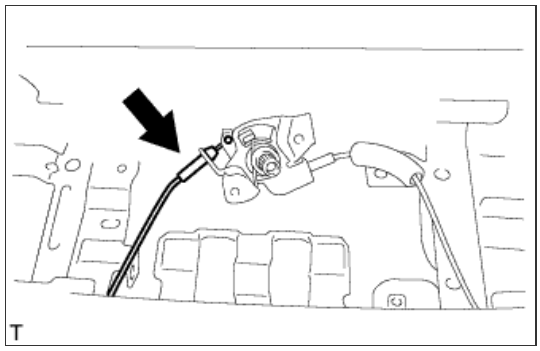
iii. Connect the connector.



6. INSTALL BACK DOOR REMOTE CONTROL ASSEMBLY

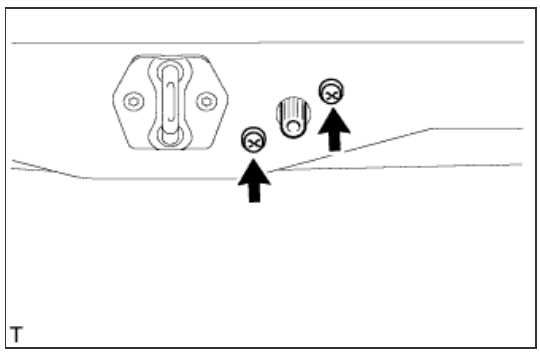
a. w/o Power Back Door:

i. Connect the left side cable.

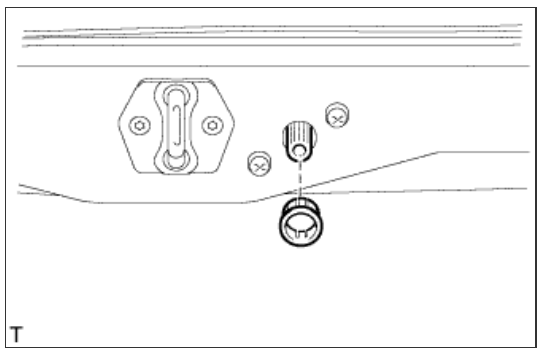


ii. Install the back door remote control with the 2 screws.

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



iii. Install the back door handle grommet.

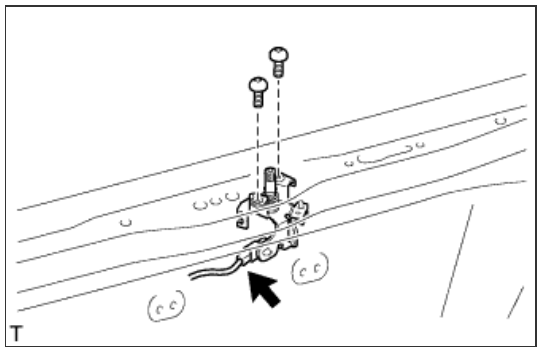


b. w/ Power Back Door:

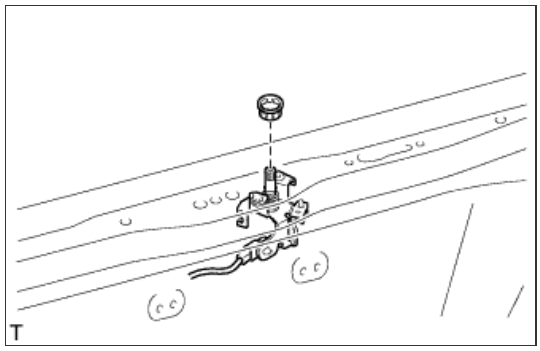
i. Connect the connector.

ii. Install the back door remote control with the 2 screws.

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



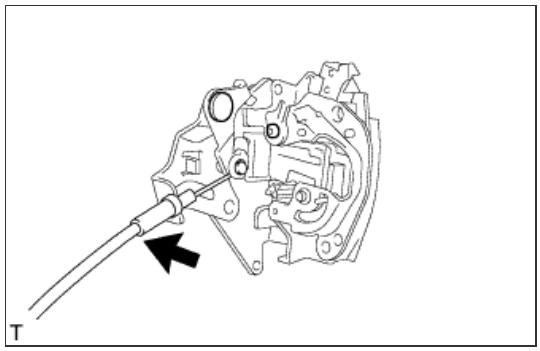
iii. Install the back door handle grommet.



7. INSTALL LOWER TAIL GATE LOCK ASSEMBLY RH

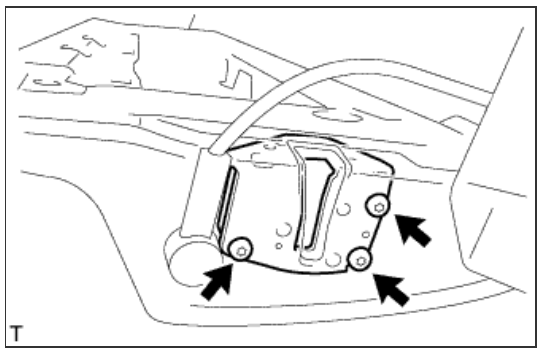
a. w/o Power Back Door:

i. Connect the cable to the lower tail gate lock.



ii. Using a T30 "TORX" wrench, install the lower tail gate lock with the 3 screws.

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



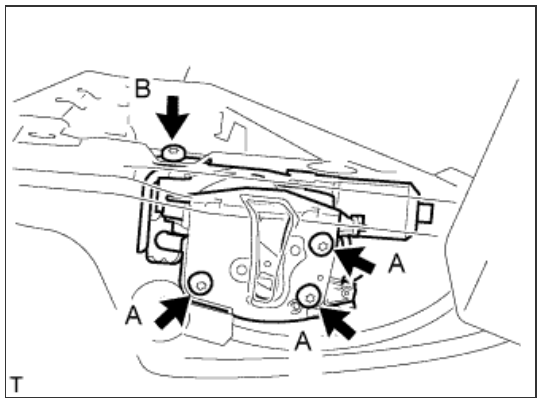
b. w/ Power Back Door:

i. Using a T30 "TORX" wrench, install the lower tail gate lock with the 3 screws labeled A.

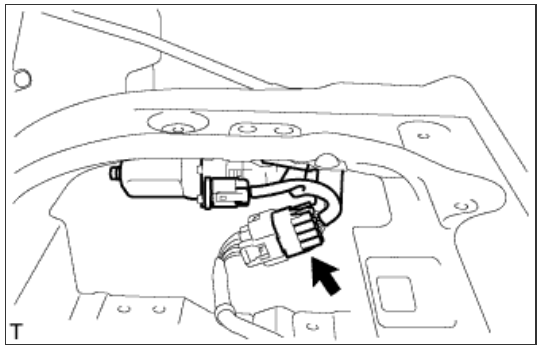
Torque:
5.0 N*m{ 51 kgf*cm , 44 in.*lbf }

ii. Using a T30 "TORX" wrench, install the screw labeled B.

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

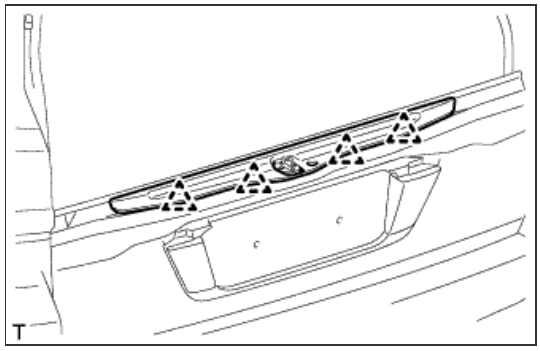


iii. Connect the connector.



8. INSTALL BACK DOOR GARNISH

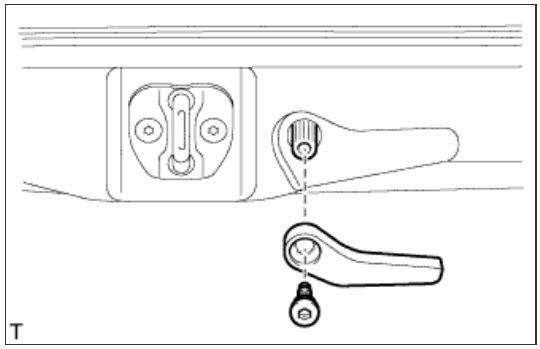
a. Attach the 4 clips to install the back door garnish.



9. INSTALL BACK DOOR INSIDE HANDLE ASSEMBLY

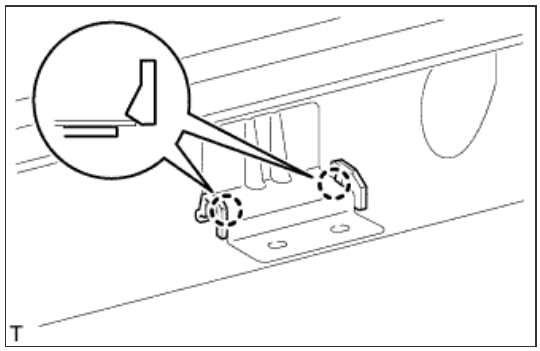
a. Install the back door inside handle with the screw.

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



10. INSTALL BACK DOOR TORSION BAR GUIDE

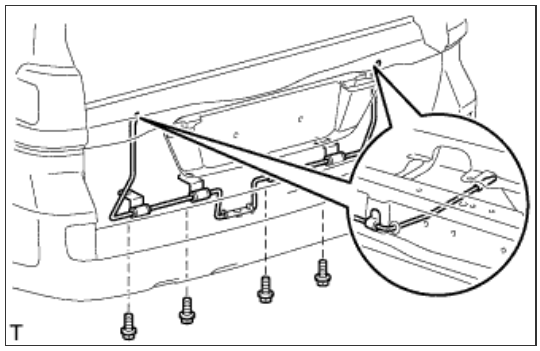
a. Attach the 2 claws to install the back door torsion bar guide.



11. INSTALL LOWER BACK DOOR TORSION BAR ASSEMBLY

a. Install the lower back door torsion bar with the 4 bolts.

Torque:
7.5 N*m{ 76 kgf*cm , 66 in.*lbf }



12. INSTALL SPARE TIRE

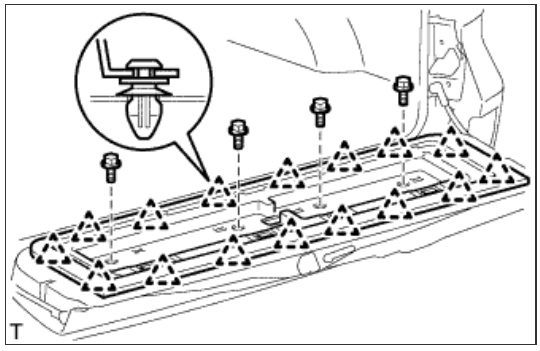
13. INSTALL REAR BUMPER COVER

a. Install the rear bumper cover (Click here).

14. INSTALL BACK DOOR TRIM PANEL ASSEMBLY

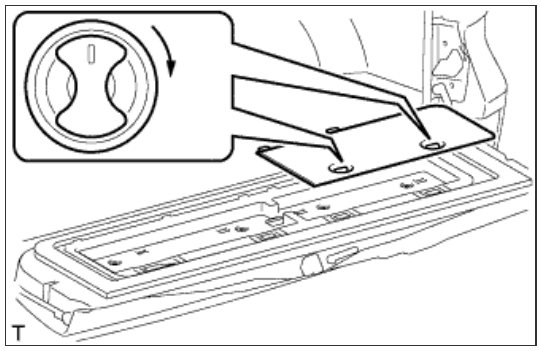
a. Attach the 16 clips to install the back door trim panel.

b. Install the 4 bolts.



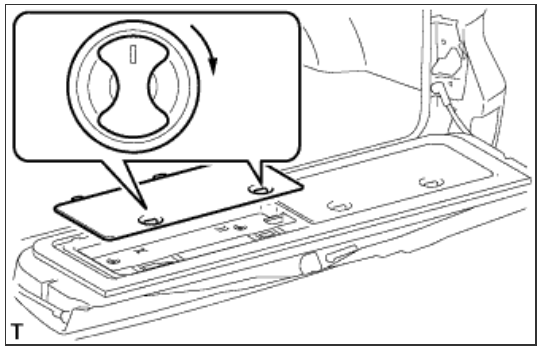
15. INSTALL BACK DOOR TRIM COVER RH

a. Install the back door trim cover RH as shown in the illustration.



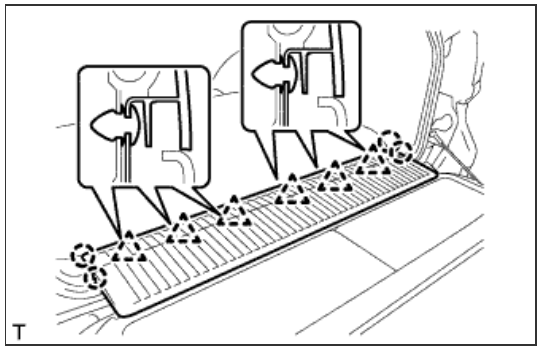
16. INSTALL BACK DOOR TRIM COVER LH

a. Install the back door trim cover LH as shown in the illustration.



17. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

a. Attach the 6 clips and 4 claws to install the support plate.



18. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

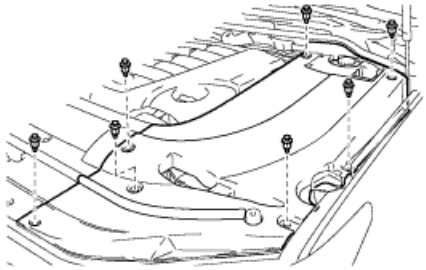
NOTICE:

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

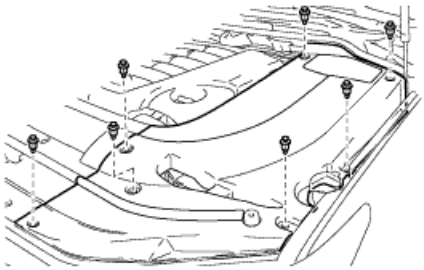
19. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

for LHD:

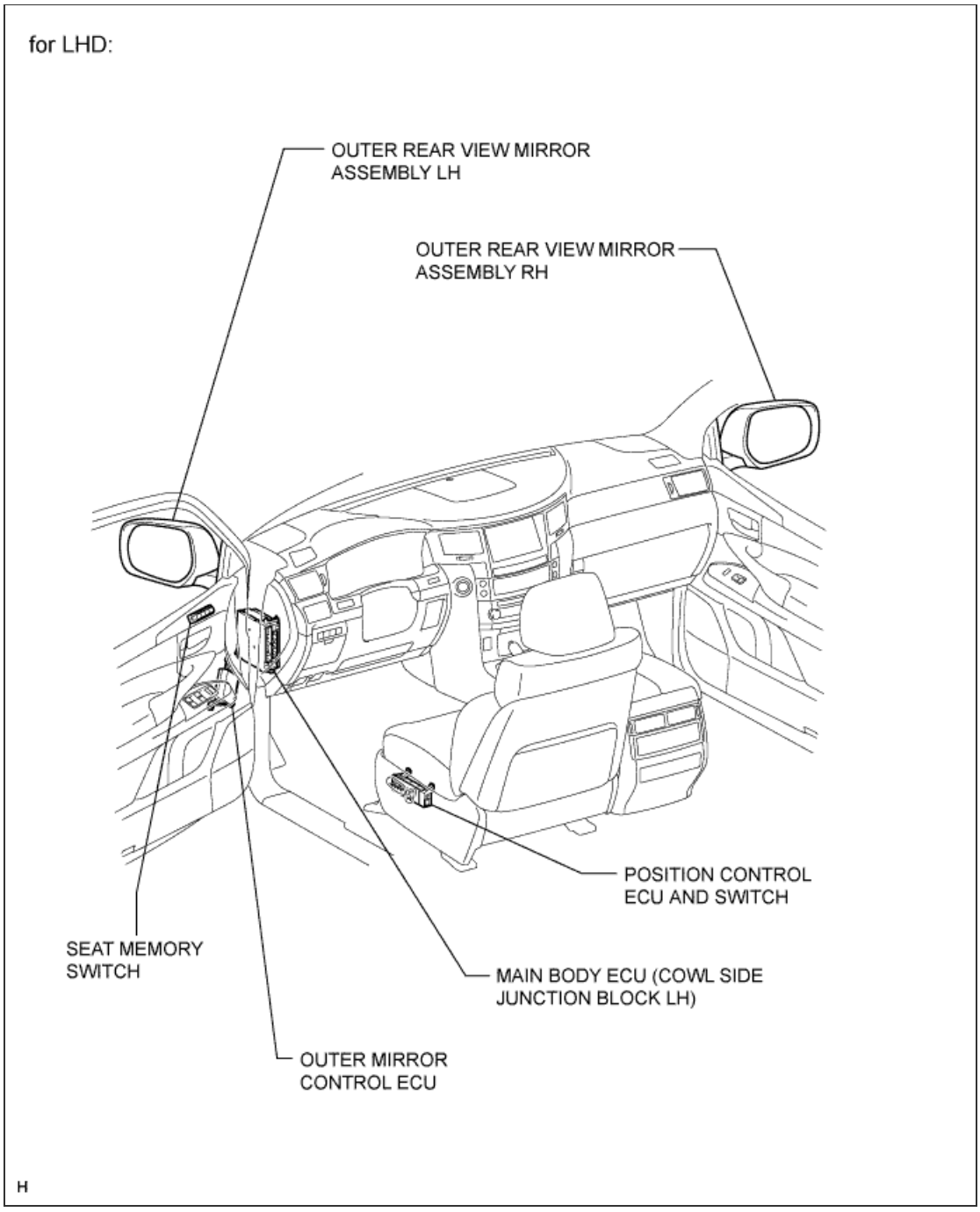


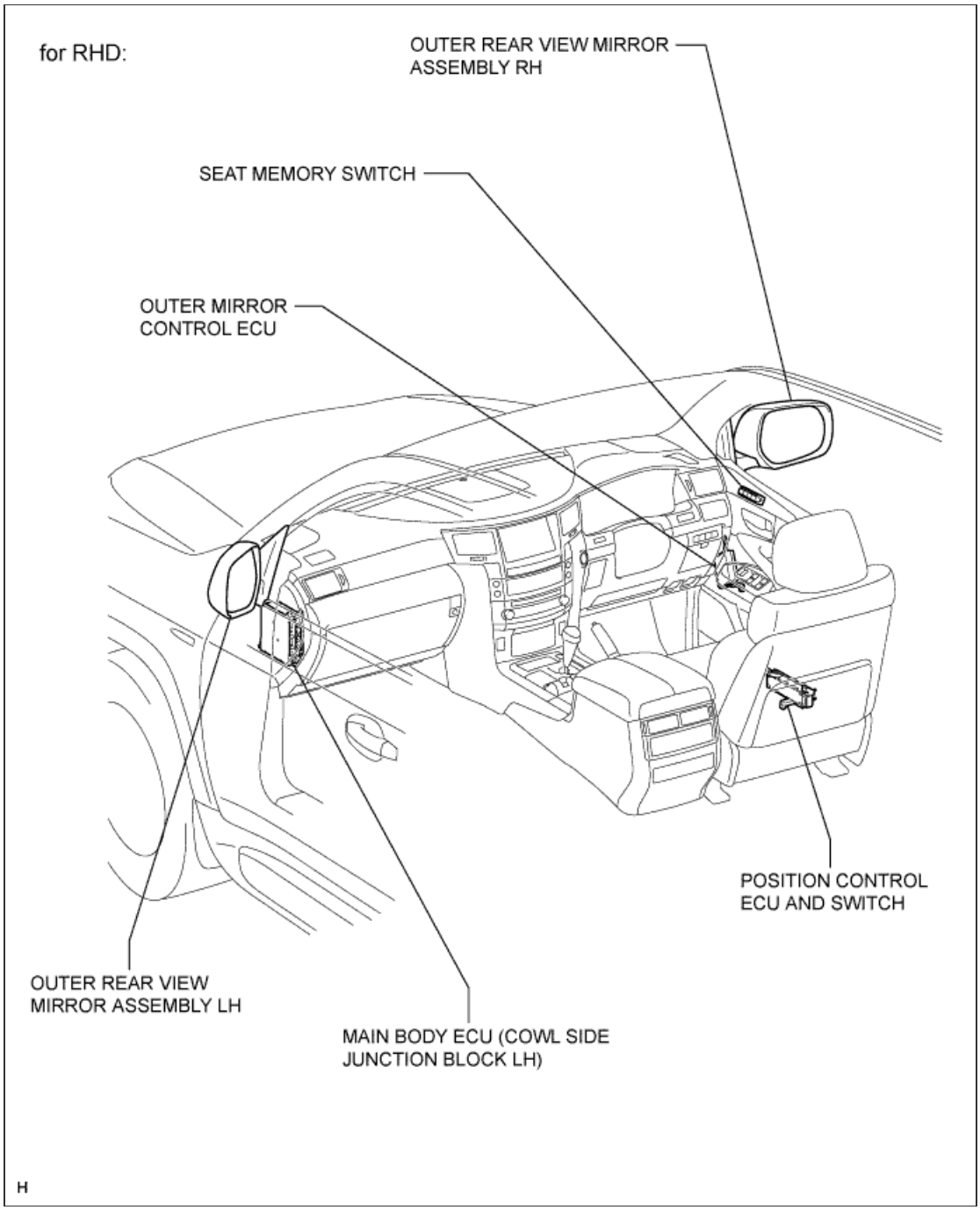
for RHD:

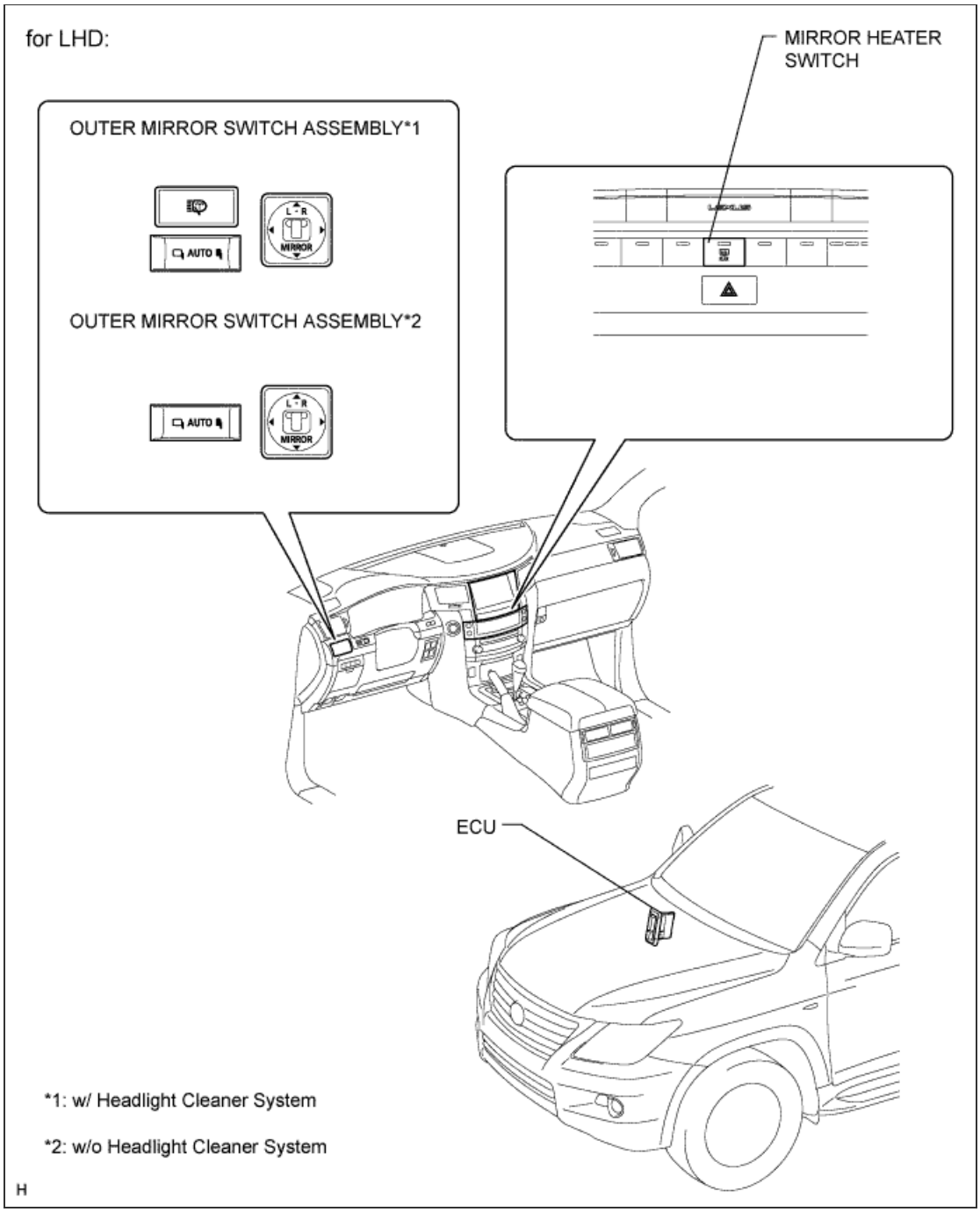


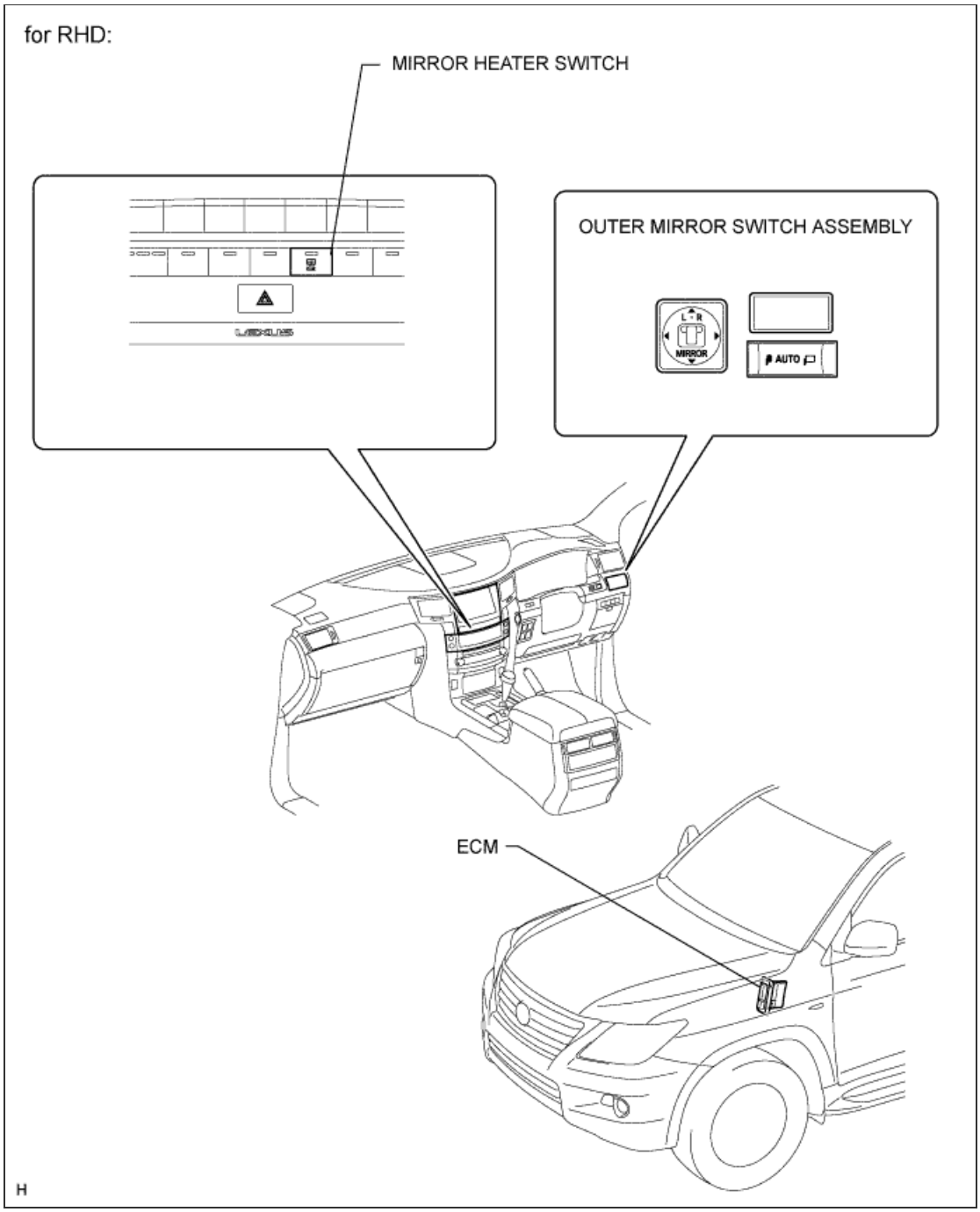
P

for Preparation Click here

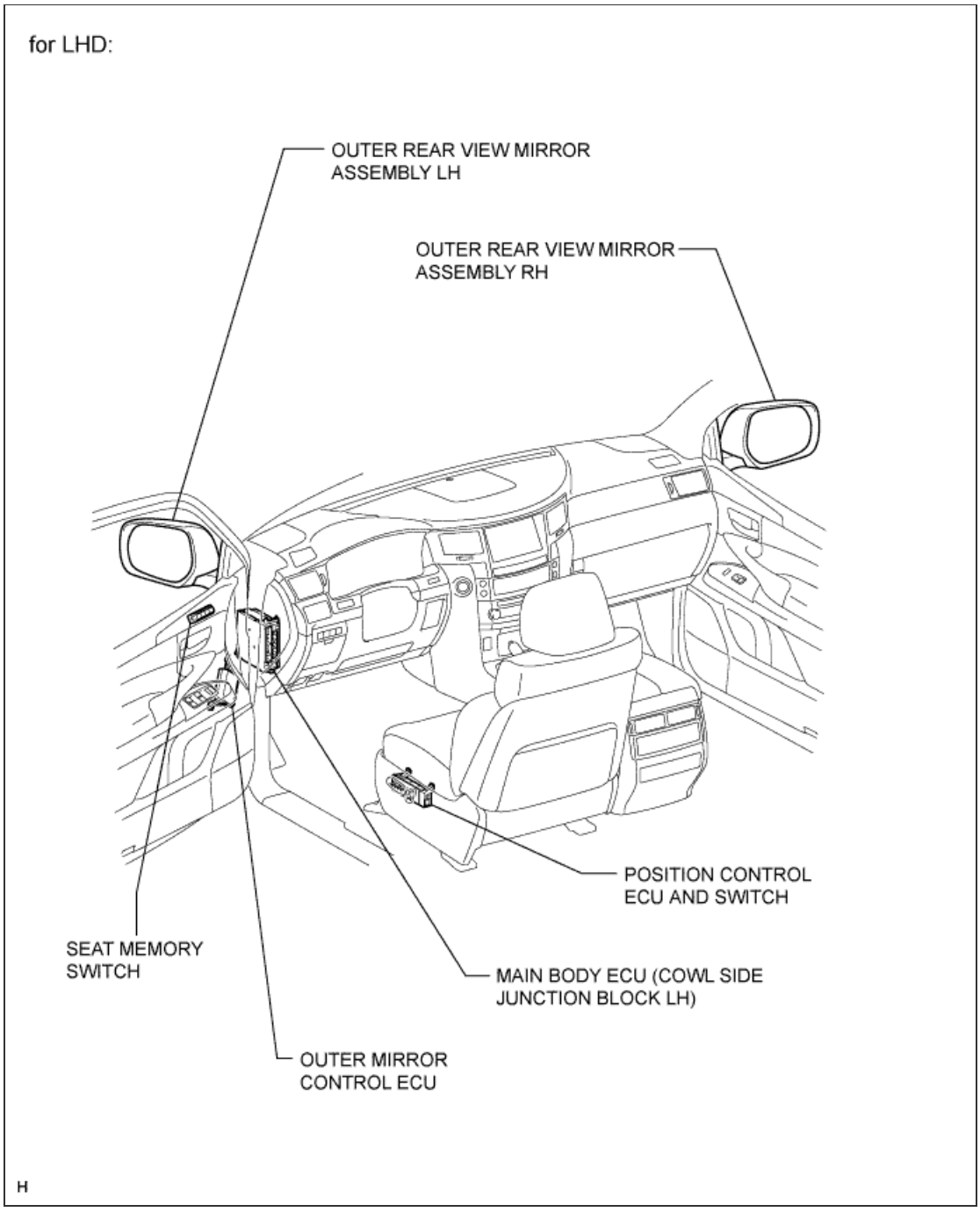


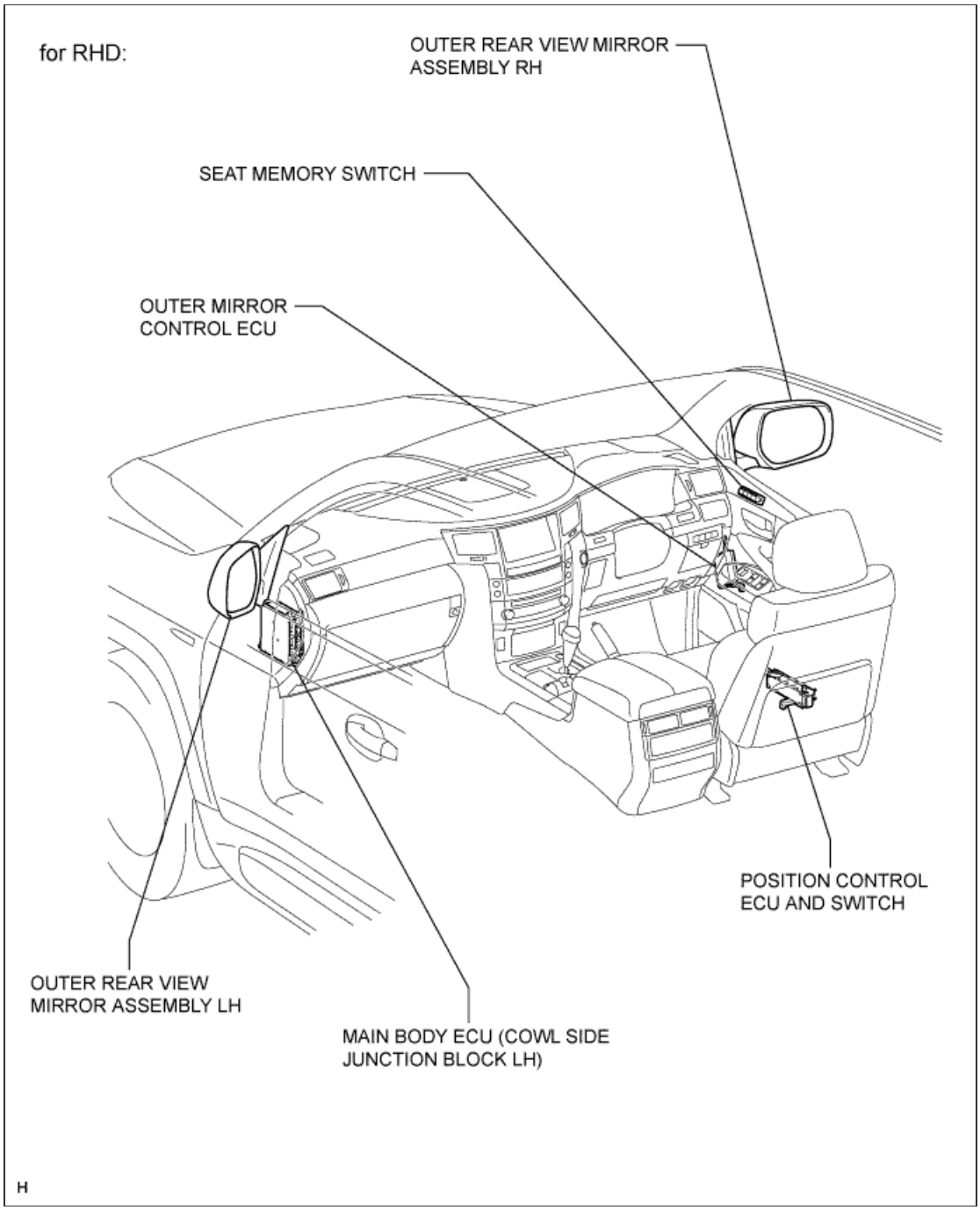

for RHD:
OUTER REAR VIEW MIRROR ASSEMBLY RH
SEAT MEMORY SWITCH
OUTER MIRROR CONTROL ECU
POSITION CONTROL ECU AND SWITCH
OUTER REAR VIEW MIRROR ASSEMBLY LH
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
H

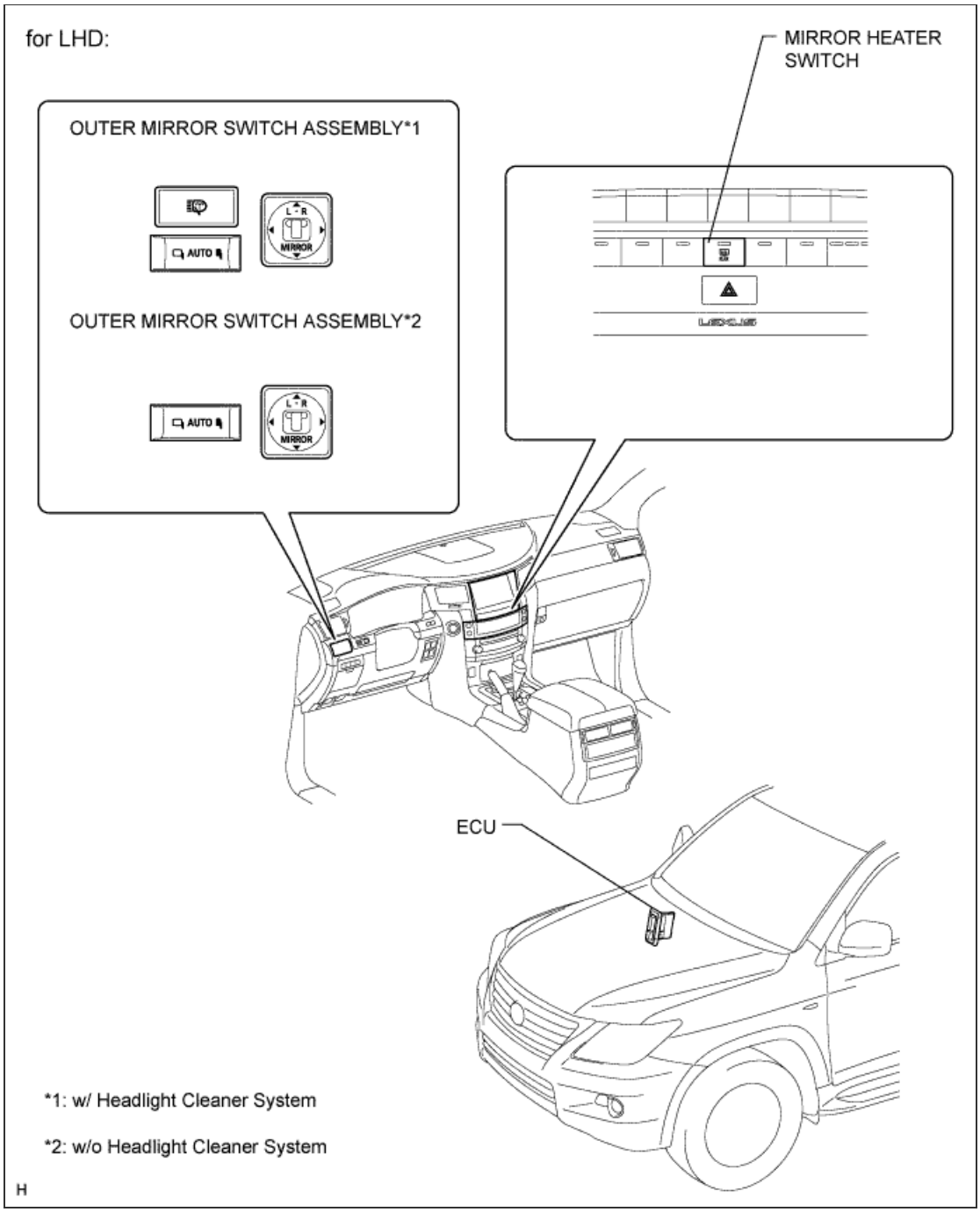

for LHD:
MIRROR HEATER SWITCH
OUTER MIRROR SWITCH ASSEMBLY*1
AUTO
L - R
MIRROR
OUTER MIRROR SWITCH ASSEMBLY*2
AUTO
L - R
MIRROR
ECU
*1: w/ Headlight Cleaner System
*2: w/o Headlight Cleaner System
H

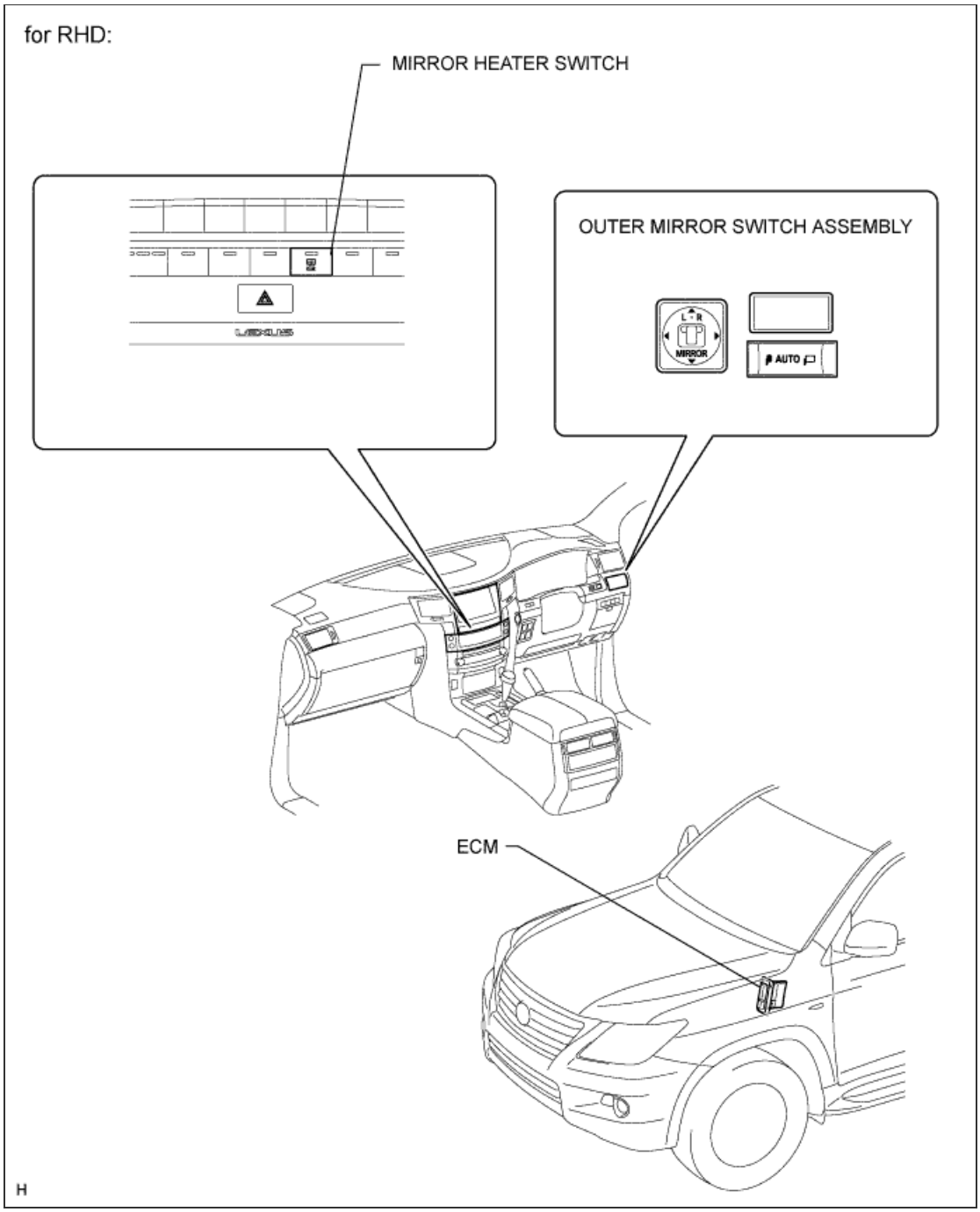

for RHD:
MIRROR HEATER SWITCH
OUTER MIRROR SWITCH ASSEMBLY
L R
MIRROR
AUTO
ECM
H

for Preparation Click here

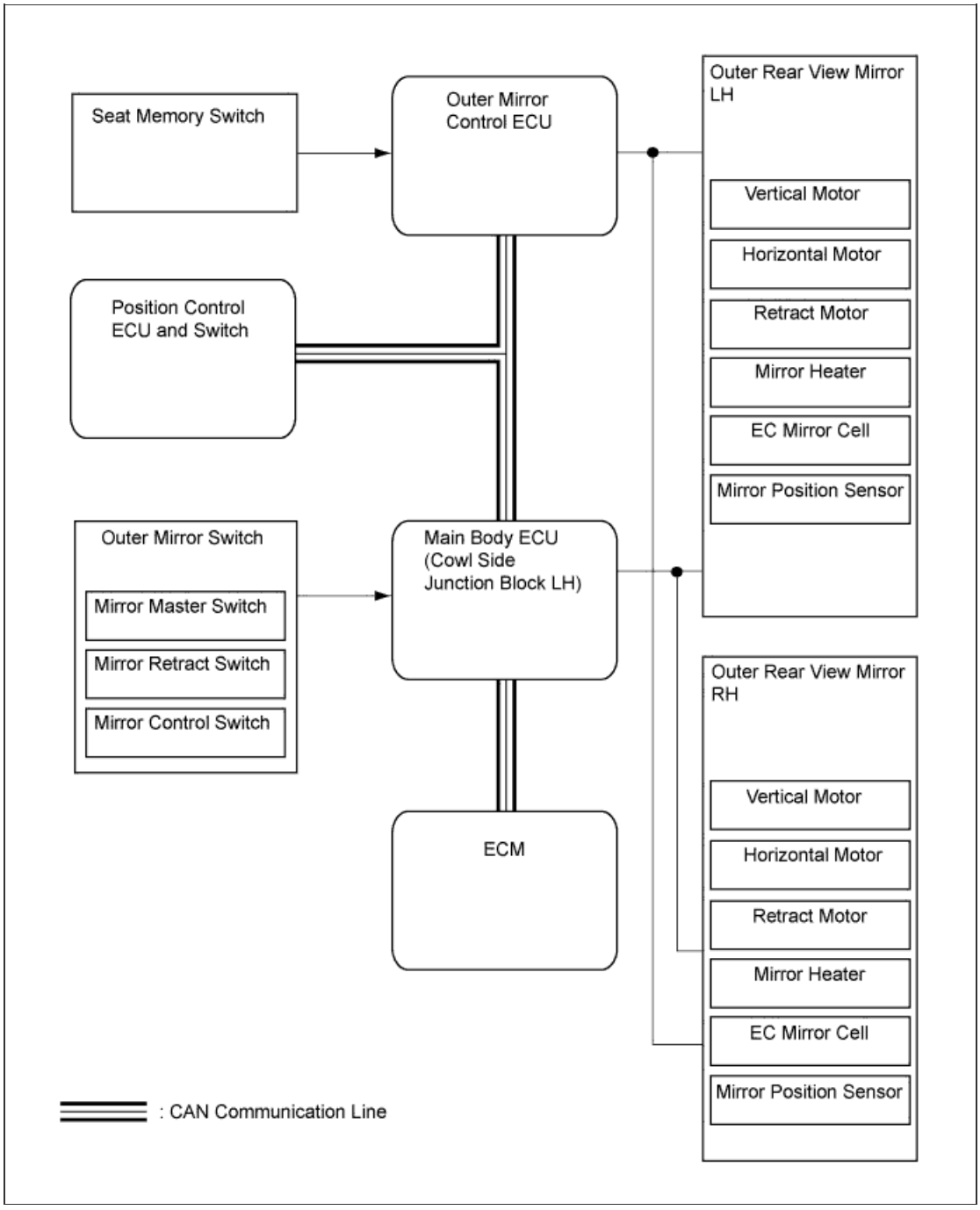



for RHD:
OUTER REAR VIEW MIRROR ASSEMBLY RH
SEAT MEMORY SWITCH
OUTER MIRROR CONTROL ECU
POSITION CONTROL ECU AND SWITCH
OUTER REAR VIEW MIRROR ASSEMBLY LH
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
H


for LHD:
MIRROR HEATER SWITCH
OUTER MIRROR SWITCH ASSEMBLY*1
AUTO
L R
MIRROR
OUTER MIRROR SWITCH ASSEMBLY*2
AUTO
L R
MIRROR
ECU
*1: w/ Headlight Cleaner System
*2: w/o Headlight Cleaner System
H


for RHD:
MIRROR HEATER SWITCH
OUTER MIRROR SWITCH ASSEMBLY
L R
MIRROR
AUTO
ECM
H

for Preparation Click here



Communication Table

Sender	Receiver	Signal	Line
Main body ECU	Outer mirror control ECU	• Mirror master switch signal • Mirror control switch signal • Mirror retract switch signal	CAN
Position control ECU and switch	Outer mirror control ECU	• Mirror position storage signal • Mirror position reproduction signal	CAN
ECM	Outer mirror control ECU	Reverse signal	CAN

for Preparation Click here

POWER MIRROR CONTROL SYSTEM DESCRIPTION

a. This system has the following functions: automatic glare-resistant electrochromic (EC) mirror, reverse shift-linked mirror, electrical remote control type mirror, memory function, and rear window defogger-linked mirror heater.

FUNCTION OF MAIN COMPONENT

Components	Function
Vertical mirror motor	Receives a signal from the mirror control ECU and adjusts the remote control mirror vertically.
Horizontal mirror motor	Receives a signal from the mirror control ECU and adjusts the remote control mirror horizontally.
Mirror retract motor	Receives a signal from the mirror control ECU, and retracts and returns the remote control mirror.
Mirror heater	Receives a signal from the A/C amplifier and starts the mirror heater.
EC mirror cell	Varies the reflection rate of the mirror through the function of the EC elements.
Mirror retract switch	Retracts and returns the remote control mirror. Mirror retract and return signals are sent to the mirror control ECU from the main body ECU.
Mirror master switch	Consists of R and L switches. One must be chosen before the mirror control switches can be operated.
Outer mirror control ECU	Sends operation signals to each motor.
Mirror control switch	Mirror R and L signals are sent to the outer mirror control ECU from the outer mirror switch. After selecting the R or L switch, the right, left, up and down control switches change the angle of the mirror.
Mirror position sensor	Detects the remote control mirror position. This data is detected by the mirror control ECU.
Seat memory switch	When the seat memory SET switch and seat memory switch are pressed simultaneously, a signal is input to the outer mirror control ECU and the position control ECU and switch, which records the mirror position. When the seat memory switch is pressed, a signal is input to the mirror control ECU and sent to the position control ECU and switch which changes the mirror position to the recorded position.

SYSTEM OPERATION

a. The remote control mirror has the following features.

Function	Outline
Manual electrical retractable mirror	When the mirror retract switch is pushed to the fold position, the mirror body moves to the retracted position. When the mirror retract switch is pushed to the return position, the mirror body moves to the driving position.
Auto electrical retractable mirror	When the mirror retract switch is set to the AUTO position, the mirror body moves to the retracted or driving position according to whether the vehicle is locked or unlocked.
Reverse shift-linked mirror	Directs the mirror surface downward to improve visibility when driving in reverse and all the conditions below are met: • The engine switch is on (IG). • The shift lever is moved from other than R to R. • The mirror master switch is in the R or L position.
Electrical remote control type mirror	When the mirror control switch is operated, this function moves the mirror surface vertically or horizontally to enable the driver to attain optimal mirror angle. Setting the mirror master switch to the R position operates the right mirror, and setting it to the L position operates the left mirror.
Rear window defogger-linked mirror heater	Automatically turns on the mirror heater when the rear window defogger switch is turned on. The rear window defogger and mirror heater automatically turn

	off after 15 min.
Automatic glare-resistant EC mirror	Reduces glare/reflection in the mirror during nighttime driving for safe driving conditions. Glare/reflection from vehicle headlights from behind could blind the driver and cause dangerous driving conditions.
Memory function	Stores the adjusted mirror position in the outer mirror control ECU.

for Preparation Click here

HINT:

- **Use the following procedures to troubleshoot the power mirror 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.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.ADJUST, REPAIR OR REPLACE

NEXT

7.CONFIRMATION TEST

NEXT

END

for Preparation Click here

HINT:

- **Use the following procedures to troubleshoot the power mirror 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.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.ADJUST, REPAIR OR REPLACE

NEXT

7.CONFIRMATION TEST

NEXT

END

for Preparation Click here

CHECK POWER MIRROR SWITCH OPERATION OF INTEGRATION CONTROL AND PANEL

a. Turn the engine switch on (ACC).

b. With the mirror master switch set to L, check that the mirror surface moves up, down, left and right normally.

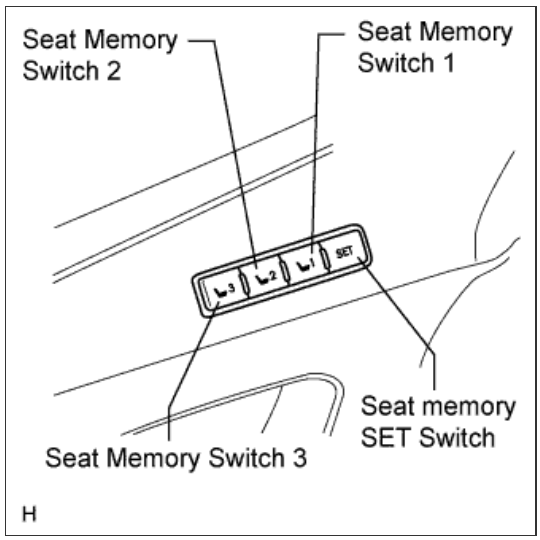
c. With the mirror master switch set to R, check that the mirror surface moves up, down, left and right normally.

CHECK MEMORY AND REACTIVATION FUNCTION

HINT:

The seat memory SET switch, seat memory switch 1, seat memory switch 2 and seat memory switch 3 of the seat memory switch are shown in the illustration.

a. Turn the engine switch on (IG) and move the shift lever to P.

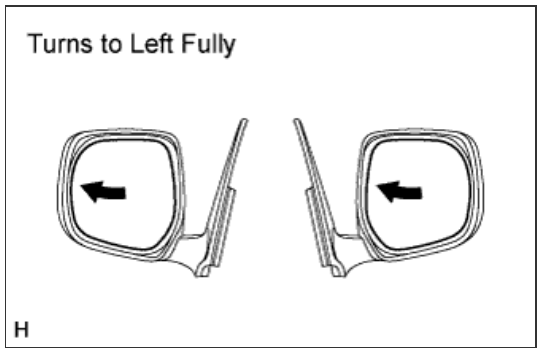


b. Check the seat memory switch 1.

i. Using the mirror master switch and mirror control switch, fully turn the mirror to the left.

ii. Check that the buzzer sounds for 0.5 seconds and the outer mirror position is memorized when the seat memory switch 1 is pressed while the seat memory SET switch is being pressed.

iii. Change the position of the outer mirror and then press the seat memory switch 1. Check that the buzzer sounds for 0.1 seconds and the outer mirror automatically moves to the recorded fully-turned-left position.

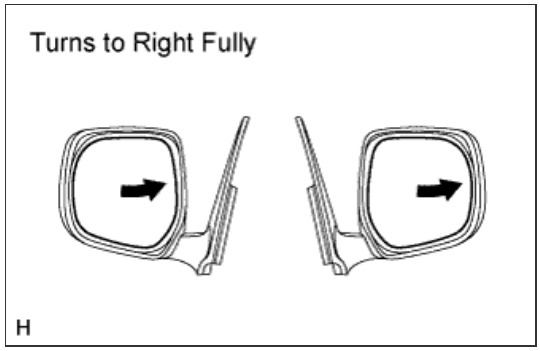


c. Check the seat memory switch 2.

i. Using the mirror master switch and mirror control switch, fully turn the mirror to the right.

ii. Check that the buzzer sounds for 0.5 seconds and the outer mirror position is memorized when the seat memory switch 2 is pressed while the seat memory SET switch is being pressed.

iii. Change the position of the outer mirror and then press the seat memory switch 2. Check that the buzzer sounds for 0.1 seconds and the outer mirror automatically moves to the recorded fully-turned-right position.

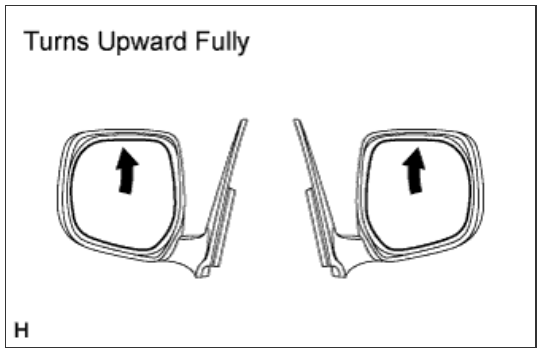


d. Check the seat memory switch 3.

i. Using the mirror master switch and mirror control switch, fully turn the mirror upward.

ii. Check that the buzzer sounds for 0.5 seconds and the outer mirror position is memorized when the seat memory switch 3 is pressed while the seat memory SET switch is being pressed.

iii. Change the position of the outer mirror and then press the seat memory switch 3. Check that the buzzer sounds for 0.1 seconds and the outer mirror automatically moves to the recorded fully-upward position.



e. When the outer mirror is in the driving position, check that the seat memory switch 1, seat memory switch 2 and seat memory switch 3 cause the outer mirror to move to the recorded outer mirror positions under these conditions: turn the engine switch off, open the driver side door and press the seat memory switch 1, seat memory switch 2 or seat memory switch 3 within 20 seconds.

f. Check that the following procedures clears the recorded outer mirror positions of the seat memory switch 1, seat memory switch 2 and seat memory switch 3: press and hold the power seat slide switch; disconnect the cable from the negative (-) battery terminal; and wait for at least 1 minute.

g. Confirm that all recorded outer mirror positions are cleared. Then attempt to record the outer mirror position by pressing and holding the seat memory SET switch and 2 other switches (among seat memory switch 1, seat memory switch 2 and seat memory switch 3). Check that no outer mirror positions are recorded by individually pressing seat memory switch 1, seat memory switch 2 and seat memory switch 3 and making sure that the outer mirror does not move.

CHECK POWER RETRACTABLE MIRROR

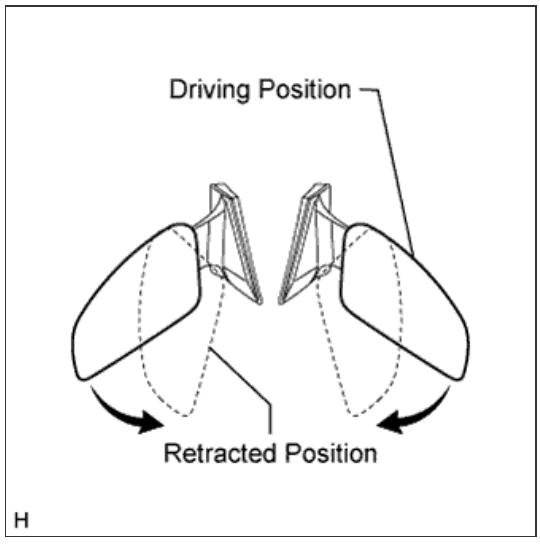
a. Turn the engine switch on (ACC).

b. At each outer mirror body position, check the retractable mirror operation when operating the retract switch of the outer mirror.

i. Move the mirrors to the driving position.

ii. Push the mirror retract switch to the fold position.

iii. Check that the right and left mirrors move from the driving position to the retracted position.

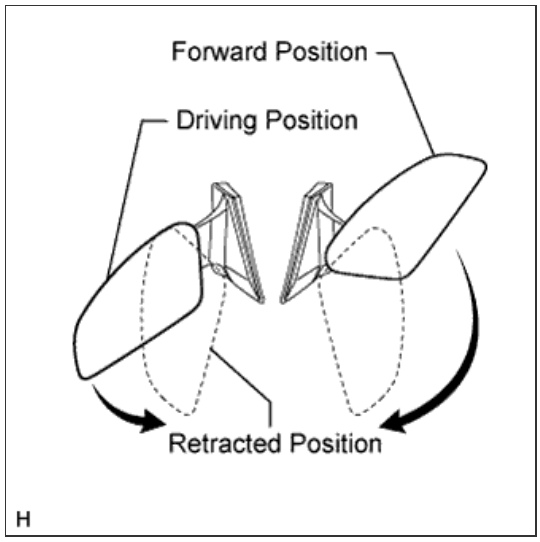


iv. Move the mirrors to the driving position.

v. Move one of the mirrors to the forward position by hand.

vi. Push the mirror retract switch to the fold position.

vii. Check that the forward position mirror moves to the retracted position, and check that the driving position mirror moves to the retracted position.

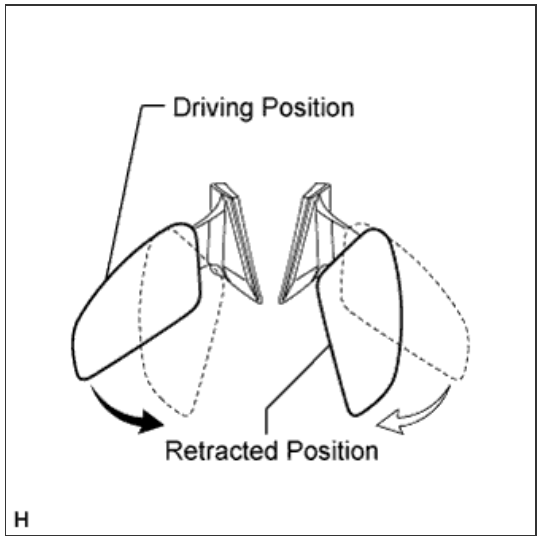


viii. Move the mirrors to the driving position.

ix. Move one of the mirrors to the retracted position by hand.

x. Push the mirror retract switch to the fold position.

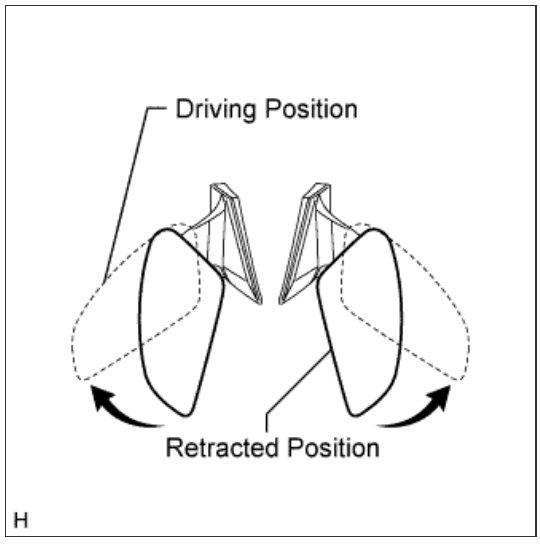
xi. Check that the driving position mirror moves to the retracted position.



xii. Move the mirrors to the retracted position.

xiii. Push the mirror retract switch to the return position.

xiv. Check that the right and left mirrors move from the retracted position to the driving position.



xv. Move the mirrors to the retracted position.

xvi. Move one of the mirrors to the driving position by hand.

xvii. Push the mirror retract switch to the return position.

xviii. Check that the retracted position mirror moves to the driving position.

c. Check the operation of the outer mirror body in relation to mirror retract switch operations and engine switch condition changes.

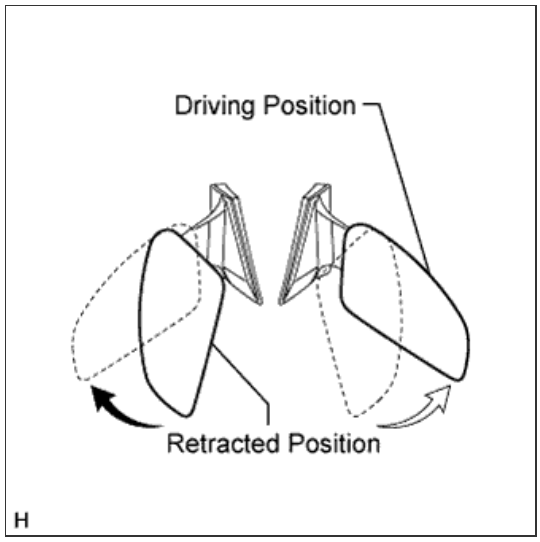
i. When the mirror body is operating, turn the engine switch off and check that the mirror operation stops immediately.

ii. Repeat the step above. This time, turn the engine switch on (ACC) and press the mirror retract switch in the opposite direction that the mirror is operating. Check that the mirror operates in the opposite direction.

d. Check the operation of the outer mirror body when it is restrained by an obstacle.

i. When the mirror body is moving to the retracted or driving position, restrain the mirror body by hand. Check that the mirror stops moving.

ii. With the mirror body stopped partway, push the mirror retract switch in the opposite direction that the mirror was operating. Check that the mirror body moves in the opposite direction.



CHECK REVERSE-SHIFT-LINKED OPERATION OF MIRRORS

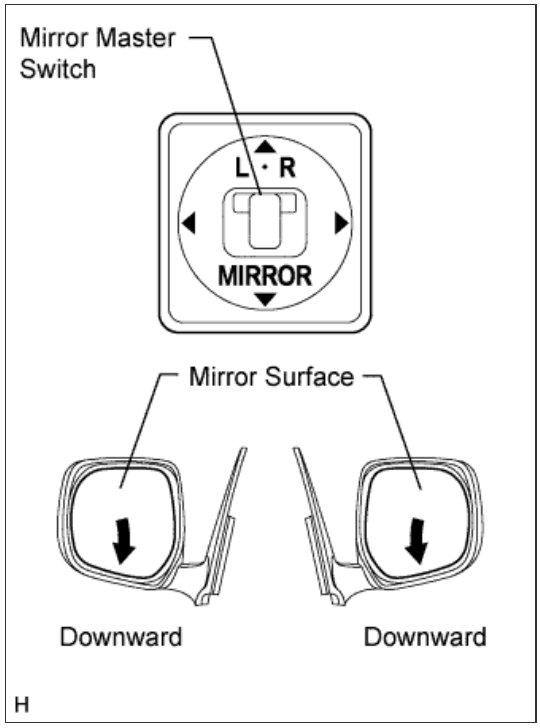
a. Turn the engine switch on (IG).

b. Set the mirror master switch to L or R.

c. Check that the mirror faces downward when the shift lever is moved to R.

d. Check that the outer rear view mirror returns to the original position when one of the following conditions is met:

- Shift lever is moved to other than R.
- Mirror master switch is in the neutral position (off).
- Engine switch is turned off.



CHECK MIRROR HEATER

a. Turn the engine switch on (IG).

b. Check that pressing the rear defogger switch illuminates the indicator and warms the mirror surface.

c. Check that after approximately 15 minutes, the indicator light turns off and the mirror heater deactivates.

CHECK AUTO ELECTRIC RETRACT FUNCTION

a. With the engine switch off and the mirror retract switch in the AUTO position, when the doors are changed from the locked to the unlocked condition through the entry, wireless or key-linked function, check that the outer rear view mirror body moves from the retracted position to the driving position, and stops in the driving position.

b. With the engine switch off and the mirror retract switch in the AUTO position, when the doors are changed from the unlocked to the locked condition through the entry, wireless or key-linked function, check that the outer rear view mirror body moves from the driving position to the retracted position, and stops in the retracted position.

CHECK MEMORY CALL FUNCTION

a. AUTOMATIC MEMORY CALL OPERATION INSPECTION

i. With the transmitter recognition code registered into the memory system, perform an entry unlock or wireless unlock operation. Open the driver door and check that the front seat, front seat belt anchor, steering wheel and outer rear view mirror automatically move to the positions recorded in memory.

b. MEMORY REGISTRATION (WITH WIRELESS FUNCTION)

i. Prepare by recording the driving position through the seat memory switch (seat memory switch 1, seat memory switch 2 or seat memory switch 3).

ii. With the engine switch off and the driver door closed, press and hold both of the following: a seat memory switch (seat memory switch 1, seat memory switch 2 or seat memory switch 3) and the transmitter unlock switch. Continue holding the switches until the answer back buzzer sounds.

c. MEMORY REGISTRATION (WITH WIRELESS FUNCTION, CARD TYPE)

i. Prepare by recording the driving position through the seat memory switch (seat memory switch 1, seat memory switch 2 or seat memory switch 3)

ii. Hold only the transmitter to be registered.

iii. With the engine switch off and the driver door closed, press and hold both of the following: a seat memory switch (seat memory switch 1, seat memory switch 2 or seat memory 3) and the door lock control switch. Continue holding the switches until the answer back buzzer sounds.

NOTICE:

Do not bring 2 or more keys into the vehicle.

HINT:

- **Either the lock or unlock switch on the door control switch can be pressed.**
- **The door control switch on the driver side or front passenger side can be used.**

d. MEMORY ERASURE (WITH WIRELESS FUNCTION)

i. With the engine switch off and the driver door closed, press and hold both of the following: the seat memory SET switch and transmitter unlock switch. Continue holding the switches until the answer back buzzer sounds.

e. MEMORY ERASURE (WITH WIRELESS FUNCTION, CARD TYPE)

i. Hold only the transmitter of which registration is to be erased.

ii. With the engine switch off and the driver door closed, press and hold both of the following: the seat memory SET switch and door lock control switch. Continue holding the switches until the answer back buzzer sounds.

NOTICE:

Do not bring 2 or more keys into the vehicle.

HINT:

- **Either the lock or unlock switch on the door control switch can be pressed.**
- **The door control switch on the driver side or front passenger side can be used.**

EMERGENCY STOP FUNCTION

a. During the memory call operation, press a seat memory switch (seat memory switch 1, seat memory switch 2 or seat memory switch 3), or press a front power seat switch LH (position control ECU and switch). Check that the automatic memory call operation stops.

for Preparation Click here

CHECK POWER MIRROR SWITCH OPERATION OF INTEGRATION CONTROL AND PANEL

a. Turn the engine switch on (ACC).

b. With the mirror master switch set to L, check that the mirror surface moves up, down, left and right normally.

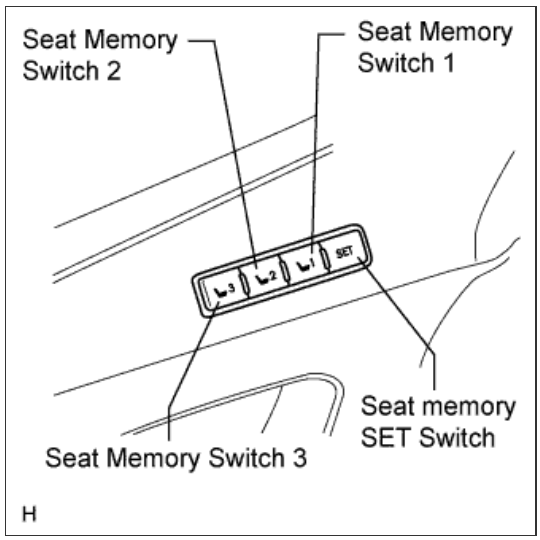
c. With the mirror master switch set to R, check that the mirror surface moves up, down, left and right normally.

CHECK MEMORY AND REACTIVATION FUNCTION

HINT:

The seat memory SET switch, seat memory switch 1, seat memory switch 2 and seat memory switch 3 of the seat memory switch are shown in the illustration.

a. Turn the engine switch on (IG) and move the shift lever to P.

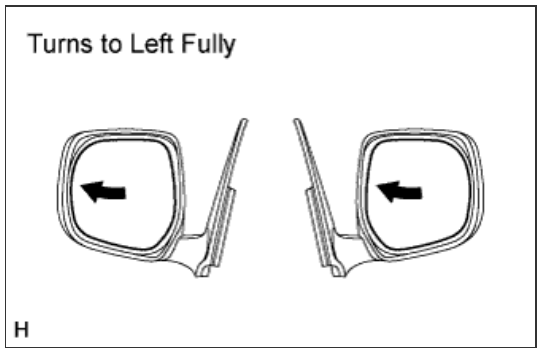


b. Check the seat memory switch 1.

i. Using the mirror master switch and mirror control switch, fully turn the mirror to the left.

ii. Check that the buzzer sounds for 0.5 seconds and the outer mirror position is memorized when the seat memory switch 1 is pressed while the seat memory SET switch is being pressed.

iii. Change the position of the outer mirror and then press the seat memory switch 1. Check that the buzzer sounds for 0.1 seconds and the outer mirror automatically moves to the recorded fully-turned-left position.

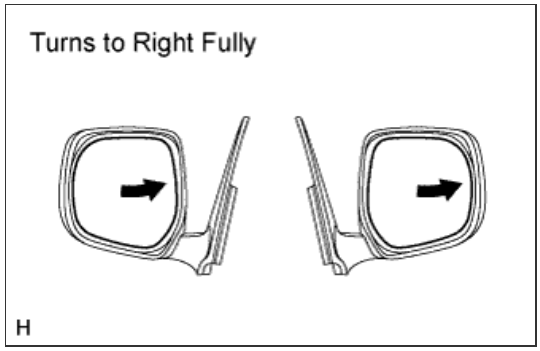


c. Check the seat memory switch 2.

i. Using the mirror master switch and mirror control switch, fully turn the mirror to the right.

ii. Check that the buzzer sounds for 0.5 seconds and the outer mirror position is memorized when the seat memory switch 2 is pressed while the seat memory SET switch is being pressed.

iii. Change the position of the outer mirror and then press the seat memory switch 2. Check that the buzzer sounds for 0.1 seconds and the outer mirror automatically moves to the recorded fully-turned-right position.

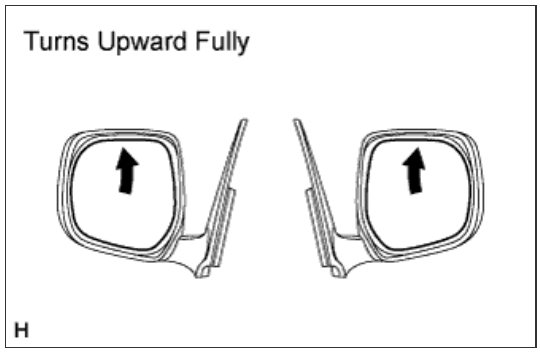


d. Check the seat memory switch 3.

i. Using the mirror master switch and mirror control switch, fully turn the mirror upward.

ii. Check that the buzzer sounds for 0.5 seconds and the outer mirror position is memorized when the seat memory switch 3 is pressed while the seat memory SET switch is being pressed.

iii. Change the position of the outer mirror and then press the seat memory switch 3. Check that the buzzer sounds for 0.1 seconds and the outer mirror automatically moves to the recorded fully-upward position.



e. When the outer mirror is in the driving position, check that the seat memory switch 1, seat memory switch 2 and seat memory switch 3 cause the outer mirror to move to the recorded outer mirror positions under these conditions: turn the engine switch off, open the driver side door and press the seat memory switch 1, seat memory switch 2 or seat memory switch 3 within 20 seconds.

f. Check that the following procedures clears the recorded outer mirror positions of the seat memory switch 1, seat memory switch 2 and seat memory switch 3: press and hold the power seat slide switch; disconnect the cable from the negative (-) battery terminal; and wait for at least 1 minute.

g. Confirm that all recorded outer mirror positions are cleared. Then attempt to record the outer mirror position by pressing and holding the seat memory SET switch and 2 other switches (among seat memory switch 1, seat memory switch 2 and seat memory switch 3). Check that no outer mirror positions are recorded by individually pressing seat memory switch 1, seat memory switch 2 and seat memory switch 3 and making sure that the outer mirror does not move.

CHECK POWER RETRACTABLE MIRROR

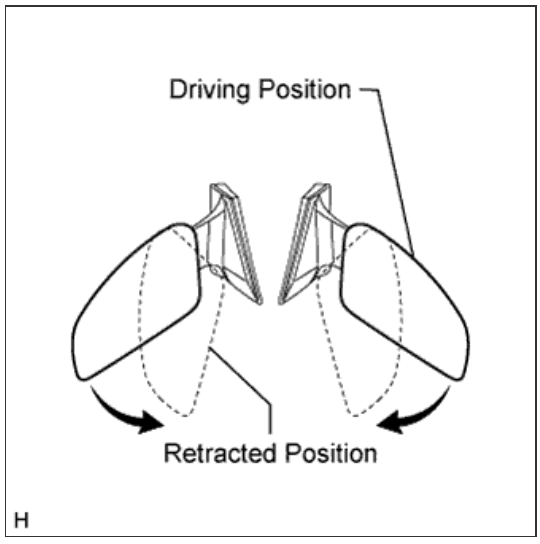
a. Turn the engine switch on (ACC).

b. At each outer mirror body position, check the retractable mirror operation when operating the retract switch of the outer mirror.

i. Move the mirrors to the driving position.

ii. Push the mirror retract switch to the fold position.

iii. Check that the right and left mirrors move from the driving position to the retracted position.

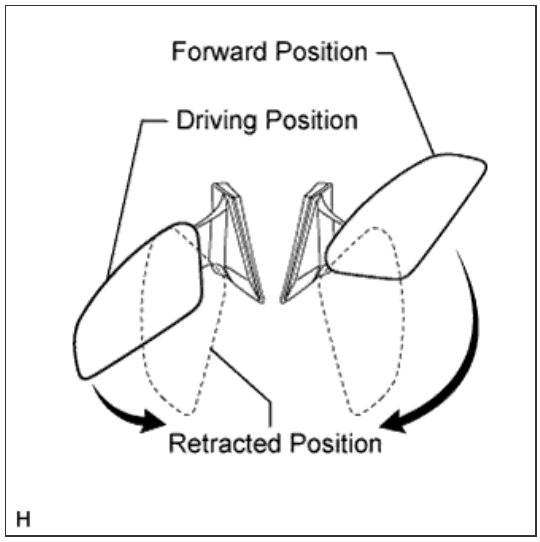


iv. Move the mirrors to the driving position.

v. Move one of the mirrors to the forward position by hand.

vi. Push the mirror retract switch to the fold position.

vii. Check that the forward position mirror moves to the retracted position, and check that the driving position mirror moves to the retracted position.

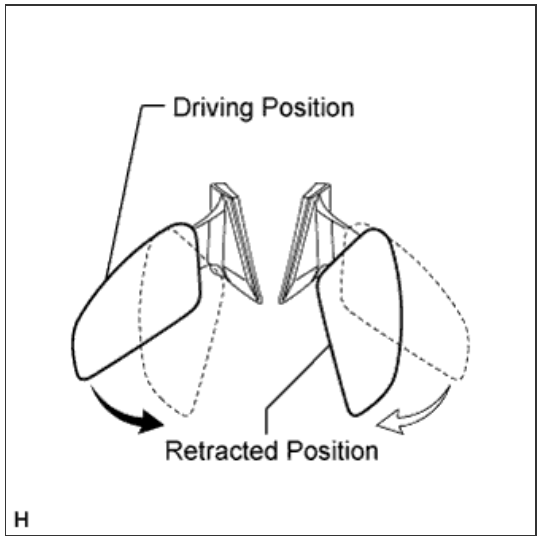


viii. Move the mirrors to the driving position.

ix. Move one of the mirrors to the retracted position by hand.

x. Push the mirror retract switch to the fold position.

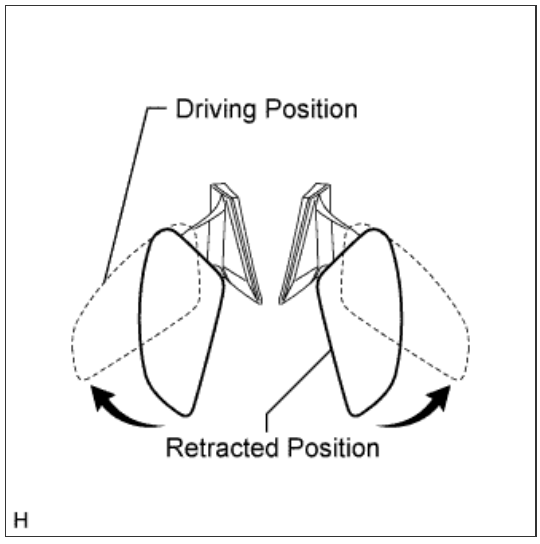
xi. Check that the driving position mirror moves to the retracted position.



xii. Move the mirrors to the retracted position.

xiii. Push the mirror retract switch to the return position.

xiv. Check that the right and left mirrors move from the retracted position to the driving position.



xv. Move the mirrors to the retracted position.

xvi. Move one of the mirrors to the driving position by hand.

xvii. Push the mirror retract switch to the return position.

xviii. Check that the retracted position mirror moves to the driving position.

c. Check the operation of the outer mirror body in relation to mirror retract switch operations and engine switch condition changes.

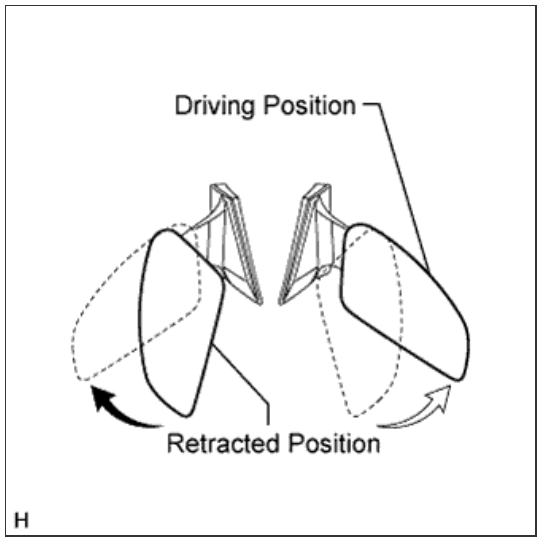
i. When the mirror body is operating, turn the engine switch off and check that the mirror operation stops immediately.

ii. Repeat the step above. This time, turn the engine switch on (ACC) and press the mirror retract switch in the opposite direction that the mirror is operating. Check that the mirror operates in the opposite direction.

d. Check the operation of the outer mirror body when it is restrained by an obstacle.

i. When the mirror body is moving to the retracted or driving position, restrain the mirror body by hand. Check that the mirror stops moving.

ii. With the mirror body stopped partway, push the mirror retract switch in the opposite direction that the mirror was operating. Check that the mirror body moves in the opposite direction.



CHECK REVERSE-SHIFT-LINKED OPERATION OF MIRRORS

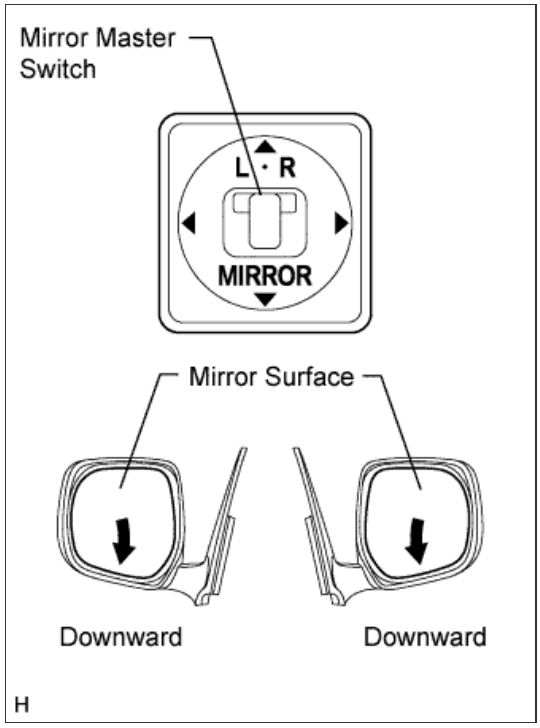
a. Turn the engine switch on (IG).

b. Set the mirror master switch to L or R.

c. Check that the mirror faces downward when the shift lever is moved to R.

d. Check that the outer rear view mirror returns to the original position when one of the following conditions is met:

- Shift lever is moved to other than R.
- Mirror master switch is in the neutral position (off).
- Engine switch is turned off.



CHECK MIRROR HEATER

a. Turn the engine switch on (IG).

b. Check that pressing the rear defogger switch illuminates the indicator and warms the mirror surface.

c. Check that after approximately 15 minutes, the indicator light turns off and the mirror heater deactivates.

CHECK AUTO ELECTRIC RETRACT FUNCTION

a. With the engine switch off and the mirror retract switch in the AUTO position, when the doors are changed from the locked to the unlocked condition through the entry, wireless or key-linked function, check that the outer rear view mirror body moves from the retracted position to the driving position, and stops in the driving position.

b. With the engine switch off and the mirror retract switch in the AUTO position, when the doors are changed from the unlocked to the locked condition through the entry, wireless or key-linked function, check that the outer rear view mirror body moves from the driving position to the retracted position, and stops in the retracted position.

CHECK MEMORY CALL FUNCTION

a. AUTOMATIC MEMORY CALL OPERATION INSPECTION

i. With the transmitter recognition code registered into the memory system, perform an entry unlock or wireless unlock operation. Open the driver door and check that the front seat, front seat belt anchor, steering wheel and outer rear view mirror automatically move to the positions recorded in memory.

b. MEMORY REGISTRATION (WITH WIRELESS FUNCTION)

i. Prepare by recording the driving position through the seat memory switch (seat memory switch 1, seat memory switch 2 or seat memory switch 3).

ii. With the driver door closed, turn the engine switch from ON to OFF, then press and hold both of the following: a seat memory switch (seat memory switch 1, seat memory switch 2 or seat memory switch 3) and the transmitter unlock switch. Continue holding the switches until the answer back buzzer sounds.

c. MEMORY REGISTRATION (WITH WIRELESS FUNCTION, CARD TYPE)

i. Prepare by recording the driving position through the seat memory switch (seat memory switch 1, seat memory switch 2 or seat memory switch 3)

ii. Hold only the transmitter to be registered.

iii. With the driver door closed, turn the engine switch from ON to OFF, then press and hold both of the following: a seat memory switch (seat memory switch 1, seat memory switch 2 or seat memory 3) and the door lock control switch. Continue holding the switches until the answer back buzzer sounds.

NOTICE:

Do not bring 2 or more keys into the vehicle.

HINT:

- **Either the lock or unlock switch on the door control switch can be pressed.**
- **The door control switch on the driver side or front passenger side can be used.**

d. MEMORY ERASURE (WITH WIRELESS FUNCTION)

i. With the driver door closed, turn the engine switch from ON to OFF, then press and hold both of the following: the seat memory SET switch and transmitter unlock switch. Continue holding the switches until the answer back buzzer sounds.

e. MEMORY ERASURE (WITH WIRELESS FUNCTION, CARD TYPE)

i. Hold only the transmitter of which registration is to be erased.

ii. With the driver door closed, turn the engine switch from ON to OFF, then press and hold both of the following: the seat memory SET switch and door lock control switch. Continue holding the switches until the answer back buzzer sounds.

NOTICE:

Do not bring 2 or more keys into the vehicle.

HINT:

- **Either the lock or unlock switch on the door control switch can be pressed.**
- **The door control switch on the driver side or front passenger side can be used.**

EMERGENCY STOP FUNCTION

a. During the memory call operation, press a seat memory switch (seat memory switch 1, seat memory switch 2 or seat memory switch 3), or press a front power seat switch LH (position control ECU and switch). Check that the automatic memory call operation stops.

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.**

Power Mirror Control System

Symptom	Suspected Area	See page
Driver Side Power Mirror cannot be Adjusted with Power Mirror Switch	Outer mirror switch assembly	Click here
	Main body ECU	-
	Outer mirror control ECU	-
	Outer rear view mirror assembly (driver side)	-
	Harness or connector	-
Front Passenger Side Power Mirror cannot be Adjusted with Power Mirror Switch	Outer mirror switch assembly	Click here
	Main body ECU	-
	Outer mirror control ECU	-
	Outer rear view mirror assembly (passenger side)	-
	Harness or connector	-
Mirror Heater does not Operate with Mirror Heater Switch	Window defogger system	Click here
	Outer rear view mirror assembly (driver side)	Click here
	Outer rear view mirror assembly (passenger side)	Click here
	Harness or connector	-
Power Retractable Mirrors do not Operate with Power Retract Mirror Switch	Outer mirror switch assembly	Click here
	Main body ECU	-
	Outer mirror control ECU	-
	Outer rear view mirror assembly (driver side)	-
	Outer rear view mirror assembly (passenger side)	-
	Harness or connector	-
Power Mirror Surface Position is not Memorized	Position control ECU and switch	Click here
	Outer mirror control ECU	-
Power Mirrors do not Return to Memorized Position	Position control ECU and switch	Click here
	Outer mirror control ECU	-
	Outer rear view mirror assembly (driver side)	-
	Outer rear view mirror assembly (passenger side)	-
	Harness or connector	-
Reverse Shift-linked Function of Power Mirrors does not Operate	Outer mirror control ECU	Click here
	Outer rear view mirror assembly (driver side)	-
	Outer rear view mirror assembly (passenger side)	-
	ECM	-
	Harness or connector	-
EC Mirror System does not Operate	Inner rear view mirror	Click here
	Outer rear view mirror assembly (driver side)	Click here
	Outer rear view mirror assembly (passenger side)	Click here
	Harness or connector	-

for Preparation Click here

HINT:

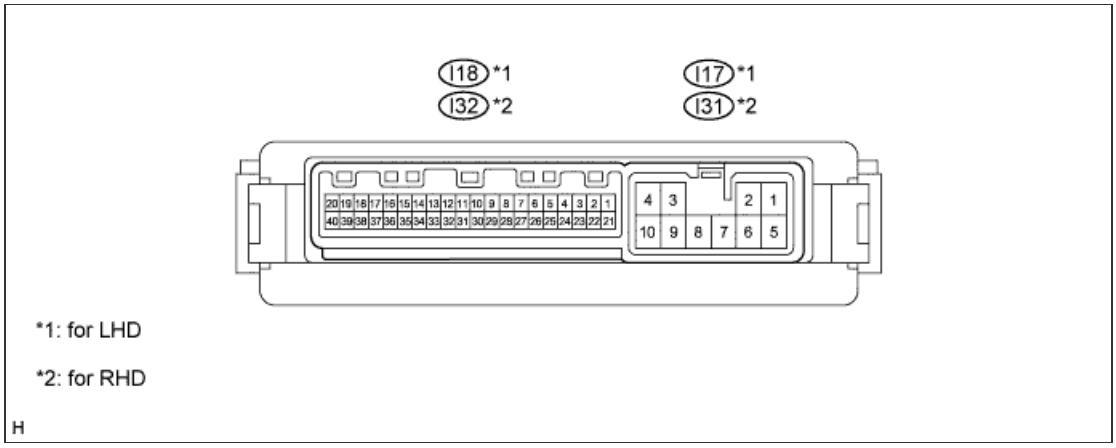
- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are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

Power Mirror Control System

Symptom	Suspected Area	See page
Driver Side Power Mirror cannot be Adjusted with Power Mirror Switch	Outer mirror switch assembly	Click here
	Main body ECU	-
	Outer mirror control ECU	-
	Outer rear view mirror assembly (driver side)	-
	Harness or connector	-
Front Passenger Side Power Mirror cannot be Adjusted with Power Mirror Switch	Outer mirror switch assembly	Click here
	Main body ECU	-
	Outer mirror control ECU	-
	Outer rear view mirror assembly (passenger side)	-
	Harness or connector	-
Mirror Heater does not Operate with Mirror Heater Switch	Window defogger system	Click here
	Outer rear view mirror assembly (driver side)	Click here
	Outer rear view mirror assembly (passenger side)	Click here
	Harness or connector	-
Power Retractable Mirrors do not Operate with Power Retract Mirror Switch	Outer mirror switch assembly	Click here
	Main body ECU	-
	Outer mirror control ECU	-
	Outer rear view mirror assembly (driver side)	-
	Outer rear view mirror assembly (passenger side)	-
	Harness or connector	-
Power Mirror Surface Position is not Memorized	Position control ECU and switch	Click here
	Outer mirror control ECU	-
Power Mirrors do not Return to Memorized Position	Position control ECU and switch	Click here
	Outer mirror control ECU	-
	Outer rear view mirror assembly (driver side)	-
	Outer rear view mirror assembly (passenger side)	-
	Harness or connector	-
Reverse Shift-linked Function of Power Mirrors does not Operate	Outer mirror control ECU	Click here
	Outer rear view mirror assembly (driver side)	-
	Outer rear view mirror assembly (passenger side)	-
	ECM	-
	Harness or connector	-
EC Mirror System does not Operate	Inner rear view mirror	Click here
	Outer rear view mirror assembly (driver side)	Click here
	Outer rear view mirror assembly (passenger side)	Click here
	Harness or connector	-

for Preparation Click here

CHECK OUTER MIRROR CONTROL ECU



a. for LHD:

i. Disconnect the I17 ECU connector.

ii. Measure the voltage and resistance of the wire harness side connector.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
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	ACC power 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.

iii. Reconnect the I17 ECU connector.

iv. Measure the voltage of the connector.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I17-1 (RL) - I17-9 (GND)	LG - W-B	Mirror retract motor output (retracting)	Mirror retract switch in fold position (Outer rear view mirror LH retracting)	10.3 to 14 V
I17-2 (FL) - I17-9 (GND)	SB - W-B	Mirror retract motor output (returning)	Mirror retract switch in return position (Outer rear view mirror LH returning)	10.3 to 14 V
I17-5 (RR) - I17-9 (GND)	BR - W-B	Mirror retract motor output (retracting)	Mirror retract switch in fold position (Outer rear view mirror RH retracting)	10.3 to 14 V
I17-6 (FR) - I17-9 (GND)	R - W-B	Mirror retract motor output (returning)	Mirror retract switch in return position (Outer rear view mirror RH returning)	10.3 to 14 V
I18-18 (M+L) - I17-9	Y - W-B	Mirror motor output	Mirror master switch L, Mirror control switch off	Below 1 V
			Mirror master switch L, Mirror control	Below 1 V

(GND)			switch up or left	
			Mirror master switch L, Mirror control switch down or right	10 to 14 V
I18-19 (MHL) - I17-9 (GND)	G - W-B	Mirror motor output	Mirror master switch L, Mirror control switch off	Below 1 V
			Mirror master switch L, Mirror control switch right	Below 1 V
			Mirror master switch L, Mirror control switch left	10 to 14 V
I18-20 (MVL) - I17-9 (GND)	L - W-B	Mirror motor output	Mirror master switch L, Mirror control switch off	Below 1 V
			Mirror master switch L, Mirror control switch down	Below 1 V
			Mirror master switch L, Mirror control switch up	10 to 14 V
I18-38 (M+R) - I17-9 (GND)	Y - W-B	Mirror motor output	Mirror master switch R, Mirror control switch off	Below 1 V
			Mirror master switch R, Mirror control switch up or left	Below 1 V
			Mirror master switch R, Mirror control switch down or right	10 to 14 V
I18-39 (MHR) - I17-9 (GND)	G - W-B	Mirror motor output	Mirror master switch R, Mirror control switch off	Below 1 V
			Mirror master switch R, Mirror control switch right	Below 1 V
			Mirror master switch R, Mirror control switch left	10 to 14 V
I18-40 (MVR) - I17-9 (GND)	R - W-B	Mirror motor output	Mirror master switch R, Mirror control switch off	Below 1 V
			Mirror master switch R, Mirror control switch down	Below 1 V
			Mirror master switch R, Mirror control switch up	10 to 14 V
I18-4 (VSR) - I18-3 (LE1)	GR - BR	Vertical direction position signal	Mirror master switch L Mirror control switch up or down	Voltage fluctuates between 0 and 5 V
I18-5 (HSRL) - I18-3 (LE1)	L - BR	Horizontal direction position signal	Mirror master switch L Mirror control switch right or left	Voltage fluctuates between 0 and 5 V
I18-2 (LVC) - I18-3 (LE1)	B - BR	Power source for mirror position sensor	Engine switch off during sleep mode	Below 1 V
			Engine switch on (IG)	4.7 to 5.5 V
I18-24 (VSRR) - I18-23 (RE1)	GR - BR	Vertical direction position signal	Mirror master switch R Mirror control switch up or down	Voltage fluctuates between 0 and 5 V
I18-25 (HSRR) - I18-23 (RE1)	W - BR	Horizontal direction position signal	Mirror master switch R Mirror control switch right or left	Voltage fluctuates between 0 and 5 V
I18-22 (RVC) - I18-23 (RE1)	B - BR	Power source for mirror position sensor	Engine switch off during sleep mode	Below 1 V

			Engine switch on (IG)	4.7 to 5.5 V

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

b. for RHD:

i. Disconnect the I31 ECU connector.

ii. Measure the voltage and resistance of the wire harness side connector.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I31-9 (GND) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
I31-3 (B) - I31-9 (GND)	R - W-B	Battery (ECU power source)	Always	11 to 14 V
I31-4 (ACC) - I31-9 (GND)	GR - W-B	ACC power 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.

iii. Reconnect the I31 ECU connector.

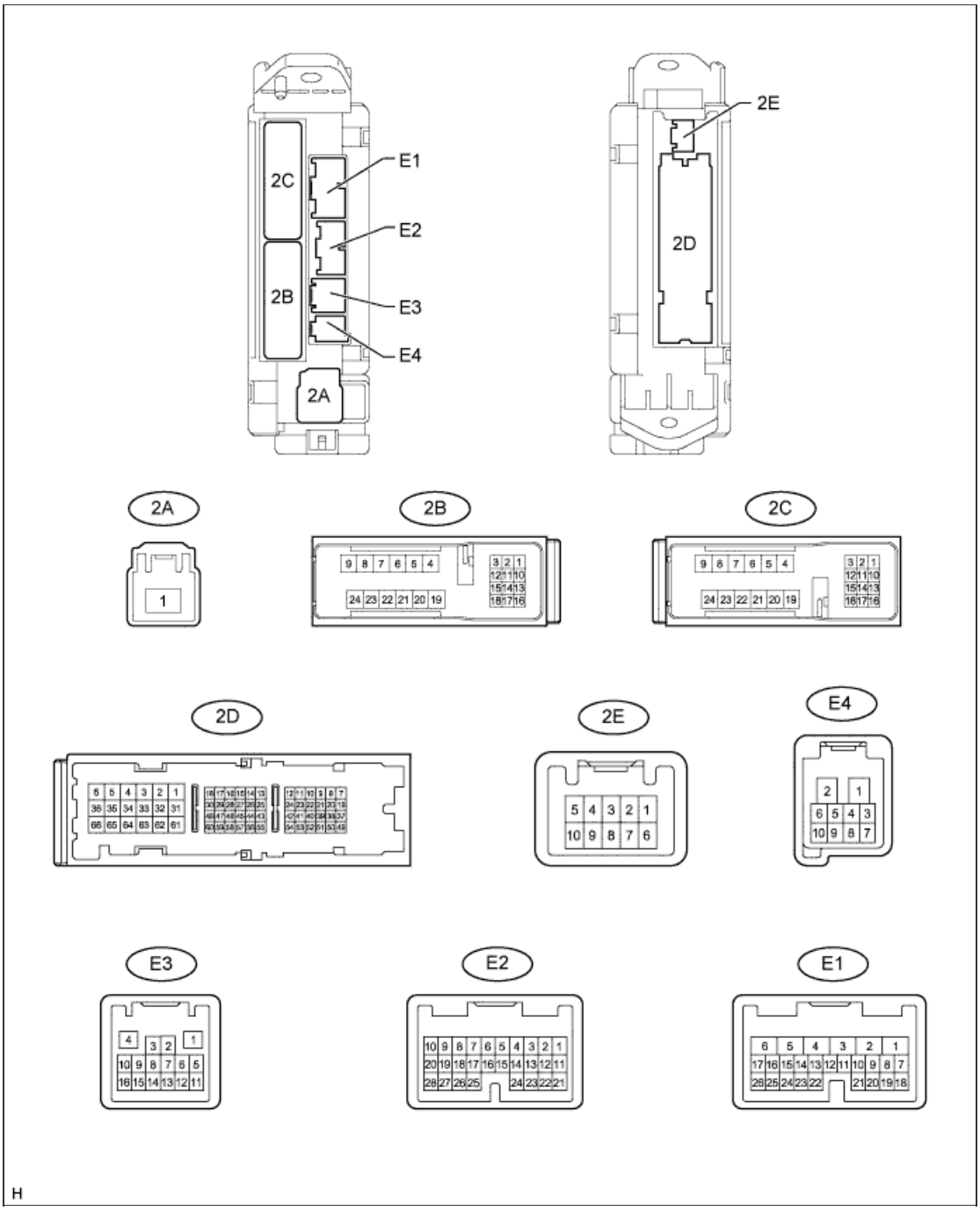
iv. Measure the voltage of the connector.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I31-1 (RL) - I31-9 (GND)	BR - W-B	Mirror retract motor output (retracting)	Mirror retract switch in fold position (Outer rear view mirror LH retracting)	10.3 to 14 V
I31-2 (FL) - I31-9 (GND)	R - W-B	Mirror retract motor output (returning)	Mirror retract switch in return position (Outer rear view mirror LH returning)	10.3 to 14 V
I31-5 (RR) - I31-9 (GND)	LG - W-B	Mirror retract motor output (retracting)	Mirror retract switch in fold position (Outer rear view mirror RH retracting)	10.3 to 14 V
I31-6 (FR) - I31-9 (GND)	R - W-B	Mirror retract motor output (returning)	Mirror retract switch in return position (Outer rear view mirror RH returning)	10.3 to 14 V
I32-18 (M+L) - I31-9 (GND)	Y - W-B	Mirror motor output	Mirror master switch L, Mirror control switch off	Below 1 V
			Mirror master switch L, Mirror control switch up or left	Below 1 V
			Mirror master switch L, Mirror control switch down or right	10 to 14 V
I32-19 (MHL) - I31-9 (GND)	G - W-B	Mirror motor output	Mirror master switch L, Mirror control switch off	Below 1 V
			Mirror master switch L, Mirror control switch right	Below 1 V
			Mirror master switch L, Mirror control switch left	10 to 14 V
I32-20 (MVL) - I31-9 (GND)	R - W-B	Mirror motor output	Mirror master switch L, Mirror control switch off	Below 1 V
			Mirror master switch L, Mirror control switch down	Below 1 V
			Mirror master switch L, Mirror control switch up	10 to 14 V
			Mirror master switch	

I32-38 (M+R) - I31-9 (GND)	Y - W-B	Mirror motor output	R, Mirror control switch off	Below 1 V
			Mirror master switch R, Mirror control switch up or left	Below 1 V
			Mirror master switch R, Mirror control switch down or right	10 to 14 V
I32-39 (MHR) - I31-9 (GND)	G - W-B	Mirror motor output	Mirror master switch R, Mirror control switch off	Below 1 V
			Mirror master switch R, Mirror control switch right	Below 1 V
			Mirror master switch R, Mirror control switch left	10 to 14 V
I32-40 (MVR) - I31-9 (GND)	L - W-B	Mirror motor output	Mirror master switch R, Mirror control switch off	Below 1 V
			Mirror master switch R, Mirror control switch down	Below 1 V
			Mirror master switch R, Mirror control switch up	10 to 14 V
I32-4 (VSR) - I32-3 (LE1)	GR - BR	Vertical direction position signal	Mirror master switch L Mirror control switch up or down	Voltage fluctuates between 0 and 5 V
I32-5 (HSRL) - I32-3 (LE1)	W - BR	Horizontal direction position signal	Mirror master switch L Mirror control switch right or left	Voltage fluctuates between 0 and 5 V
I32-2 (LVC) - I32-3 (LE1)	B - BR	Power source for mirror position sensor	Engine switch off during sleep mode	Below 1 V
			Engine switch on (IG)	4.7 to 5.5 V
I32-24 (VSRR) - I32-23 (RE1)	GR - BR	Vertical direction position signal	Mirror master switch R Mirror control switch up or down	Voltage fluctuates between 0 and 5 V
I32-25 (HSRR) - I32-23 (RE1)	L - BR	Horizontal direction position signal	Mirror master switch R Mirror control switch right or left	Voltage fluctuates between 0 and 5 V
I32-22 (RVC) - I32-23 (RE1)	B - BR	Power source for mirror position sensor	Engine switch off during sleep mode	Below 1 V
			Engine switch on (IG)	4.7 to 5.5 V

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

CHECK MAIN BODY ECU



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

b. Measure the voltage and resistance of the wire harness side connectors.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
2B-20 (BATB) - Body ground	L - Body ground	BATB power supply	Always	11 to 14 V
2A-1 (ACC) - Body ground	B - Body ground	ACC power supply	Always	11 to 14 V
2A-1 (IG) - Body ground	B - Body ground	IG power supply	Always	11 to 14 V
2D-62 (GND2) - 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 2B, 2A and 2D ECU connectors.

d. Measure the voltage of the connectors.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
E2-6 (RET) - 2D-62 (GND2)	BR - W-B	Mirror retract motor output	Mirror retract switch in fold position	11 to 14 V
E2-6 (RET) - 2D-62 (GND2)	BR - W-B	Mirror retract motor output	Mirror retract switch not in fold position	Below 1 V

E4-8 (AMR) - 2D-62 (GND2)	V - W-B	Mirror retract motor output	Mirror retract switch in AUTO position	11 to 14 V
E4-8 (AMR) - 2D-62 (GND2)	V - W-B	Mirror retract motor output	Mirror retract switch not in AUTO position	Below 1 V
E1-12 (MIRS) - E1-2 (MIRE)	LG - BR	Mirror motor output	Mirror master switch L	11 to 14 V
			Mirror master switch R	11 to 14 V
			Mirror master switch off	Below 1 V
E1-11 (MIRB) - E1-2 (MIRE)	V - BR	Mirror motor output	Mirror master switch L, Mirror control switch right	11 to 14 V
			Mirror master switch L, Mirror control switch left	11 to 14 V
			Mirror master switch L, Mirror control switch down	11 to 14 V
			Mirror master switch L, Mirror control switch up	11 to 14 V
			Mirror master switch R, Mirror control switch right	11 to 14 V
			Mirror master switch R, Mirror control switch left	11 to 14 V
			Mirror master switch R, Mirror control switch down	11 to 14 V
			Mirror master switch R, Mirror control switch up	11 to 14 V
			Mirror control switch off	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 / All Data.

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

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Mirror Selection SW (R)	Mirror master switch signal for RH mirror / ON or OFF	ON: Switch in R position OFF: Switch off or in L position	-
Mirror Selection SW (L)	Mirror master switch signal for LH mirror / ON or OFF	ON: Switch in L position OFF: Switch off or in R position	-
Mirror Position SW (R)	Mirror control switch signal (right) / ON or OFF	ON: Right switch on OFF: Any switch except right on or all switches off	-
Mirror Position SW (L)	Mirror control switch signal (left) / ON or OFF	ON: Left switch on OFF: Any switch except left on or all switches off	-
Mirror Position SW (Up)	Mirror control switch signal (up) / ON or OFF	ON: Up switch on OFF: Any switch except up on or all switches off	-
Mirror Position SW (Dwn)	Mirror control switch signal (down) / ON or OFF	ON: Down switch on OFF: Any switch except down on or all switches off	-
Outer Mirror Fold SW	Mirror retract switch signal (fold) / ON or OFF	ON: Switch in fold position OFF: Switch not in fold position	-
Auto Mirror SW	Mirror retract switch signal (AUTO) / ON or OFF	ON: Switch in AUTO position OFF: Switch not in AUTO position	-

Mirror

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Mirror Memory No.1	Mirror position memorized in seat memory switch 1 / ON or OFF	ON: Memorized OFF: Not memorized	-
Mirror Memory No.2	Mirror position memorized in seat memory switch 2 / ON or OFF	ON: Memorized OFF: Not memorized	-
Mirror Memory No.3	Mirror position memorized in seat memory switch 3 / ON or OFF	ON: Memorized OFF: Not memorized	-
RH Mir Position Sensor V	Passenger side mirror vertical sensor voltage / MIN: 0, MAX: 5 V	Within range from 0 to 5 V	-
RH Mir Position Sensor H	Passenger side mirror vertical sensor voltage / MIN: 0, MAX: 5 V	Within range from 0 to 5 V	-
LH Mir Position Sensor V	Driver side mirror vertical sensor voltage / MIN: 0, MAX: 5 V	Within range from 0 to 5 V	-
LH Mir Position Sensor		Within range from 0 to 5	

H	Driver side mirror vertical sensor voltage / MIN: 0, MAX: 5 V	V	-

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 / Mirror / Active Test.

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

Mirror

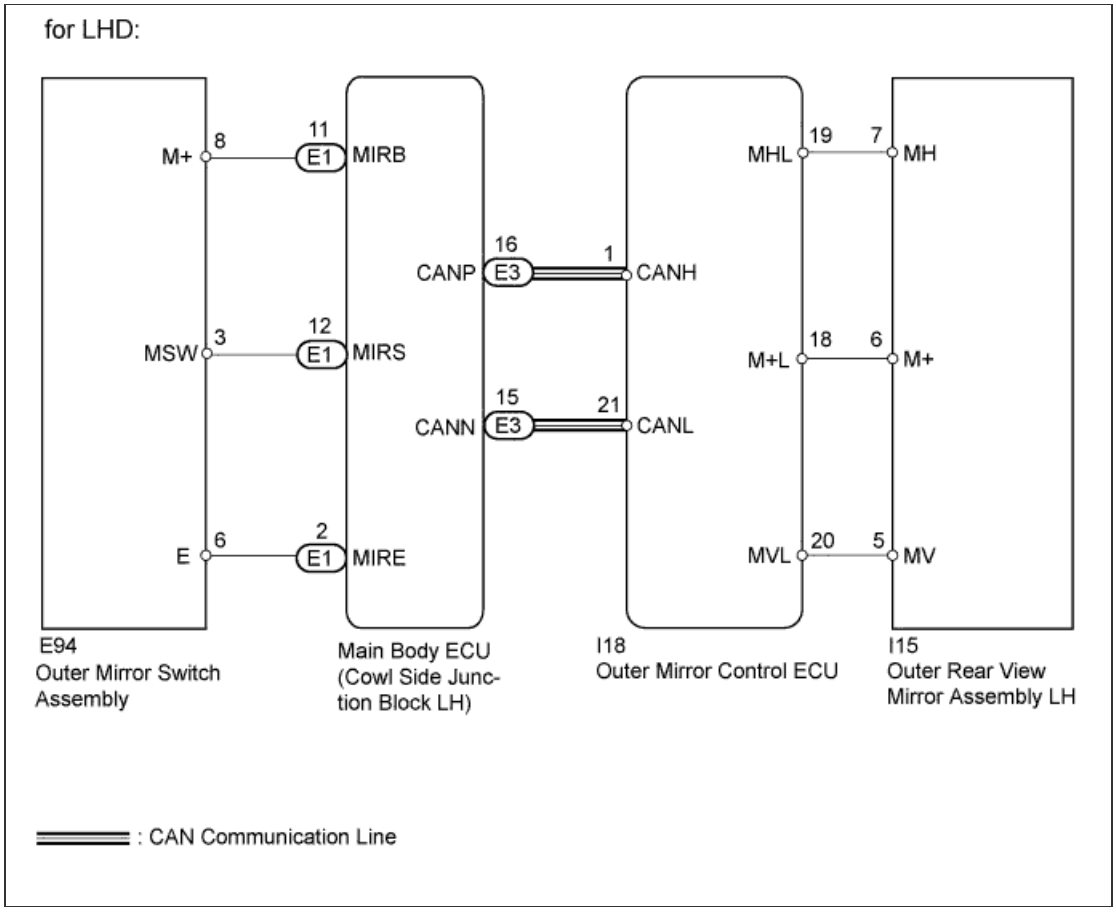
Tester Display	Test Part	Control Range	Diagnostic Note
RH Mirror Up/Down	Mirror vertical operation	Up / OFF / Down	-
RH Mirror Right/Left	Mirror horizontal operation	Right / OFF / Left	-
LH Mirror Up/Down	Mirror vertical operation	Up / OFF / Down	-
LH Mirror Right/Left	Mirror horizontal operation	Right / OFF / Left	-
Mirror Fold	Mirror retract operation	ON / OFF	-
Mirror Return	Mirror retract operation	ON / OFF	-

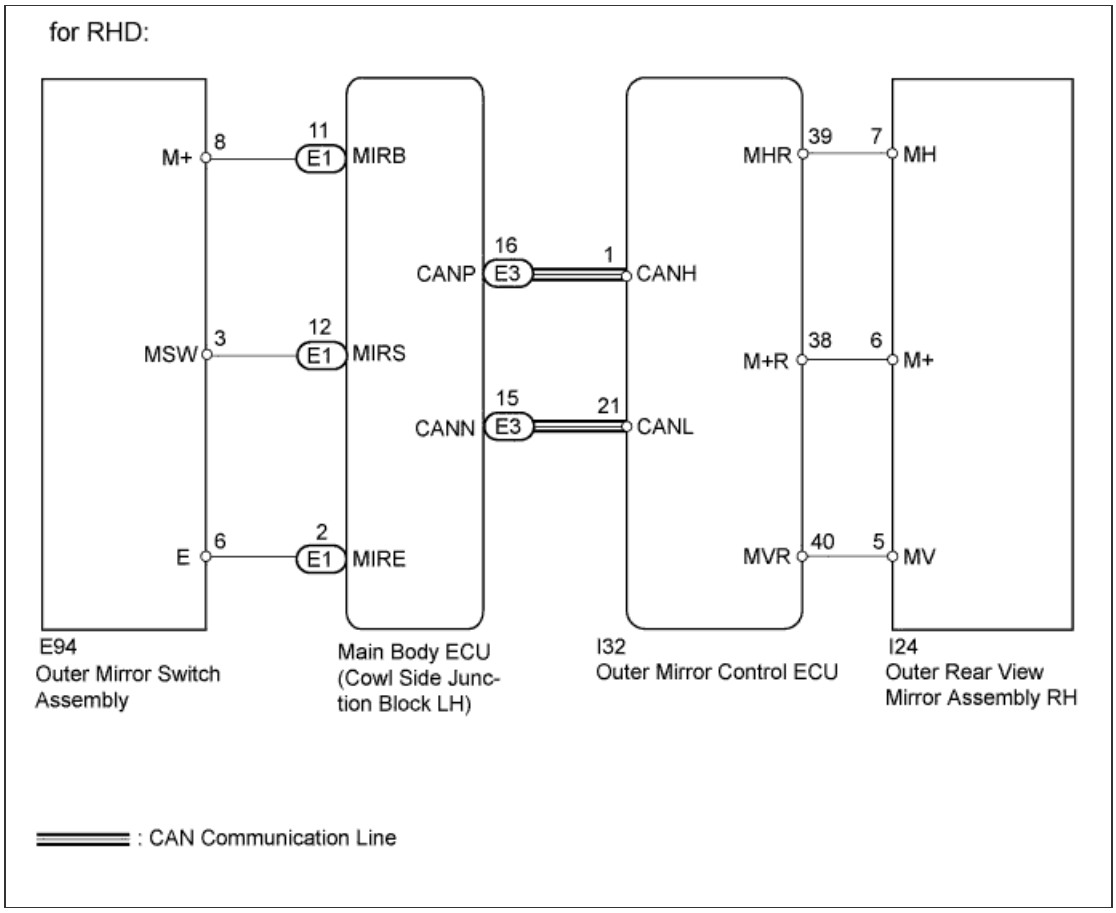
for Preparation Click here

SYSTEM DESCRIPTION

This circuit detects the conditions of the outer mirror switch.
The outer mirror switch sends information about the operating condition of the mirror switch (switch input signals) through the CAN communication line. Then the switch input signals are sent to the outer mirror control ECU. Mirror adjustment is controlled by the outer mirror control ECU.

WIRING DIAGRAM





INSPECTION PROCEDURE

1.CHECK DTC

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.READ VALUE USING INTELLIGENT TESTER (OUTER MIRROR SWITCH)

a. Check the Data List for proper functioning of the mirror master switch and mirror control switch (Click here).

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Mirror Selection SW (L)	Mirror master switch signal for LH mirror / ON or OFF	ON: Switch in L position OFF: Switch off or in R position	-
Mirror Selection SW (R)	Mirror master switch signal for RH mirror / ON or OFF	ON: Switch in R position OFF: Switch off or in L position	-
Mirror Position SW (R)	Mirror control switch signal (right) / ON or OFF	ON: Right switch on OFF: Any switch except right on or all switches off	-
Mirror Position SW (L)	Mirror control switch signal (left) / ON or OFF	ON: Left switch on OFF: Any switch except left on or all switches off	-
		ON: Up switch on	

Mirror Position SW (Up)	Mirror control switch signal (up) / ON or OFF	OFF: Any switch except up on or all switches off	-
Mirror Position SW (Dwn)	Mirror control switch signal (down) / ON or OFF	ON: Down switch on OFF: Any switch except down on or all switches off	-

OK:

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

NG → Go to step 6

OK ↓

3.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (POWER MIRROR CONTROL FUNCTION)

a. Select the Active Test, use the intelligent tester to generate a control command, and then check the power mirror control function (Click here).

Mirror

Tester Display	Test Part	Control Range	Diagnostic Note
LH Mirror Up/Down	Mirror vertical operation	Up / OFF / Down	-
LH Mirror Right/Left	Mirror horizontal operation	Right / OFF / Left	-
RH Mirror Up/Down	Mirror vertical operation	Up / OFF / Down	-
RH Mirror Right/Left	Mirror horizontal operation	Right / OFF / Left	-

Result

Result	Proceed to
Outer rear view mirror (for Driver Side) does not operate normally	A
Outer rear view mirror (for Driver Side) operates normally	B

B → REPLACE OUTER MIRROR CONTROL ECU (Click here)

A ↓

4.INSPECT OUTER REAR VIEW MIRROR ASSEMBLY (for Driver Side)

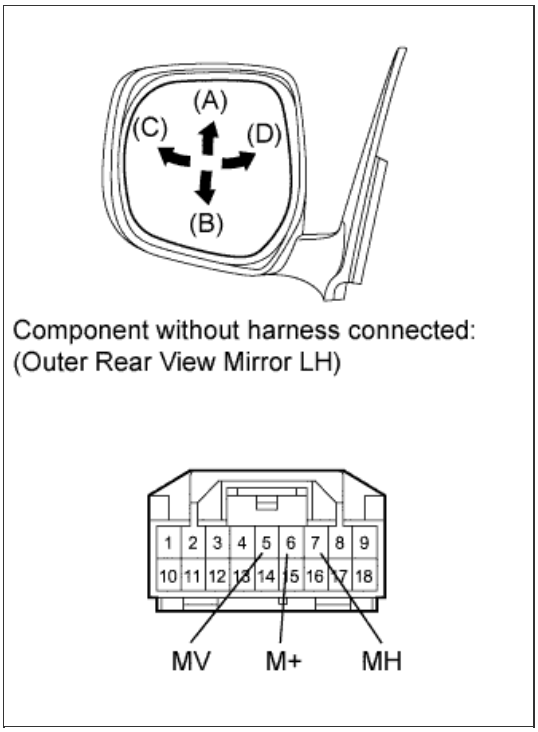
a. for LHD:

i. Remove the mirror LH (Click here).

ii. Apply battery voltage and check the operation of the power mirror.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 5 (MV) Battery negative (-) → Terminal 6 (M+)	Turns upward (A)
Battery negative (-) → Terminal 5 (MV) Battery positive (+) → Terminal 6 (M+)	Turns downward (B)
Battery positive (+) → Terminal 7 (MH) Battery negative (-) → Terminal 6 (M+)	Turns left (C)
Battery negative (-) → Terminal 7 (MH) Battery positive (+) → Terminal 6 (M+)	Turns right (D)



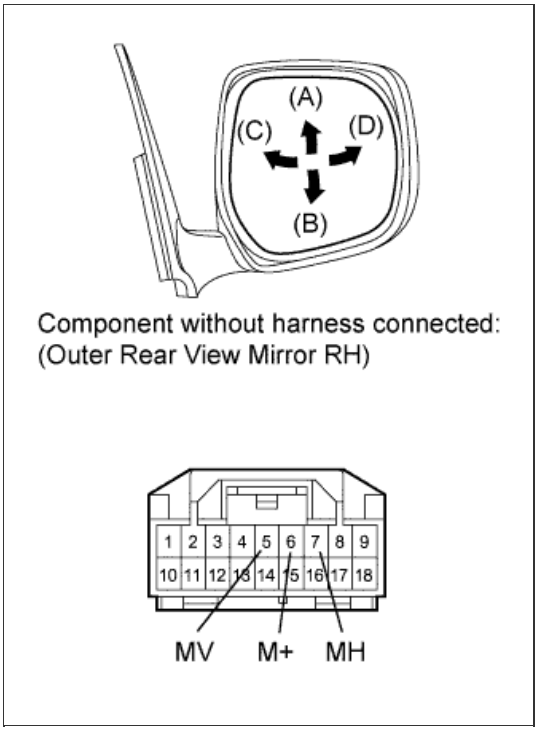
b. for RHD:

i. Remove the mirror RH (Click here).

ii. Apply battery voltage and check the operation of the power mirror.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 5 (MV) Battery negative (-) → Terminal 6 (M+)	Turns upward (A)
Battery negative (-) → Terminal 5 (MV) Battery positive (+) → Terminal 6 (M+)	Turns downward (B)
Battery positive (+) → Terminal 7 (MH) Battery negative (-) → Terminal 6 (M+)	Turns left (C)
Battery negative (-) → Terminal 7 (MH) Battery positive (+) → Terminal 6 (M+)	Turns right (D)



NG → REPLACE OUTER REAR VIEW MIRROR ASSEMBLY (for Driver Side) (Click here)

OK

5.CHECK HARNESS AND CONNECTOR (OUTER MIRROR CONTROL ECU - OUTER REAR VIEW MIRROR ASSEMBLY)

a. for LHD:

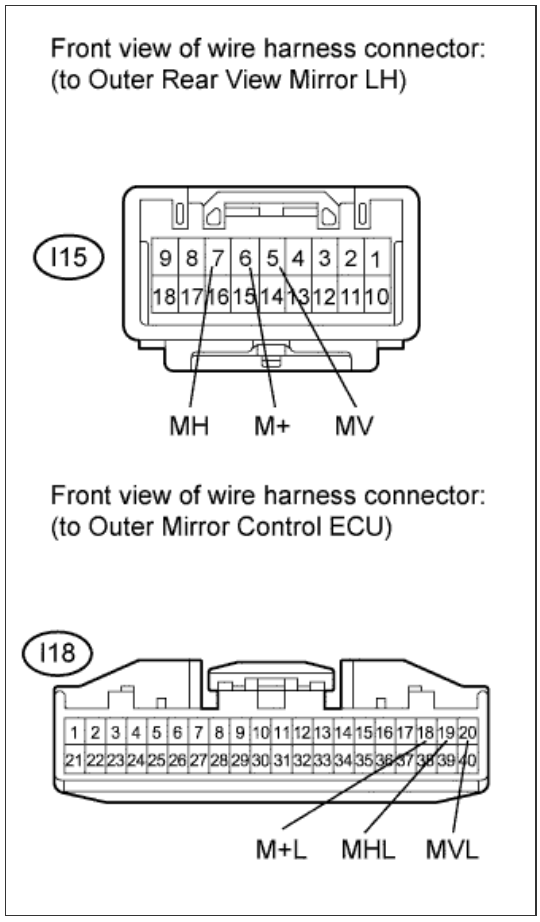
i. Disconnect the I18 ECU connector.

ii. Disconnect the I15 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I18-18 (M+L) - I15-6 (M+)	Always	Below 1 Ω
I18-19 (MHL) - I15-7 (MH)		
I18-20 (MVL) - I15-5 (MV)		
I15-6 (M+) - Body ground	Always	10 kΩ or higher
I15-7 (MH) - Body ground		
I15-5 (MV) - Body ground		



b. for RHD:

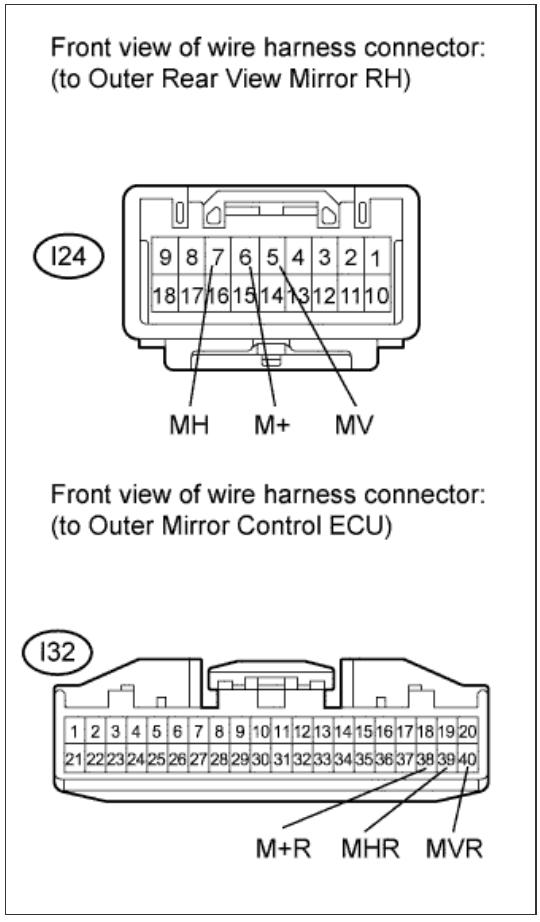
i. Disconnect the I32 ECU connector.

ii. Disconnect the I24 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I32-38 (M+R) - I24-6 (M+)	Always	Below 1 Ω
I32-39 (MHR) - I24-7 (MH)		
I32-40 (MVR) - I24-5 (MV)		
I24-6 (M+) - Body ground	Always	10 kΩ or higher
I24-7 (MH) - Body ground		
I24-5 (MV) - Body ground		



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE OUTER MIRROR CONTROL ECU (Click here)

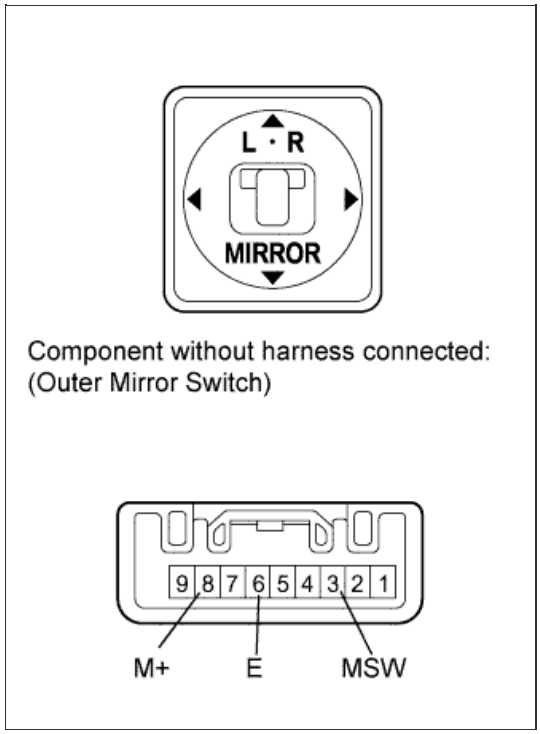
6.INSPECT OUTER MIRROR SWITCH ASSEMBLY

a. Remove the outer mirror switch (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
8 (M+) - 6 (E)	Up switch pushed	90 to 110 Ω
	Down switch pushed	437 to 502 Ω
	Left switch pushed	744 to 856 Ω
	Right switch pushed	207 to 253 Ω
	No switches pushed	10 kΩ or higher
3 (MSW) - 6 (E)	Mirror master switch L	90 to 110 Ω
	Mirror master switch R	Below 1 Ω
	Mirror master switch off	10 kΩ or higher



Component without harness connected:
(Outer Mirror Switch)

NG → REPLACE OUTER MIRROR SWITCH ASSEMBLY (Click here)

OK

7.CHECK HARNESS AND CONNECTOR (OUTER MIRROR SWITCH - MAIN BODY ECU)

a. Disconnect the E1 ECU connector.

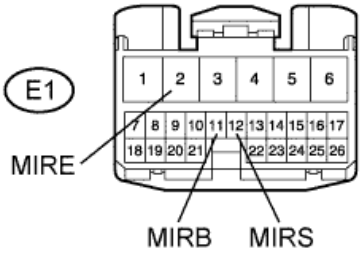
b. Disconnect the E94 switch connector.

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

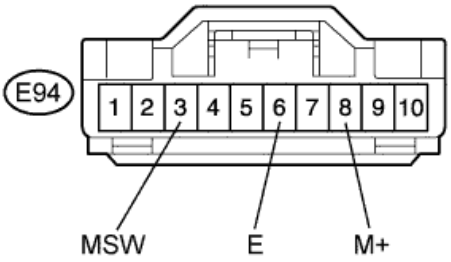
Standard Resistance:

Tester Connection	Condition	Specified Condition
E1-2 (MIRE) - E94-6 (E)	Always	Below 1 Ω
E1-11 (MIRB) - E94-8 (M+)	Always	Below 1 Ω
E1-12 (MIRS) - E94-3 (MSW)	Always	Below 1 Ω
E94-8 (M+) - Body ground	Always	10 kΩ or higher
E94-6 (E) - Body ground	Always	10 kΩ or higher
E94-3 (MSW) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Main Body ECU)



Front view of wire harness connector:
(to Outer Mirror Switch)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

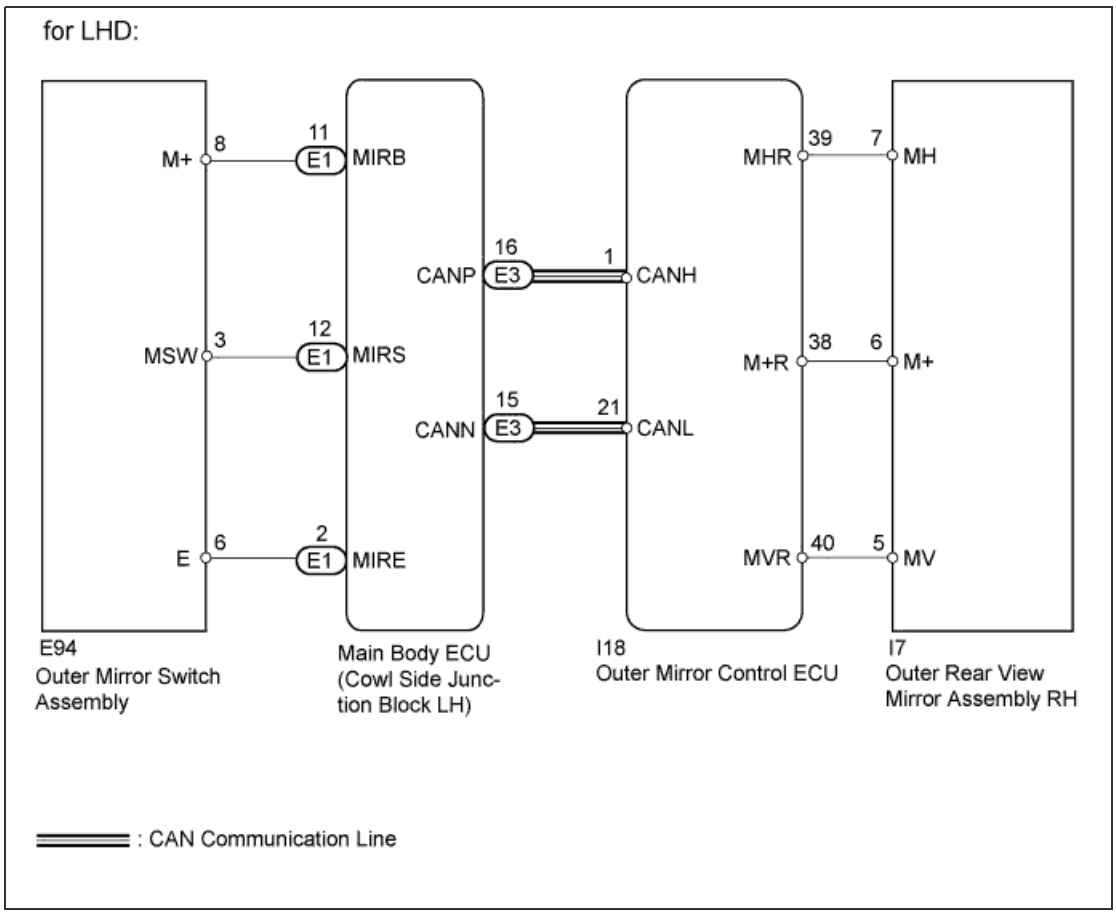
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

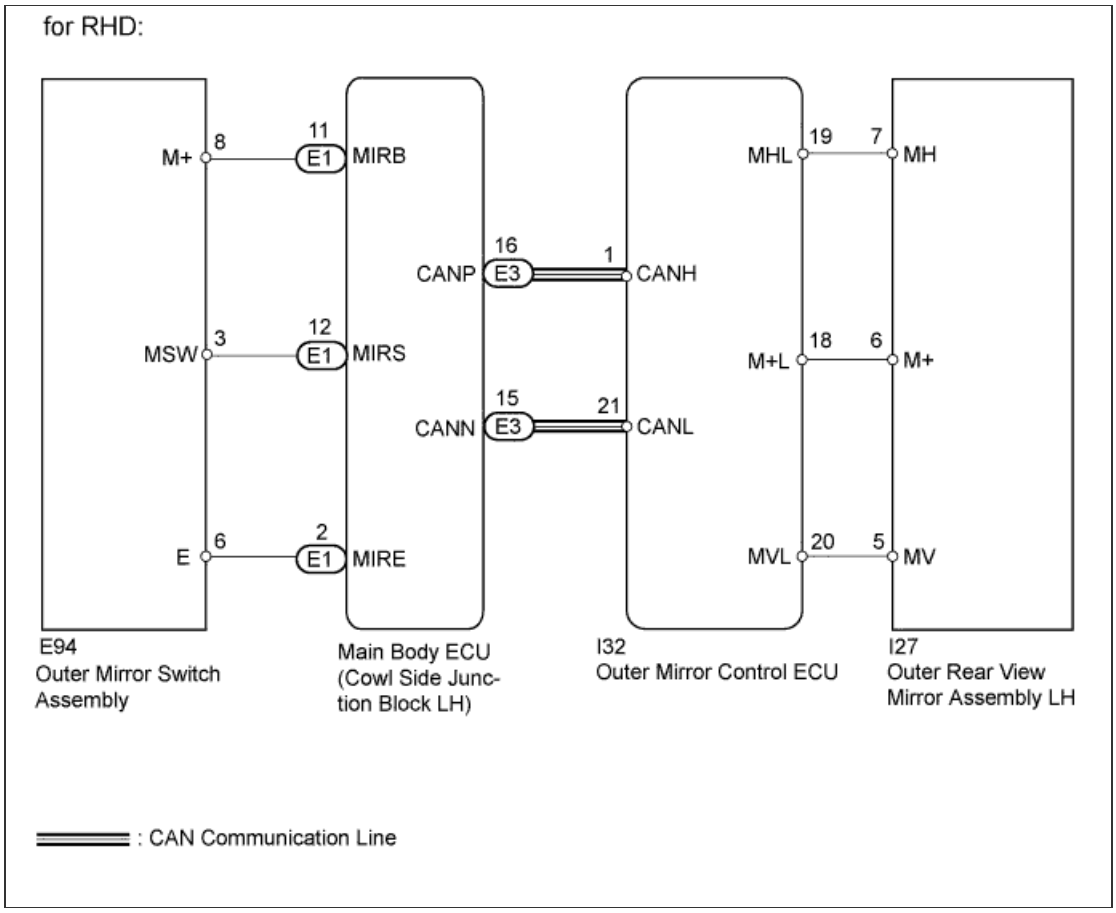
for Preparation Click here

SYSTEM DESCRIPTION

The circuit detects the conditions of the outer mirror switch.
The outer mirror switch sends information about the operating condition of the mirror switch (switch input signals) through the CAN communication line. Then the switch input signals are sent to the outer mirror control ECU. Mirror adjustment is controlled by the outer mirror control ECU.

WIRING DIAGRAM





INSPECTION PROCEDURE

1.CHECK DTC

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.READ VALUE USING INTELLIGENT TESTER (OUTER MIRROR SWITCH)

a. Check the Data List for proper functioning of the outer mirror switch (Click here).

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Mirror Selection SW (R)	Mirror master switch signal for RH mirror / ON or OFF	ON: Switch in R position OFF: Switch off or in L position	-
Mirror Selection SW (L)	Mirror master switch signal for LH mirror / ON or OFF	ON: Switch in L position OFF: Switch off or in R position	-
Mirror Position SW (R)	Mirror control switch signal (right) / ON or OFF	ON: Right switch on OFF: Any switch except right on or all switches off	-
Mirror Position SW (L)	Mirror control switch signal (left) / ON or OFF	ON: Left switch on OFF: Any switch except left on or all switches off	-
		ON: Up switch on	

Mirror Position SW (Up)	Mirror control switch signal (up) / ON or OFF	OFF: Any switch except up on or all switches off	-
Mirror Position SW (Dwn)	Mirror control switch signal (down) / ON or OFF	ON: Down switch on OFF: Any switch except down on or all switches off	-

OK:

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

NG → Go to step 6

OK ↓

3.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (POWER MIRROR CONTROL FUNCTION)

a. Select the Active Test, use the intelligent tester to generate a control command, and then check the power mirror control function (Click here).

Mirror

Tester Display	Test Part	Control Range	Diagnostic Note
RH Mirror Up/Down	Mirror vertical operation	Up / OFF / Down	-
RH Mirror Right/Left	Mirror horizontal operation	Right / OFF / Left	-
LH Mirror Up/Down	Mirror vertical operation	Up / OFF / Down	-
LH Mirror Right/Left	Mirror horizontal operation	Right / OFF / Left	-

Result

Result	Proceed to
Outer rear view mirror (for Passenger Side) does not operate normally	A
Outer rear view mirror (for Passenger Side) operates normally	B

B → REPLACE OUTER MIRROR CONTROL ECU (**Click here**)

A ↓

4.INSPECT OUTER REAR VIEW MIRROR ASSEMBLY (for Passenger Side)

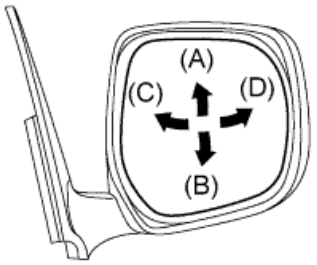
a. for LHD:

i. Remove the mirror RH (Click here).

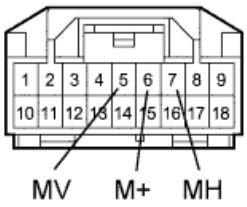
ii. Apply battery voltage and check the operation of the power mirror.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 5 (MV) Battery negative (-) → Terminal 6 (M+)	Turns upward (A)
Battery negative (-) → Terminal 5 (MV) Battery positive (+) → Terminal 6 (M+)	Turns downward (B)
Battery positive (+) → Terminal 7 (MH) Battery negative (-) → Terminal 6 (M+)	Turns left (C)
Battery negative (-) → Terminal 7 (MH) Battery positive (+) → Terminal 6 (M+)	Turns right (D)



Component without harness connected:
(Outer Rear View Mirror RH)



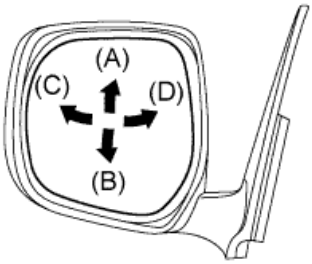
b. for RHD:

i. Remove the mirror LH (Click here).

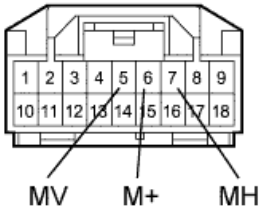
ii. Apply battery voltage and check the operation of the power mirror.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 5 (MV) Battery negative (-) → Terminal 6 (M+)	Turns upward (A)
Battery negative (-) → Terminal 5 (MV) Battery positive (+) → Terminal 6 (M+)	Turns downward (B)
Battery positive (+) → Terminal 7 (MH) Battery negative (-) → Terminal 6 (M+)	Turns left (C)
Battery negative (-) → Terminal 7 (MH) Battery positive (+) → Terminal 6 (M+)	Turns right (D)



Component without harness connected:
(Outer Rear View Mirror LH)



NG → REPLACE OUTER REAR VIEW MIRROR ASSEMBLY (for Passenger Side) (Click here)

OK

5.CHECK HARNESS AND CONNECTOR (OUTER REAR VIEW MIRROR ASSEMBLY - OUTER MIRROR CONTROL ECU)

a. for LHD:

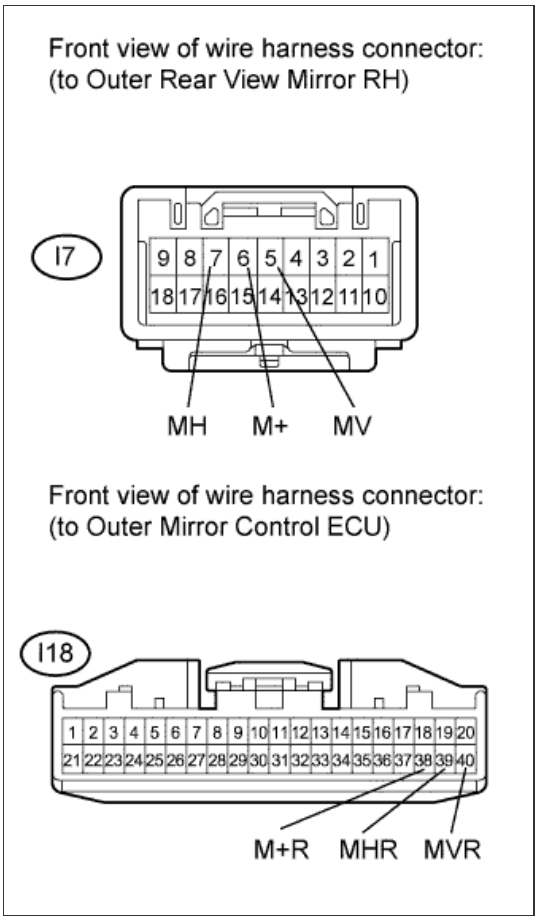
i. Disconnect the I18 ECU connector.

ii. Disconnect the I7 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I18-38 (M+R) - I7-6 (M+)	Always	Below 1 Ω
I18-39 (MHR) - I7-7 (MH)		
I18-40 (MVR) - I7-5 (MV)		
I7-6 (M+) - Body ground	Always	10 kΩ or higher
I7-7 (MH) - Body ground		
I7-5 (MV) - Body ground		



b. for RHD:

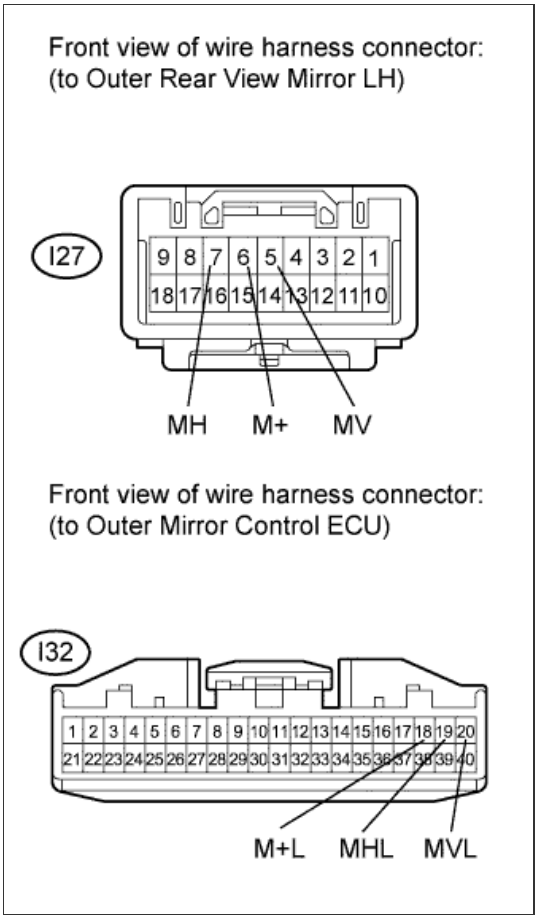
i. Disconnect the I32 ECU connector.

ii. Disconnect the I27 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I32-18 (M+L) - I27-6 (M+)	Always	Below 1 Ω
I32-19 (MHL) - I27-7 (MH)		
I32-20 (MVL) - I27-5 (MV)		
I27-6 (M+) - Body ground	Always	10 kΩ or higher
I27-7 (MH) - Body ground		
I27-5 (MV) - Body ground		



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE OUTER MIRROR CONTROL ECU (Click here)

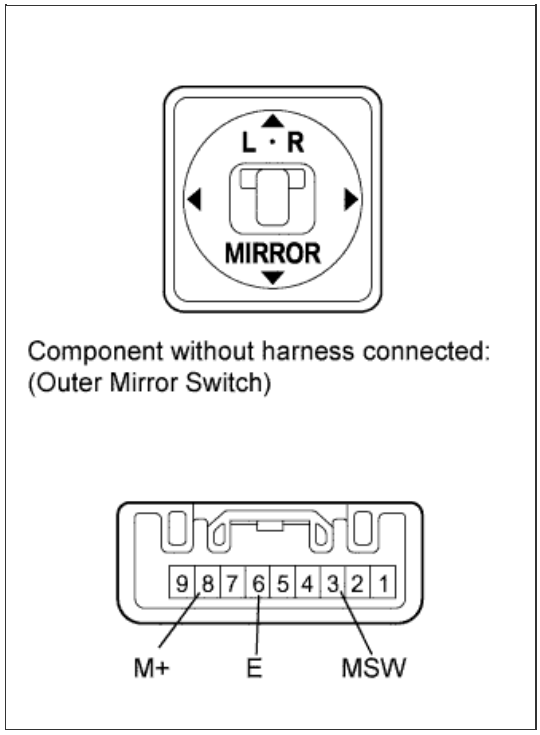
6.INSPECT OUTER MIRROR SWITCH ASSEMBLY

a. Remove the outer mirror switch (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
8 (M+) - 6 (E)	Up switch pushed	90 to 110 Ω
	Down switch pushed	437 to 502 Ω
	Left switch pushed	744 to 856 Ω
	Right switch pushed	207 to 253 Ω
	No switches pushed	10 kΩ or higher
3 (MSW) - 6 (E)	Mirror master switch R	Below 1 Ω
	Mirror master switch L	90 to 110 Ω
	Mirror master switch off	10 kΩ or higher



Component without harness connected:
(Outer Mirror Switch)

NG → REPLACE OUTER MIRROR SWITCH ASSEMBLY (Click here)

OK

7.CHECK HARNESS AND CONNECTOR (OUTER MIRROR SWITCH - MAIN BODY ECU)

a. Disconnect the E1 ECU connector.

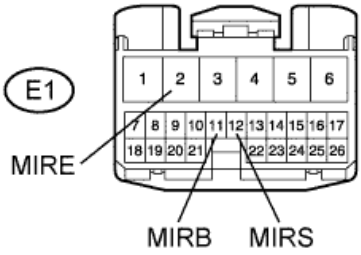
b. Disconnect the E94 switch connector.

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

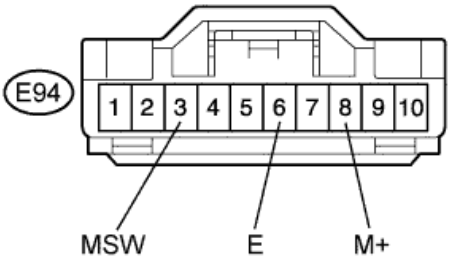
Standard Resistance:

Tester Connection	Condition	Specified Condition
E1-2 (MIRE) - E94-6 (E)	Always	Below 1 Ω
E1-11 (MIRB) - E94-8 (M+)	Always	Below 1 Ω
E1-12 (MIRS) - E94-3 (MSW)	Always	Below 1 Ω
E94-8 (M+) - Body ground	Always	10 kΩ or higher
E94-6 (E) - Body ground	Always	10 kΩ or higher
E94-3 (MSW) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Main Body ECU)



Front view of wire harness connector:
(to Outer Mirror Switch)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

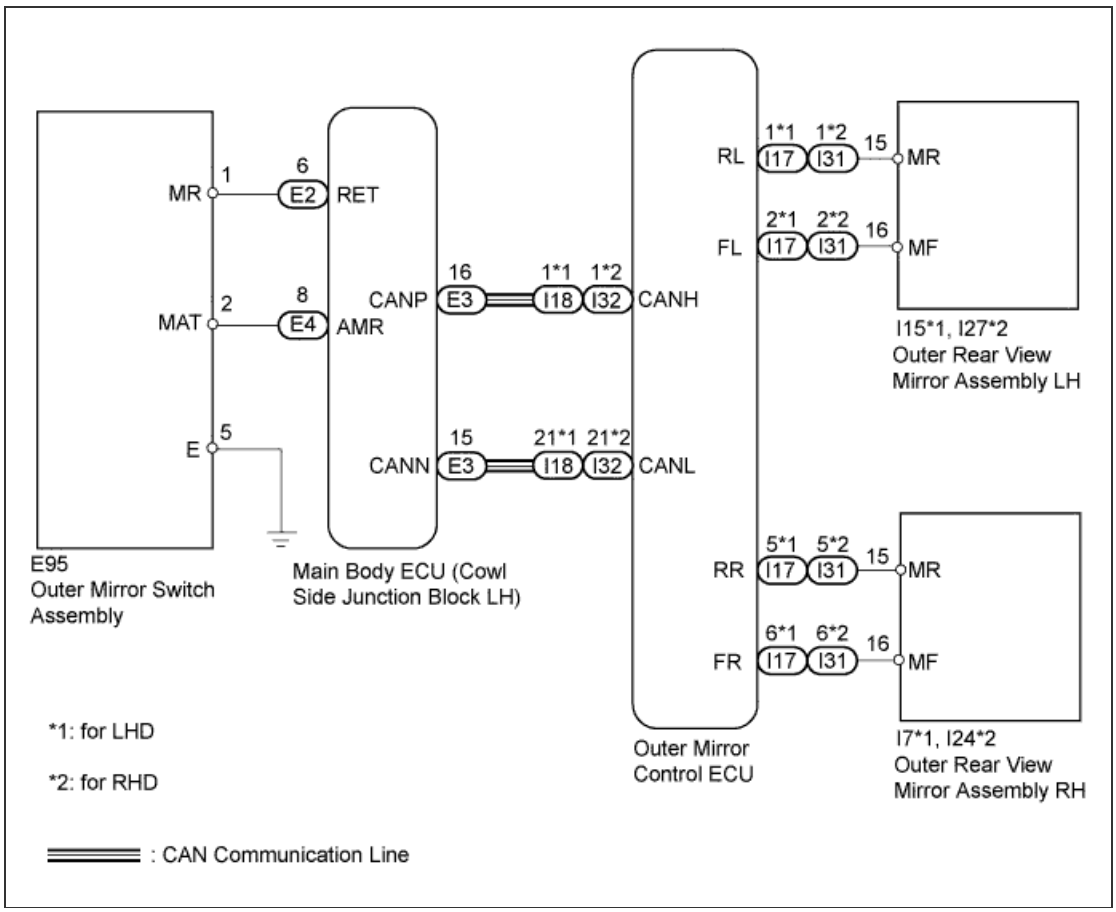
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

for Preparation Click here

SYSTEM DESCRIPTION

This circuit detects the conditions of the mirror retract switch.
The outer mirror switch sends information about the operating condition of the mirror retract switch (switch input signals) through the CAN communication line. Then the switch input signals are sent to the outer mirror control ECU.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK DTC

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.READ VALUE USING INTELLIGENT TESTER (MIRROR RETRACT SWITCH)

a. Check the Data List for proper functioning of the mirror retract switch (Click here).

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Outer Mirror Fold SW	Mirror retract switch signal (fold) / ON or OFF	ON: Switch in fold position OFF: Switch not in fold position	-
Auto Mirror SW	Mirror retract switch signal (AUTO) /ON or OFF	ON: Switch in AUTO position OFF: Switch not in AUTO position	-

OK:

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

NG → Go to step 4

OK

3.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (MIRROR RETRACT FUNCTION)

a. Select the Active Test, use the intelligent tester to generate a control command, and then check the power mirror control function (Click here).

Mirror

Tester Display	Test Part	Control Range	Diagnostic Note
Mirror Fold	Mirror retract operation	ON / OFF	-
Mirror Return	Mirror retract operation	ON / OFF	-

Result

Result	Proceed to
Outer rear view mirror operates normally	A
Outer rear view mirror LH does not operate normally	B
Outer rear view mirror RH does not operate normally	C

B → Go to step 6

C → Go to step 8

A

REPLACE OUTER MIRROR CONTROL ECU (Click here)

4.INSPECT OUTER MIRROR SWITCH ASSEMBLY (MIRROR RETRACT SWITCH)

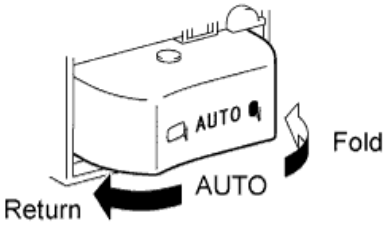
a. Remove the outer mirror switch (Click here).

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

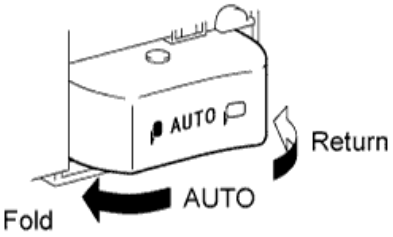
Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
5 (E) - 1 (MR)	Mirror retract switch in fold position	Below 1 Ω
	Mirror retract switch not in fold position	10 kΩ or higher
5 (E) - 2 (MAT)	Mirror retract switch in AUTO position	Below 1 Ω
	Mirror retract switch not in AUTO position	10 kΩ or higher

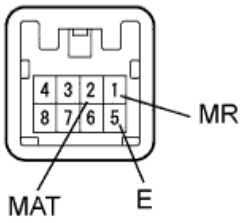
for LHD:



for RHD:



Component without harness connected:
(Outer Mirror Switch)



H

NG → REPLACE OUTER MIRROR SWITCH ASSEMBLY (Click here)

OK

5.CHECK HARNESS AND CONNECTOR (OUTER MIRROR SWITCH - MAIN BODY ECU AND BODY GROUND)

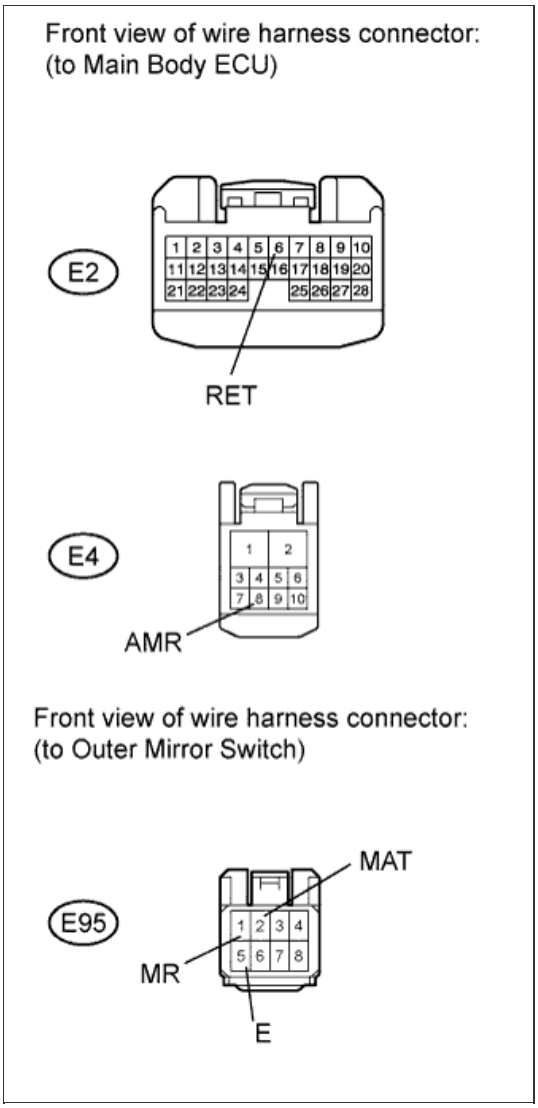
a. Disconnect the E2 and E4 ECU connectors.

b. Disconnect the E95 switch connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E2-6 (RET) - E95-1 (MR)	Always	Below 1 Ω
E95-5 (E) - Body ground		
E4-8 (AMR) - E95-2 (MAT)		
E95-1 (MR) - Body ground	Always	10 kΩ or higher
E95-2 (MAT) - Body ground		



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

6.INSPECT OUTER REAR VIEW MIRROR ASSEMBLY LH

a. Remove the mirror LH (Click here).

b. For each mirror position: Disconnect the battery, set the mirror position by hand, connect the battery, and check the retractable mirror movement.

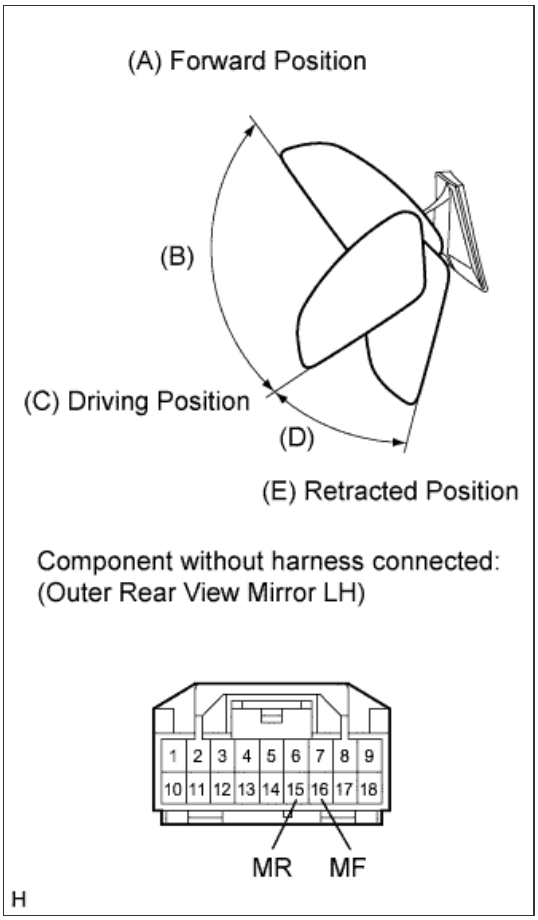
NOTICE:

- **Disconnect and reconnect the battery once between each mirror position check.**
- **The mirror position cannot be changed manually when the battery is connected. To change the mirror position manually, the battery must be disconnected first.**

OK:

Measurement Condition	Mirror Position	Specified Condition
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Forward position (A)	Moves from (A) to retracted position (E)
Battery negative (-)		

→ Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Forward position (A)	Does not move
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Position between forward position (A) and driving position (C)	Moves from (B) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Position between forward position (A) and driving position (C)	Moves from (B) to forward position (A)
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Driving position (C)	Moves from (C) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Driving position (C)	Does not move
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Position between driving position (C) and retracted position (E)	Moves from (D) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Position between driving position (C) and retracted position (E)	Moves from (D) to driving position (C)
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Retracted position (E)	Does not move
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Retracted position (E)	Moves from (E) to driving position (C)



NG → REPLACE OUTER REAR VIEW MIRROR ASSEMBLY LH (Click here)

OK

7.CHECK HARNESS AND CONNECTOR (OUTER REAR VIEW MIRROR LH - OUTER MIRROR CONTROL ECU)

a. for LHD:

i. Disconnect the I17 ECU connector.

ii. Disconnect the I15 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I17-1 (RL) - I15-15 (MR)	Always	Below 1 Ω
I17-2 (FL) - I15-16 (MF)		
I15-15 (MR) - Body ground	Always	10 kΩ or higher
I15-16 (MF) - Body ground		

b. for RHD:

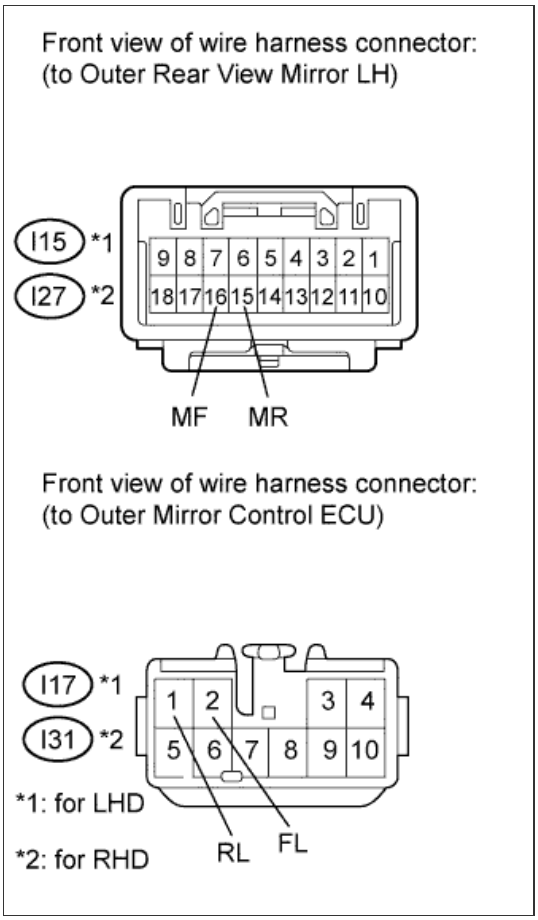
i. Disconnect the I31 ECU connector.

ii. Disconnect the I27 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I31-1 (RL) - I27-15 (MR)	Always	Below 1 Ω
I31-2 (FL) - I27-16 (MF)		
I27-15 (MR) - Body ground	Always	10 kΩ or higher
I27-16 (MF) - Body ground		



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE OUTER MIRROR CONTROL ECU (Click here)

8.INSPECT OUTER REAR VIEW MIRROR ASSEMBLY RH

a. Remove the mirror RH (Click here).

b. For each mirror position: Disconnect the battery, set the mirror position by hand, connect the battery, and check the retractable mirror movement.

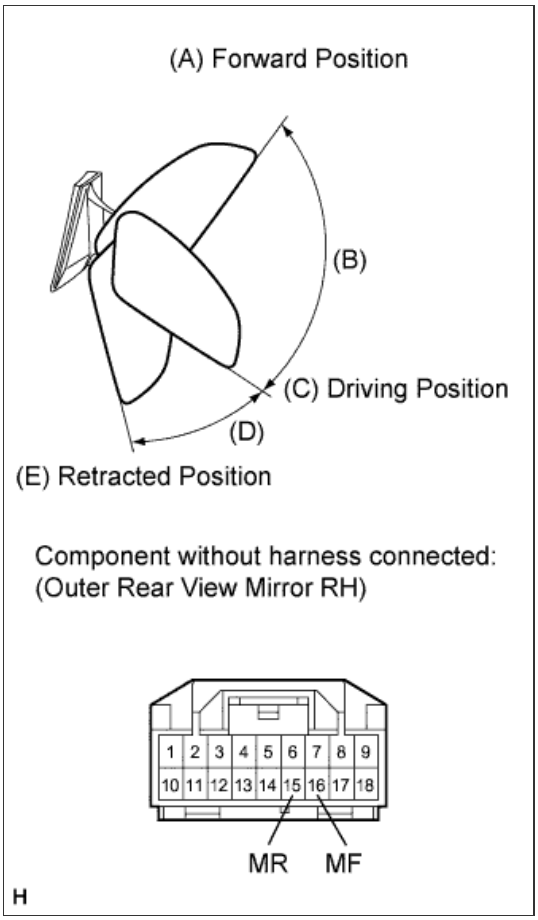
NOTICE:

- **Disconnect and reconnect the battery once between each mirror position check.**
- **The mirror position cannot be changed manually when the battery is connected. To change the mirror position manually, the battery must be disconnected first.**

OK:

Measurement Condition	Mirror Position	Specified Condition
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Forward position (A)	Moves from (A) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Forward position (A)	Does not move

Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Position between forward position (A) and driving position (C)	Moves from (B) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Position between forward position (A) and driving position (C)	Moves from (B) to forward position (A)
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Driving position (C)	Moves from (C) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Driving position (C)	Does not move
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Position between driving position (C) and retracted position (E)	Moves from (D) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Position between driving position (C) and retracted position (E)	Moves from (D) to driving position (C)
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Retracted position (E)	Does not move
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Retracted position (E)	Moves from (E) to driving position (C)



NG → REPLACE OUTER REAR VIEW MIRROR ASSEMBLY RH (Click here)

OK

9.CHECK HARNESS AND CONNECTOR (OUTER REAR VIEW MIRROR RH - OUTER MIRROR CONTROL ECU)

a. for LHD:

i. Disconnect the I17 ECU connector.

ii. Disconnect the I7 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I17-5 (RR) - I7-		

15 (MR)	Always	Below 1 Ω
I17-6 (FR) - I7-16 (MF)		
I7-15 (MR) - Body ground	Always	10 kΩ or higher
I7-16 (MF) - Body ground		

b. for RHD:

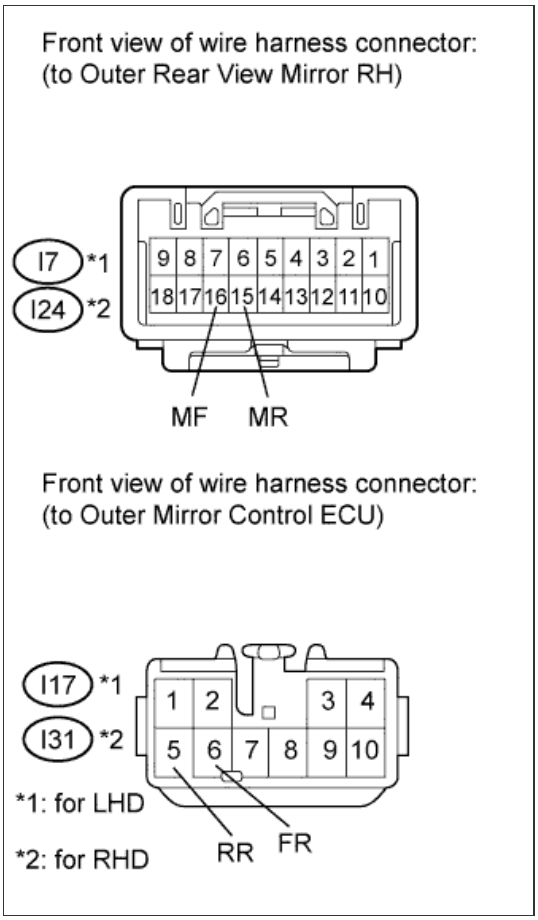
i. Disconnect the I31 ECU connector.

ii. Disconnect the I24 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I31-5 (RR) - I24-15 (MR)	Always	Below 1 Ω
I31-6 (FR) - I24-16 (MF)		
I24-15 (MR) - Body ground	Always	10 kΩ or higher
I24-16 (MF) - Body ground		



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE OUTER MIRROR CONTROL ECU (Click here)

for Preparation Click here

SYSTEM DESCRIPTION

The outer rear view mirror assembly has a mirror position sensor. The position control ECU and switch sends instructions to the outer mirror control ECU. Then the outer mirror control ECU receives mirror information from the mirror position sensors, and memorizes the mirror positions.

INSPECTION PROCEDURE

1.CHECK DTC

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.CHECK SEAT MEMORY SWITCH FUNCTION (SEAT POSITION MEMORY FUNCTION)

a. Check that the driver side seat can be moved using the seat memory switch.

OK:

Driver side seat can be moved using seat memory switch.

NG → GO TO POWER SEAT CONTROL SYSTEM (Click here)

OK

3.CHECK SEAT MEMORY SWITCH FUNCTION (REGISTRATION OF SEAT MEMORY SWITCH)

a. Check that the memory operation is properly completed.

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 the operation fails, the mirror facing direction will not be memorized until the seat memory SET switch is turned off.**
- **The mirror facing direction will not be memorized when the mirror is operated manually.**

OK:

Driver side seat position can be memorized using seat memory switch (for Driver Side).

NG → Go to step 4

OK

SYSTEM IS OK

4.READ VALUE USING INTELLIGENT TESTER (MIRROR POSITION MEMORY)

a. Check the Data List for proper functioning of the mirror position memory (Click here).

Mirror

Tester Display	Measurement Item/Display	Normal Condition	Diagnostic Note
Mirror Memory No.1	Mirror position memorized in seat memory switch 1 / ON or OFF	ON: Memorized	-

		OFF: Not memorized	
Mirror Memory No.2	Mirror position memorized in seat memory switch 2 / ON or OFF	ON: Memorized OFF: Not memorized	-
Mirror Memory No.3	Mirror position memorized in seat memory switch 3 / ON or OFF	ON: Memorized OFF: Not memorized	-

OK:

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

NG → REPLACE OUTER MIRROR CONTROL ECU (Click here)

OK

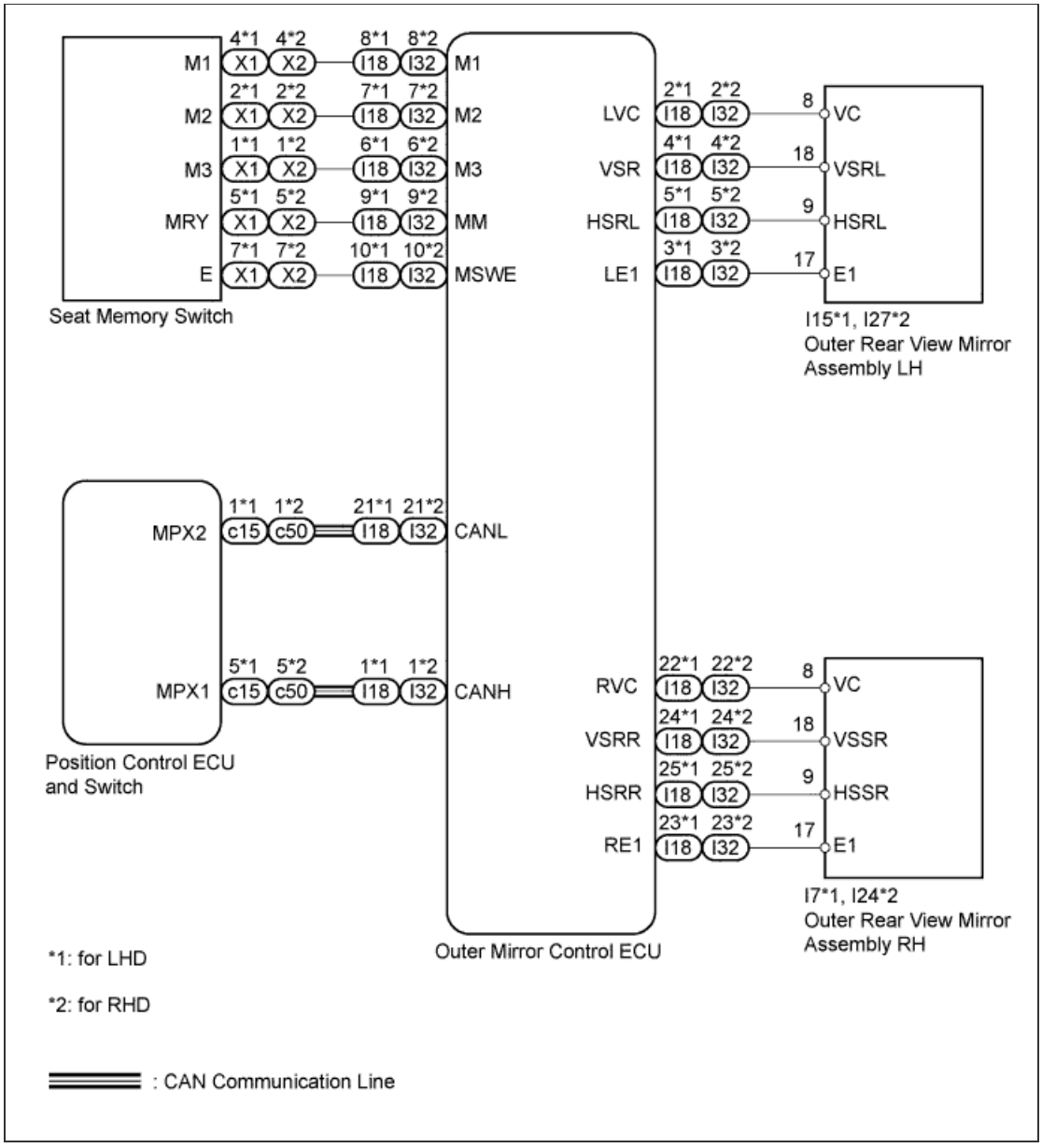
REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

for Preparation Click here

SYSTEM DESCRIPTION

When the seat memory switch 1, seat memory switch 2 or seat memory switch 3 is pressed, the position control ECU and switch mirror position signal is sent through the CAN communication line to the outer mirror control ECU. The outer mirror control ECU then activates the mirror control motors to move the mirrors to the previously recorded positions.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK DTC

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.CHECK POWER MIRROR CONTROL FUNCTION

a. Check that the mirror surface positions of the outer rear view mirror LH and RH can be moved using the outer mirror switch.

OK:
Mirror surface positions of the outer rear view mirror LH and RH can be moved using the outer mirror switch.

NG → PROCEED TO NEXT INSPECTION PROCEDURE SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

OK

3.READ VALUE USING INTELLIGENT TESTER (MIRROR POSITION MEMORY)

a. Check the Data List for proper functioning of the mirror position memory (Click here).

Mirror

Tester Display	Measurement Item/Display	Normal Condition	Diagnostic Note
Mirror Memory No.1	Mirror position memorized in seat memory switch 1 / ON or OFF	ON: Memorized OFF: Not memorized	-
Mirror Memory No.2	Mirror position memorized in seat memory switch 2 / ON or OFF	ON: Memorized OFF: Not memorized	-
Mirror Memory No.3	Mirror position memorized in seat memory switch 3 / ON or OFF	ON: Memorized OFF: Not memorized	-

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

NG → REPLACE OUTER MIRROR CONTROL ECU (Click here)

OK

4.READ VALUE USING INTELLIGENT TESTER (MIRROR POSITION SENSOR)

a. Check the Data List for proper functioning of the mirror position sensor (Click here).

Mirror

Tester Display	Measurement Item/Display	Normal Condition	Diagnostic Note
RH Mir Position Sensor V	RH side mirror vertical sensor voltage / MIN: 0 V, MAX: 5 V	Within range from 0 to 5 V	-
RH Mir Position Sensor H	RH side mirror horizontal sensor voltage / MIN: 0 V, MAX: 5 V	Within range from 0 to 5 V	-
LH Mir Position Sensor V	LH side mirror vertical sensor voltage / MIN: 0 V, MAX: 5 V	Within range from 0 to 5 V	-
LH Mir Position Sensor H	LH side mirror horizontal sensor voltage / MIN: 0 V, MAX: 5 V	Within range from 0 to 5 V	-

OK:
When mirror control switch is operated, voltage changes within range shown in above chart.

Result

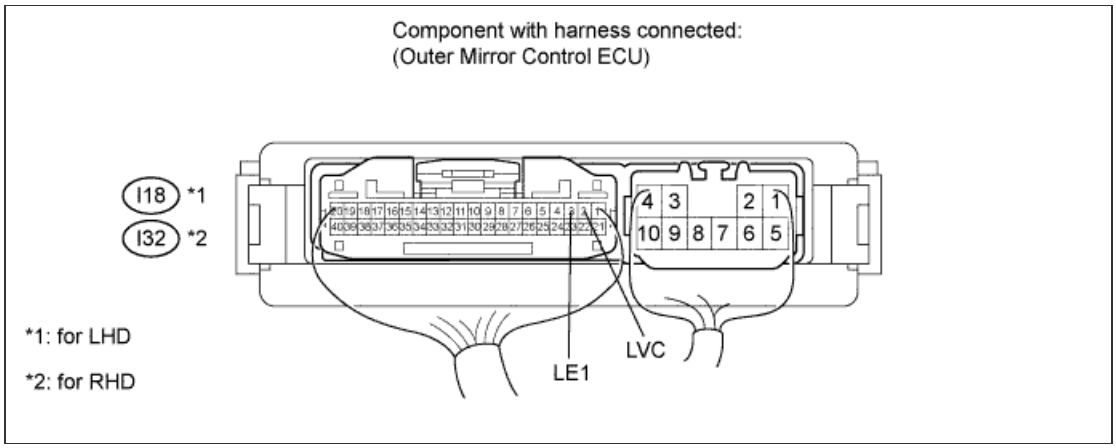
Result	Proceed to
LH side mirror does not operate normally	A
RH side mirror does not operate normally	B
Mirror operates normally	C

B → Go to step 7

C → GO TO FRONT POWER SEAT CONTROL SYSTEM (Click here)

A

5.CHECK OUTER MIRROR CONTROL ECU (POWER SOURCE FOR MIRROR POSITION SENSOR)



a. for LHD:

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
I18-2 (LVC) - I18-3 (LE1)	Engine switch on (IG)	4.7 to 5.5 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I18-3 (LE1) - Body ground	Always	Below 1 Ω

b. for RHD:

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
I32-2 (LVC) - I32-3 (LE1)	Engine switch on (IG)	4.7 to 5.5 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I32-3 (LE1) - Body ground	Always	Below 1 Ω

NG → REPLACE OUTER MIRROR CONTROL ECU (Click here)

OK

6.CHECK HARNESS AND CONNECTOR (OUTER REAR VIEW MIRROR LH - OUTER MIRROR CONTROL ECU)

a. for LHD:

i. Disconnect the I18 ECU connector.

ii. Disconnect the I15 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I18-2 (LVC) - I15-8 (VC)	Always	Below 1 Ω
I18-3 (LE1) - I15-17 (E1)		
I18-4 (VSR) - I15-18 (VSRL)		
I18-5 (HSRL) - I15-9 (HSRL)		
I15-8 (VC) - Body ground	Always	10 kΩ or higher
I15-17 (E1) - Body ground		
I15-18 (VSRL) - Body ground		
I15-9 (HSRL) - Body ground		

b. for RHD:

i. Disconnect the I32 ECU connector.

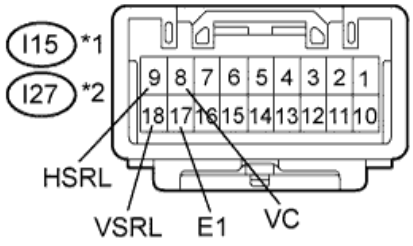
ii. Disconnect the I27 mirror connector.

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

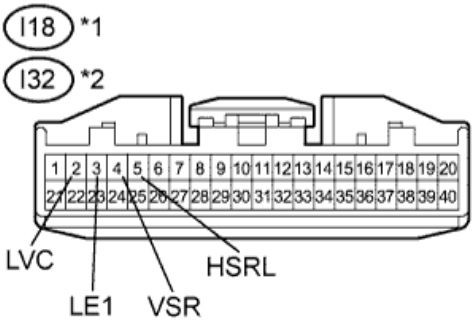
Standard Resistance:

Tester Connection	Condition	Specified Condition
I32-2 (LVC) - I27-8 (VC)	Always	Below 1 Ω
I32-3 (LE1) - I27-17 (E1)		
I32-4 (VSR) - I27-18 (VSRL)		
I32-5 (HSRL) - I27-9 (HSRL)		
I27-8 (VC) - Body ground	Always	10 kΩ or higher
I27-17 (E1) - Body ground		
I27-18 (VSRL) - Body ground		
I27-9 (HSRL) - Body ground		

Front view of wire harness connector:
(to Outer Rear View Mirror LH)



Front view of wire harness connector:
(to Outer Mirror Control ECU)



*1: for LHD

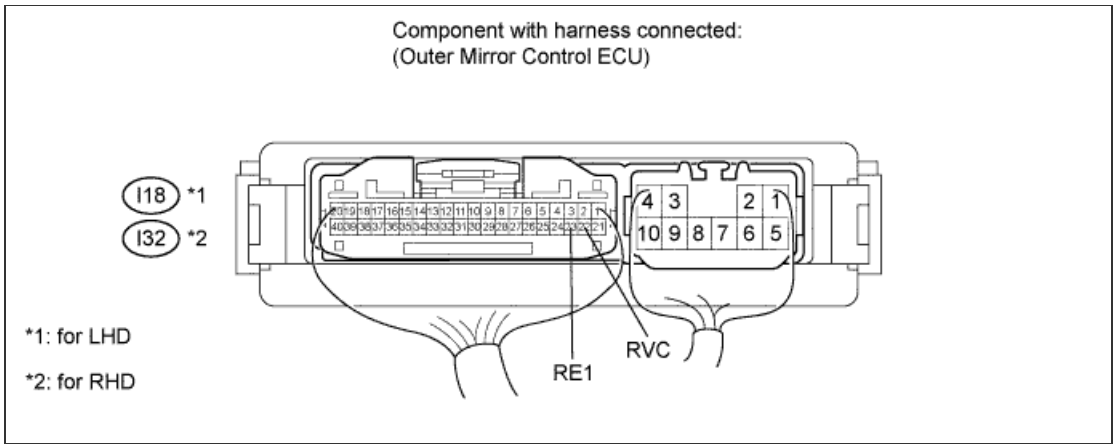
*2: for RHD

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE OUTER REAR VIEW MIRROR ASSEMBLY LH (Click here)

7.CHECK OUTER MIRROR CONTROL ECU (POWER SOURCE FOR MIRROR POSITION SENSOR)



a. for LHD:

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
I18-22 (RVC) - I18-23 (RE1)	Engine switch on (IG)	4.7 to 5.5 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I18-23 (RE1) - Body ground	Always	Below 1 Ω

b. for RHD:

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
I32-22 (RVC) - I32-23 (RE1)	Engine switch on (IG)	4.7 to 5.5 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I32-23 (RE1) - Body ground	Always	Below 1 Ω

NG → REPLACE OUTER MIRROR CONTROL ECU (Click here)

OK

8.CHECK HARNESS AND CONNECTOR (OUTER REAR VIEW MIRROR RH - OUTER MIRROR CONTROL ECU)

a. for LHD:

i. Disconnect the I18 ECU connector.

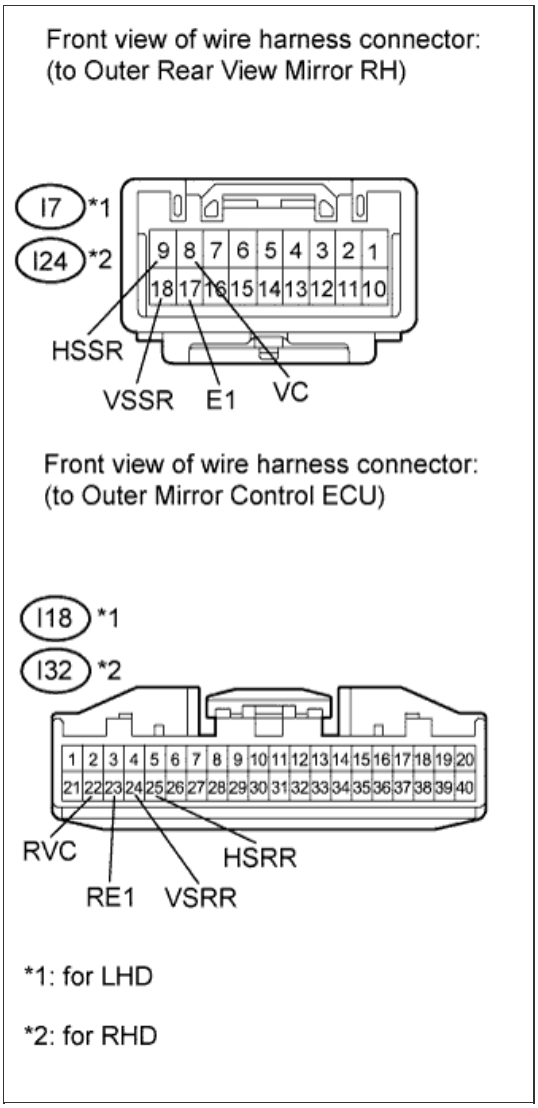
ii. Disconnect the I7 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition

I18-22 (RVC) - I7-8 (VC)	Always	Below 1 Ω
I18-23 (RE1) - I7-17 (E1)		
I18-24 (VSRR) - I7-18 (VSSR)		
I18-25 (HSRR) - I7-9 (HSSR)		
I7-8 (VC) - Body ground	Always	10 kΩ or higher
I7-17 (E1) - Body ground		
I7-18 (VSSR) - Body ground		
I7-9 (HSSR) - Body ground		



b. for RHD:

i. Disconnect the I32 ECU connector.

ii. Disconnect the I24 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I32-22 (RVC) - I24-8 (VC)	Always	Below 1 Ω
I32-23 (RE1) - I24-17 (E1)		
I32-24 (VSRR) - I24-18 (VSSR)		
I32-25 (HSRR) - I24-9 (HSSR)		
I24-8 (VC) - Body ground	Always	10 kΩ or higher
I24-17 (E1) - Body ground		
I24-18 (VSSR) - Body ground		
I24-9 (HSSR) - Body ground		

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE OUTER REAR VIEW MIRROR ASSEMBLY RH (Click here)

for Preparation Click here

SYSTEM DESCRIPTION

When the reverse signal is sent from the ECM through the CAN communication line to the outer mirror control ECU, the outer mirror control ECU activates the outer rear view mirror LH and RH reverse shift-linked function.

HINT:

The reverse shift-linked function will not occur when the mirror master switch is in the neutral position (off).

INSPECTION PROCEDURE

1.CHECK DTC

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.CHECK OPERATION OF SHIFT INDICATOR

a. Check that the shift indicator of the combination meter operates normally.

OK:

Shift indicator of combination meter operates normally.

NG → GO TO METER / GAUGE SYSTEM (Click here)

OK

3.READ VALUE USING INTELLIGENT TESTER (MIRROR POSITION SENSOR)

a. Check the Data List for proper functioning of the mirror position sensor (Click here).

Mirror

Tester Display	Measurement Item/Display	Normal Condition	Diagnostic Note
RH Mir Position Sensor V	RH side mirror vertical sensor voltage / MIN: 0 V, MAX: 5 V	Within range from 0 to 5 V	-
LH Mir Position Sensor V	LH side mirror vertical sensor voltage / MIN: 0 V, MAX: 5 V	Within range from 0 to 5 V	-

OK:

When mirror control switch is operated to turn mirror upward or downward, voltage changes within range shown in above chart.

Result

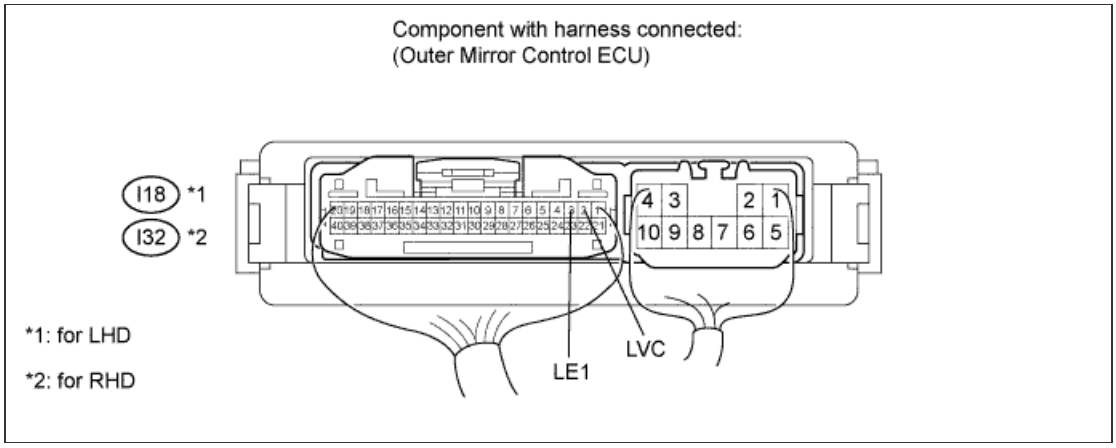
Result	Proceed to
LH side mirror does not operate normally	A
RH side mirror does not operate normally	B
Mirror operates normally	C

B → Go to step 6

C → REPLACE OUTER MIRROR CONTROL ECU (Click here)

A

4.CHECK OUTER MIRROR CONTROL ECU (POWER SOURCE FOR MIRROR POSITION SENSOR)



a. for LHD:

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
I18-2 (LVC) - I18-3 (LE1)	Engine switch on (IG)	4.7 to 5.5 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I18-3 (LE1) - Body ground	Always	Below 1 Ω

b. for RHD:

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
I32-2 (LVC) - I32-3 (LE1)	Engine switch on (IG)	4.7 to 5.5 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I32-3 (LE1) - Body ground	Always	Below 1 Ω

NG → REPLACE OUTER MIRROR CONTROL ECU (Click here)

OK

5.CHECK HARNESS AND CONNECTOR (OUTER REAR VIEW MIRROR LH - OUTER MIRROR CONTROL ECU)

a. for LHD:

i. Disconnect the I18 ECU connector.

ii. Disconnect the I15 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I18-2 (LVC) - I15-8 (VC)	Always	Below 1 Ω
I18-3 (LE1) - I15-17 (E1)		
I18-4 (VSR) - I15-18 (VSRL)		
I15-8 (VC) - Body ground	Always	10 kΩ or higher
I15-17 (E1) - Body ground		
I15-18 (VSRL) - Body ground		

b. for RHD:

i. Disconnect the I32 ECU connector.

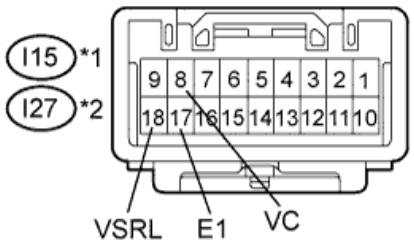
ii. Disconnect the I27 mirror connector.

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

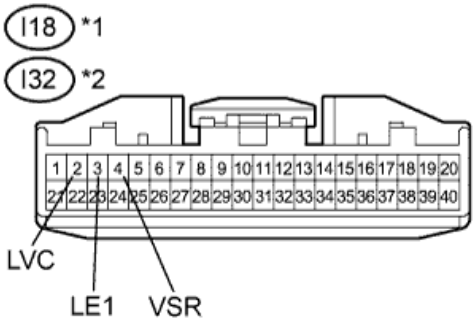
Standard Resistance:

Tester Connection	Condition	Specified Condition
I32-2 (LVC) - I27-8 (VC)	Always	Below 1 Ω
I32-3 (LE1) - I27-17 (E1)		
I32-4 (VSR) - I27-18 (VSRL)		
I27-8 (VC) - Body ground	Always	10 kΩ or higher
I27-17 (E1) - Body ground		
I27-18 (VSRL) - Body ground		

Front view of wire harness connector:
(to Outer Rear View Mirror LH)



Front view of wire harness connector:
(to Outer Mirror Control ECU)



*1: for LHD

*2: for RHD

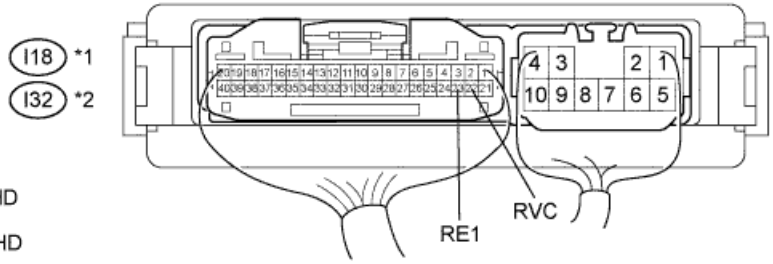
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE OUTER REAR VIEW MIRROR ASSEMBLY LH (Click here)

6.CHECK OUTER MIRROR CONTROL ECU (POWER SOURCE FOR MIRROR POSITION SENSOR)

Component with harness connected:
(Outer Mirror Control ECU)



*1: for LHD

*2: for RHD

a. for LHD:

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
I18-22 (RVC) - I18-23 (RE1)	Engine switch on (IG)	4.7 to 5.5 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I18-23 (RE1) - Body ground	Always	Below 1 Ω

b. for RHD:

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
I32-22 (RVC) - I32-23 (RE1)	Engine switch on (IG)	4.7 to 5.5 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I32-23 (RE1) - Body ground	Always	Below 1 Ω

NG → REPLACE OUTER MIRROR CONTROL ECU (Click here)

OK

7.CHECK HARNESS AND CONNECTOR (OUTER REAR VIEW MIRROR RH - OUTER MIRROR CONTROL ECU)

a. for LHD:

i. Disconnect the I18 ECU connector.

ii. Disconnect the I7 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I18-22 (RVC) - I7-8 (VC)	Always	Below 1 Ω
I18-23 (RE1) - I7-17 (E1)		
I18-24 (VSRR) - I7-18 (VSSR)		
I7-8 (VC) - Body ground	Always	10 kΩ or higher
I7-17 (E1) - Body ground		
I7-18 (VSSR) - Body ground		

b. for RHD:

i. Disconnect the I32 ECU connector.

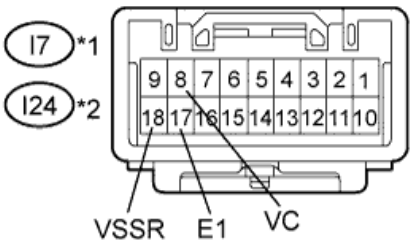
ii. Disconnect the I24 mirror connector.

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

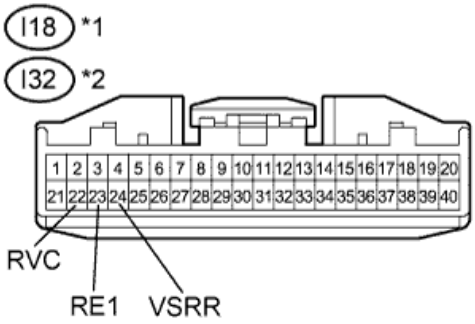
Standard Resistance:

Tester Connection	Condition	Specified Condition
I32-22 (RVC) - I24-8 (VC)	Always	Below 1 Ω
I32-23 (RE1) - I24-17 (E1)		
I32-24 (VSRR) - I24-18 (VSSR)		
I24-8 (VC) - Body ground	Always	10 kΩ or higher
I24-17 (E1) - Body ground		
I24-18 (VSSR) - Body ground		

Front view of wire harness connector:
(to Outer Rear View Mirror RH)



Front view of wire harness connector:
(to Outer Mirror Control ECU)



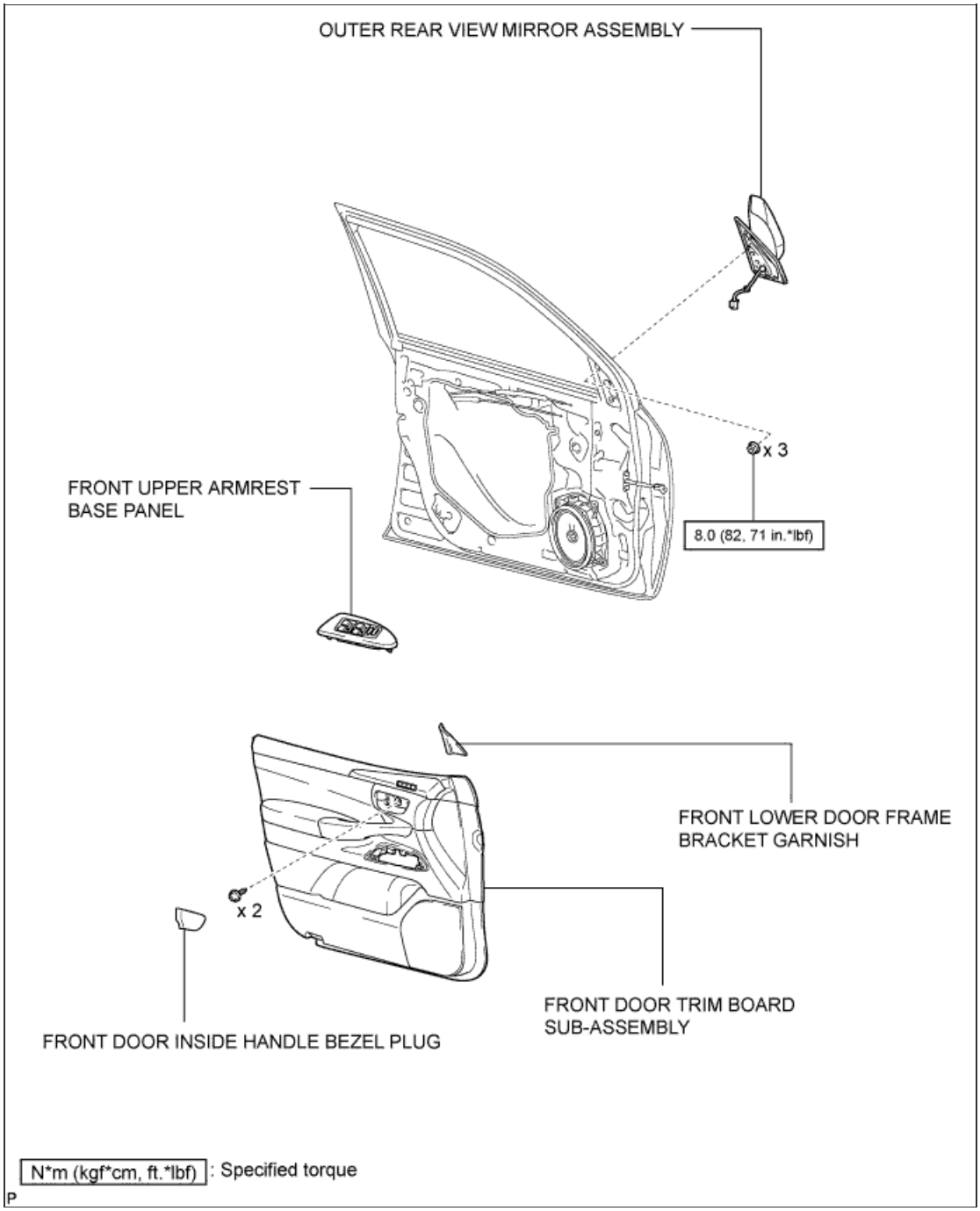
*1: for LHD

*2: for RHD

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE OUTER REAR VIEW MIRROR ASSEMBLY RH (Click here)

for Preparation [Click here]



for Preparation Click here

1. CHECK POWER RETRACTABLE MIRROR

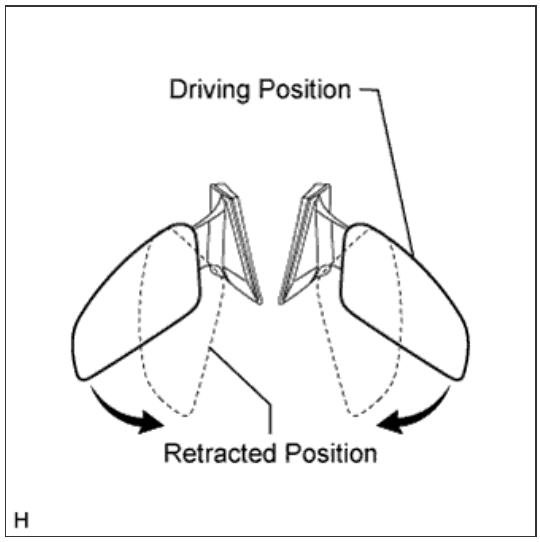
a. Turn the engine switch on (ACC).

b. At each position of the outer mirror body, check the retractable mirror operation when operating the retract switch of the outer mirror.

i. Move the mirrors to the driving position.

ii. Push the mirror retract switch to the fold position.

iii. Check that the right and left mirrors move from the driving position to the retracted position.



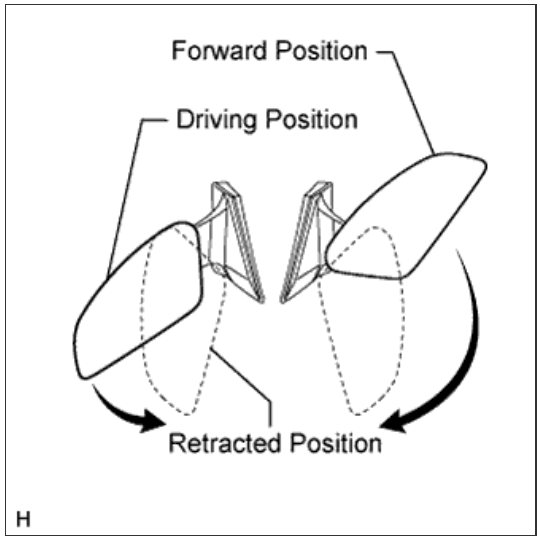
iv. Move the mirrors to the driving position.

v. Move one of the mirrors to the forward position by hand.

vi. Push the mirror retract switch to the fold position.

vii. Check that the mirror moves from the forward position to the retracted position.

viii. Check that the other mirror moves from the driving position to the retracted position.

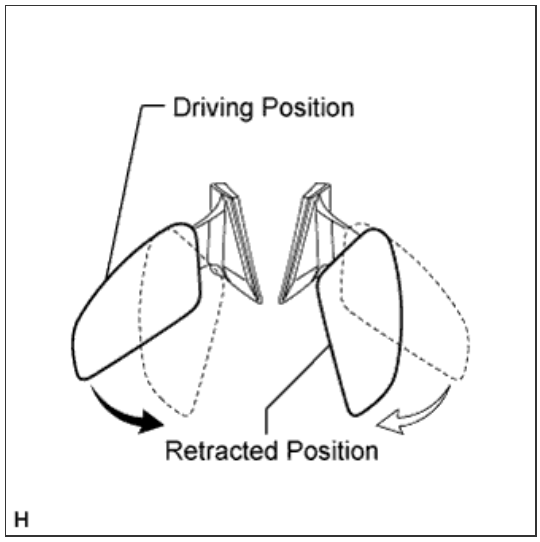


ix. Move the mirrors to the driving position.

x. Move one of the mirrors to the retracted position by hand.

xi. Push the mirror retract switch to the fold position.

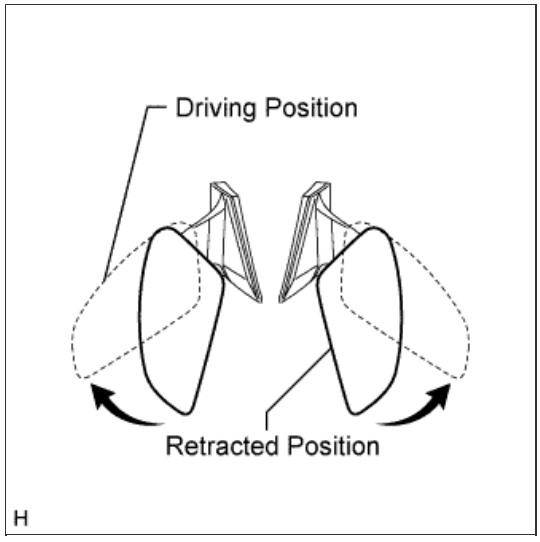
xii. Check that the mirror moves from the driving position to the retracted position.



xiii. Move the mirrors to the retracted position.

xiv. Push the mirror retract switch to the return position.

xv. Check that the right and left mirrors move from the retracted position to the driving position.

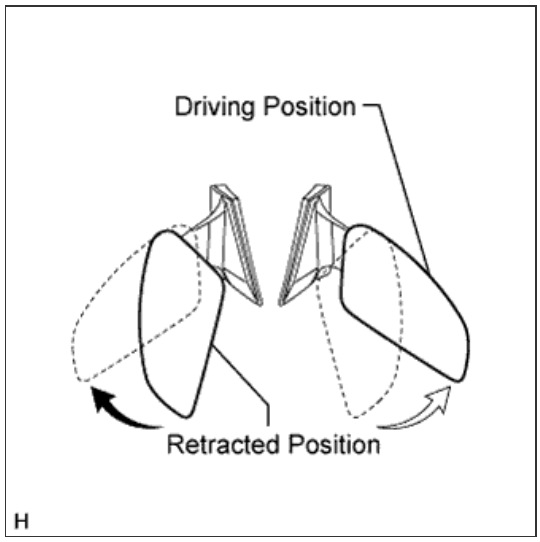


xvi. Move the mirrors to the retracted position.

xvii. Move one of the mirrors to the driving position by hand.

xviii. Push the mirror retract switch to the return position.

xix. Check that the mirror moves from the retracted position to the driving position.



c. Check the operation of the outer mirror body in relation to mirror retract switch operations and engine switch condition changes.

i. When the mirror body is operating, turn the engine switch off and check that the mirror operation stops immediately.

ii. Repeat the step above. This time, turn the engine switch on (ACC) and press the mirror retract switch in the opposite direction that the mirror is operating. Check that the mirror operates in the opposite direction.

d. Check the operation of the outer mirror body when it is restrained by an obstacle.

i. When the mirror body is moving to the retracted or driving position, restrain the mirror body by hand. Check that the mirror stops moving.

ii. With the mirror body stopped partway, push the mirror retract switch in the opposite direction that the mirror was operating. Check that the mirror body moves in the opposite direction.

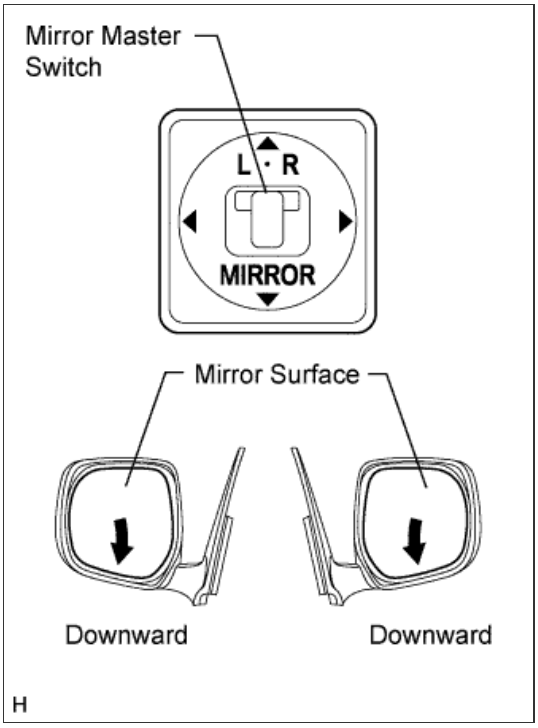
2. CHECK REVERSE-SHIFT LINKED OPERATION OF MIRRORS

a. Turn the engine switch on (IG).

b. Set the mirror switch to L or R.

c. Check that the mirror faces downward when the shift lever is moved to R.

d. When the shift lever is not in R, or the mirror switch is in the neutral position (off), check that the outer rear view mirror returns to the driving position.



3. CHECK MIRROR HEATER

a. Turn the engine switch on (IG).

b. Check that pressing the rear defogger switch illuminates the indicator and warms the mirror surface.

c. Check that after approximately 15 minutes, the indicator light turns off and the mirror heater deactivates.

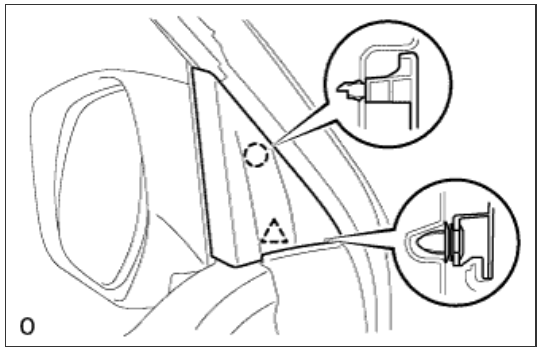
for Preparation Click here

HINT:

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

1. REMOVE FRONT LOWER DOOR FRAME BRACKET GARNISH

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

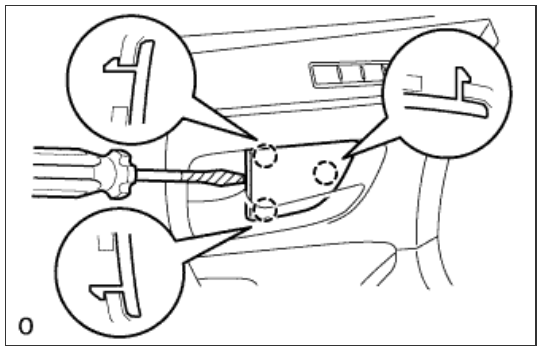


2. REMOVE FRONT DOOR INSIDE HANDLE BEZEL PLUG

a. Using a screwdriver, detach the 3 claws and remove the inside handle bezel plug.

HINT:

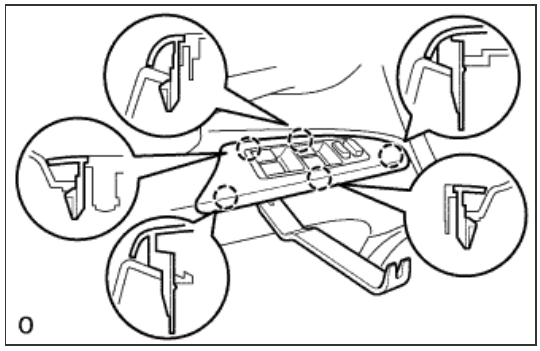
Tape the screwdriver tip before use.



3. REMOVE FRONT UPPER ARMREST BASE PANEL

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

b. Disconnect the connector and remove the front upper armrest base panel and multiplex network master switch.

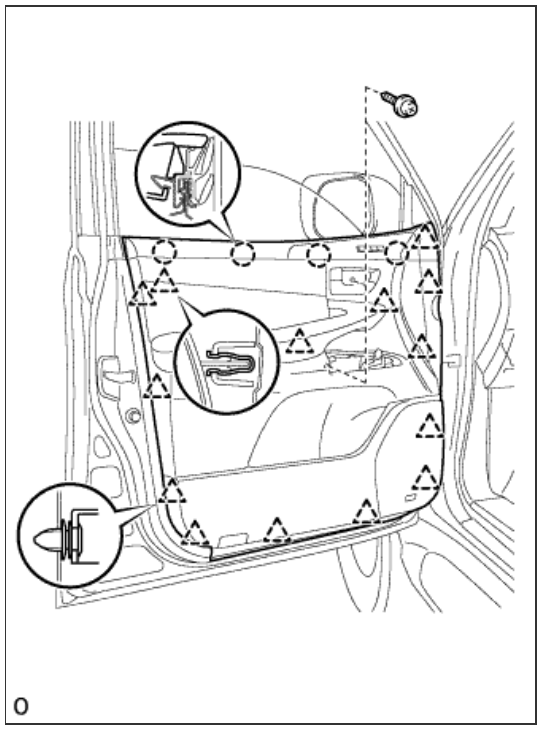


4. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY

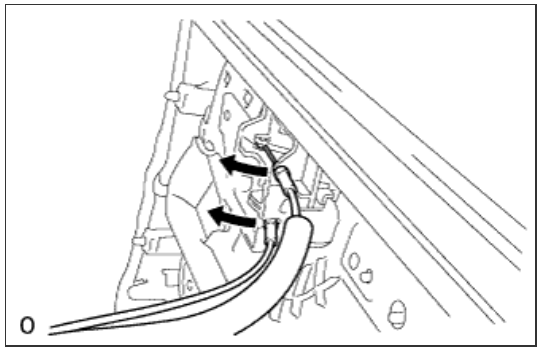
a. Remove the 2 screws.

b. Detach the 14 clips and 4 claws.

c. Disconnect the connector and remove the trim board.



d. Disconnect the 2 cables from the inside handle.



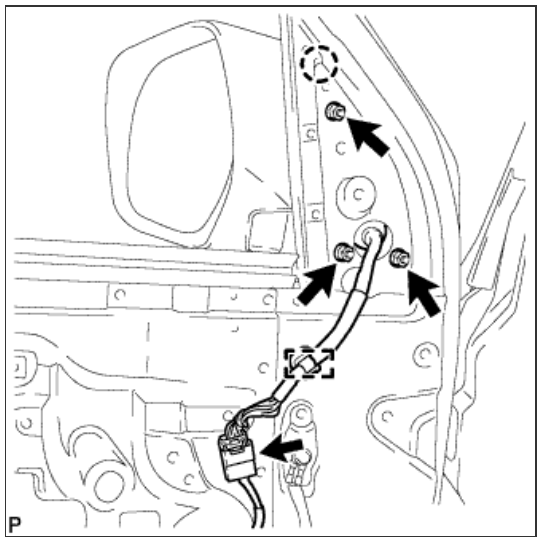
5. REMOVE OUTER REAR VIEW MIRROR ASSEMBLY

a. Disconnect the connector.

b. Detach the clamp.

c. Remove the 3 nuts.

d. Detach the claw and remove the mirror.



for Preparation Click here

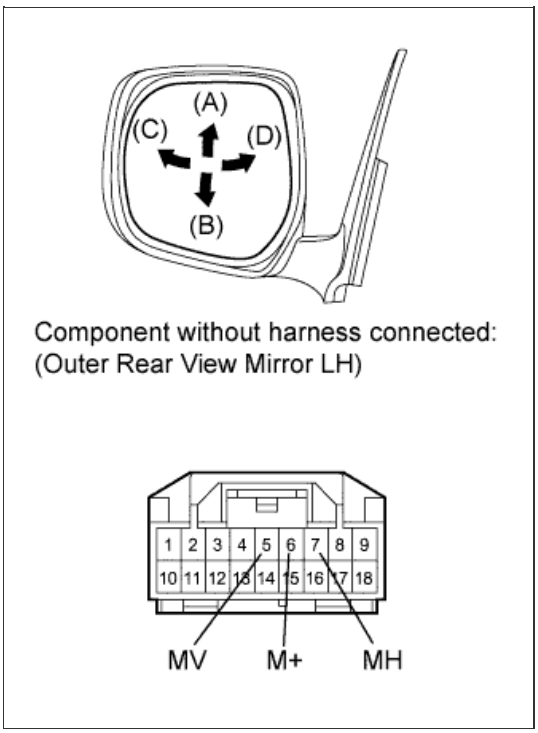
1. INSPECT OUTER REAR VIEW MIRROR ASSEMBLY LH

a. Apply battery voltage and check the operation of the mirror.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 5 (MV) Battery negative (-) → Terminal 6 (M+)	Turns upward (A)
Battery negative (-) → Terminal 5 (MV) Battery positive (+) → Terminal 6 (M+)	Turns downward (B)
Battery positive (+) → Terminal 7 (MH) Battery negative (-) → Terminal 6 (M+)	Turns left (C)
Battery negative (-) → Terminal 7 (MH) Battery positive (+) → Terminal 6 (M+)	Turns right (D)

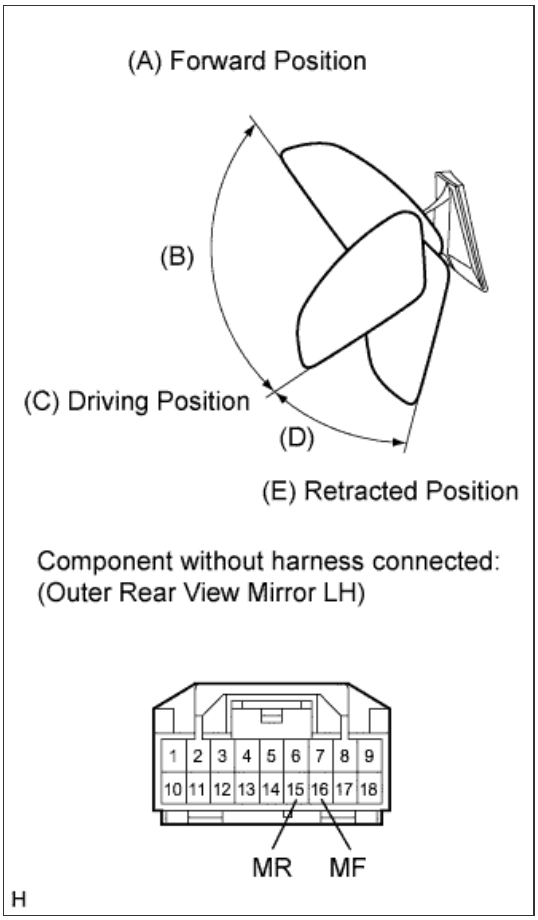
If the result is not as specified, replace the mirror assembly.



b. For each position: Disconnect the battery, set the mirror position by hand, connect the battery, and check the retractable mirror movement.

OK:

Measurement Condition	Mirror Position	Specified Condition
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Forward position (A)	Moves from (A) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Forward position (A)	Does not move
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Position between forward position (A) and driving position (C)	Moves from (B) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Position between forward position (A) and driving position (C)	Moves from (B) to forward position (A)
Battery positive (+) → Terminal 15 (MR)	Driving position	Moves from (C) to retracted position



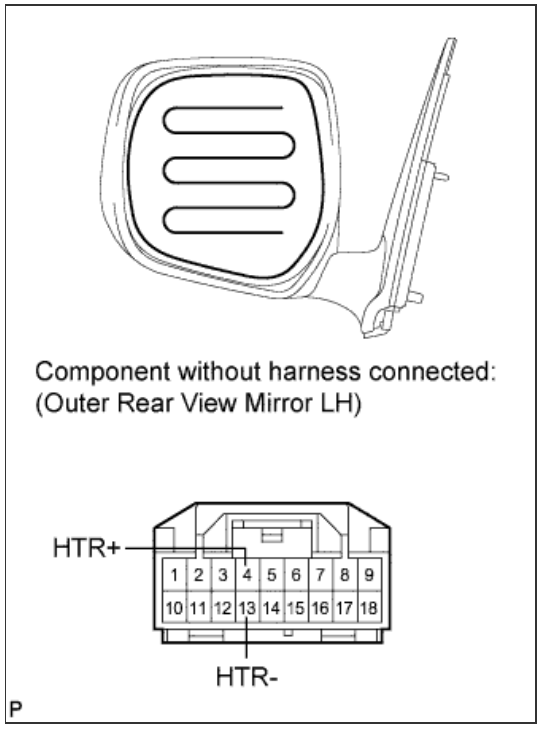
Battery negative (-) → Terminal 16 (MF)	(C)	(E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Driving position (C)	Does not move
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Position between driving position (C) and retracted position (E)	Moves from (D) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Position between driving position (C) and retracted position (E)	Moves from (D) to driving position (C)
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Retracted position (E)	Does not move
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Retracted position (E)	Moves from (E) to driving position (C)

NOTICE:

- **Disconnect and reconnect the battery between each mirror position check.**
- **Do not apply battery voltage when moving the mirror by hand into each mirror position.**

If the result is not as specified, replace the mirror assembly.

c. Check the mirror heater.



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

Standard Resistance:

Tester Connection	Condition	Specified Condition
Terminal 4 (HTR+) - Terminal 13 (HTR-)	25°C (75°F)	3.0 to 3.9 Ω

If the result is not as specified, replace the mirror assembly.

ii. Apply battery voltage and check the operation of the mirror heater.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 (HTR+) Battery negative (-) → Terminal 13 (HTR-)	Mirror becomes warm

HINT:

It will take a short time for the mirror to become warm.

If the result is not as specified, replace the mirror assembly.

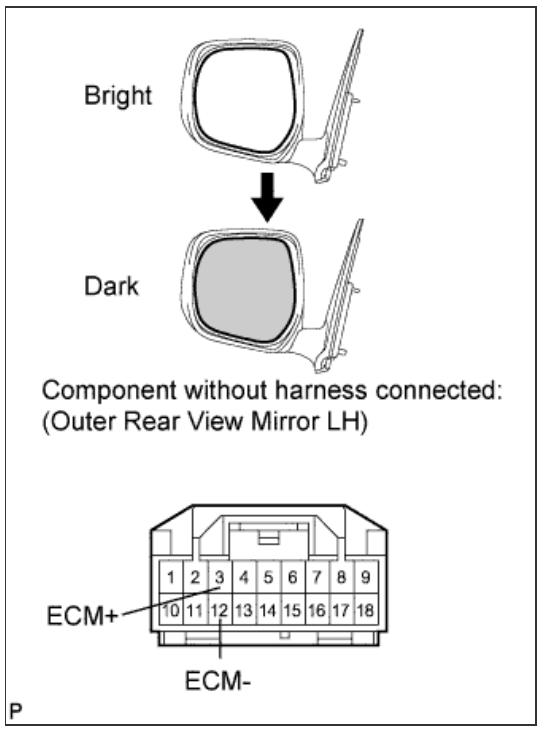
d. Check the EC mirror operation.

i. Apply battery voltage and check the operation of the mirror face, as shown in the table and illustration.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 3 (ECM+) Battery negative (-) → Terminal 12 (ECM-)	Mirror surface becomes dark

If the result is not as specified, replace the mirror assembly.



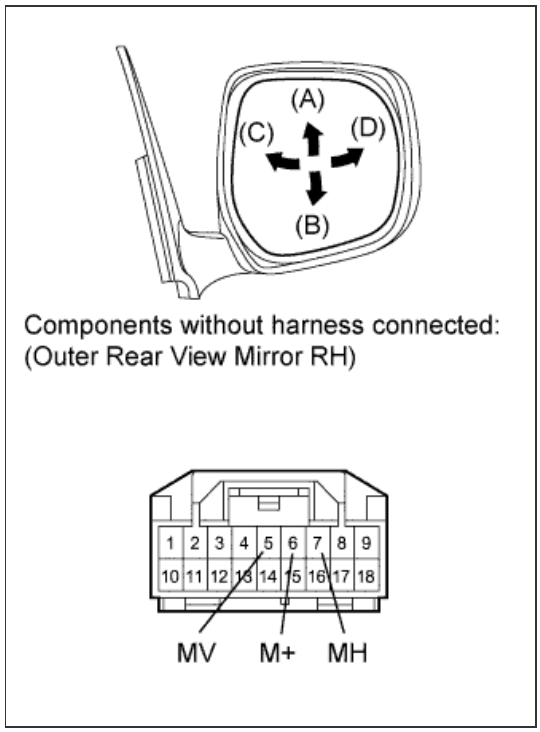
2. INSPECT OUTER REAR VIEW MIRROR ASSEMBLY RH

a. Apply battery voltage and check the operation of the mirror.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 5 (MV) Battery negative (-) → Terminal 6 (M+)	Turns upward (A)
Battery negative (-) → Terminal 5 (MV) Battery positive (+) → Terminal 6 (M+)	Turns downward (B)
Battery positive (+) → Terminal 7 (MH) Battery negative (-) → Terminal 6 (M+)	Turns left (C)
Battery negative (-) → Terminal 7 (MH) Battery positive (+) → Terminal 6 (M+)	Turns right (D)

If the result is not as specified, replace the mirror assembly.

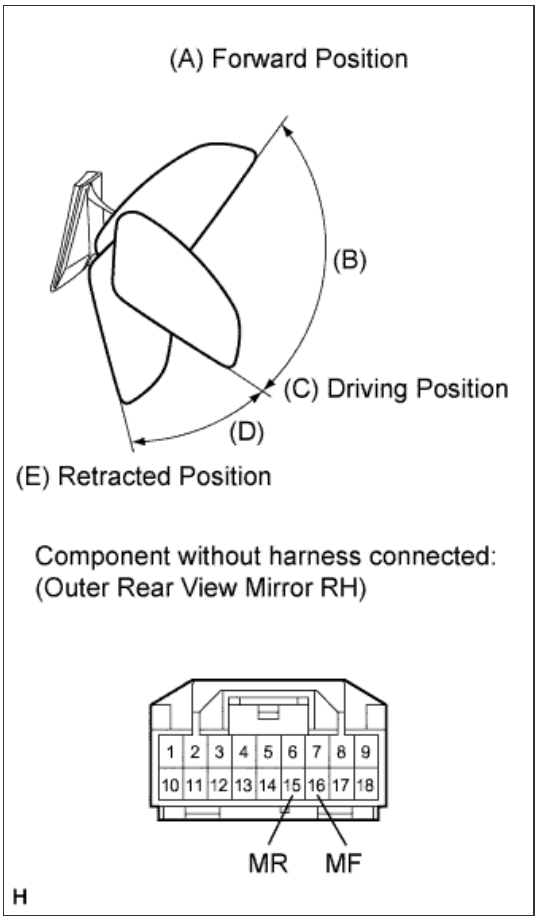


b. For each position: Disconnect the battery, set the mirror position by hand, connect the battery, and check the retractable mirror movement.

OK:

Measurement Condition	Mirror Position	Specified Condition
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Forward position (A)	Moves from (A) to retracted position (E)
Battery negative (-)		

→ Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Forward position (A)	Does not move
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Position between forward position (A) and driving position (C)	Moves from (B) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Position between forward position (A) and driving position (C)	Moves from (B) to forward position (A)
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Driving position (C)	Moves from (C) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Driving position (C)	Does not move
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Position between driving position (C) and retracted position (E)	Moves from (D) to retracted position (E)
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Position between driving position (C) and retracted position (E)	Moves from (D) to driving position (C)
Battery positive (+) → Terminal 15 (MR) Battery negative (-) → Terminal 16 (MF)	Retracted position (E)	Does not move
Battery negative (-) → Terminal 15 (MR) Battery positive (+) → Terminal 16 (MF)	Retracted position (E)	Moves from (E) to driving position (C)



NOTICE:

- **Disconnect and reconnect the battery between each mirror position check.**
- **Do not apply battery voltage when moving the mirror by hand into each mirror position.**

If the result is not as specified, replace the mirror assembly.

c. Check the mirror heater.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
Terminal 4 (HTR+) -	25°C (75°F)	3.0 to 3.9 Ω

Terminal 13 (HTR-)		

If the result is not as specified, replace the mirror assembly.

ii. Apply battery voltage and check the operation of the mirror heater.

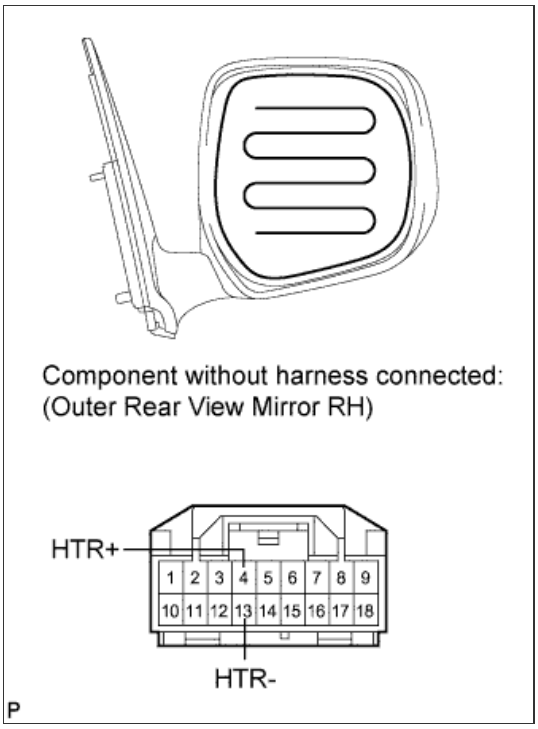
OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 (HTR+) Battery negative (-) → Terminal 13 (HTR-)	Mirror becomes warm

HINT:

It will take a short time for the mirror to become warm.

If the result is not as specified, replace the mirror assembly.



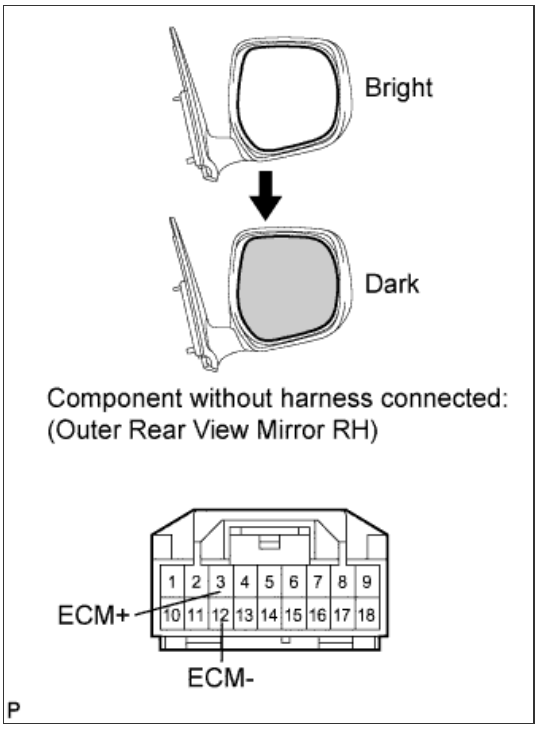
d. Check the EC mirror operation.

i. Apply battery voltage and check the operation of the mirror face, as shown in the table and illustration.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 3 (ECM+) Battery negative (-) → Terminal 12 (ECM-)	Mirror surface becomes dark

If the result is not as specified, replace the mirror 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.**
- **A bolt without a torque specification is shown in the standard bolt chart (Click here).**

1. INSTALL OUTER REAR VIEW MIRROR ASSEMBLY

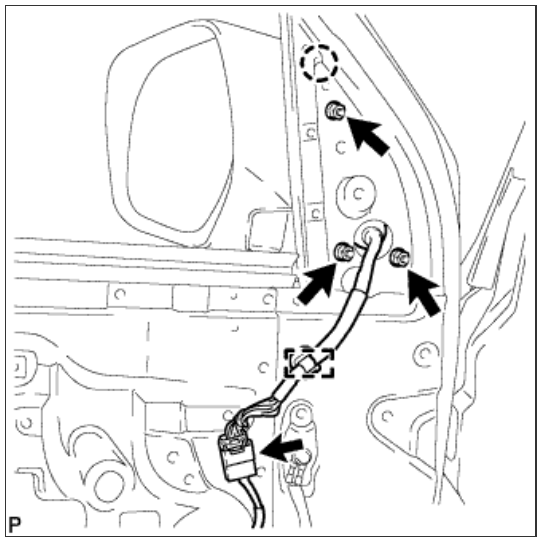
a. Attach the claw to install the mirror.

b. Install the 3 nuts.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }

c. Attach the clamp.

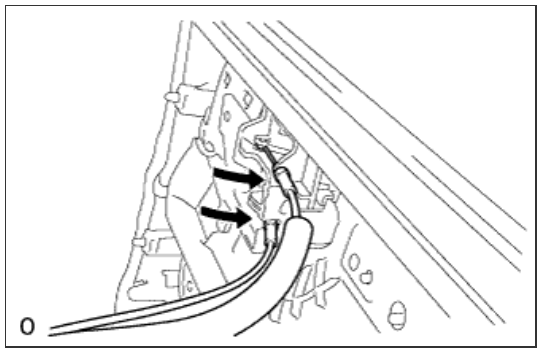
d. Connect the connector.



2. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY

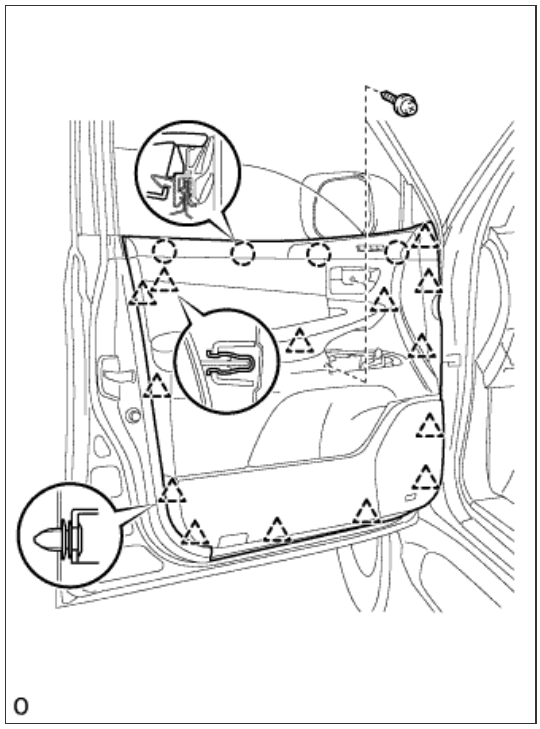
a. Connect the connector.

b. Connect the front door lock remote control cable and front door inside locking cable to the front door inside handle sub-assembly.



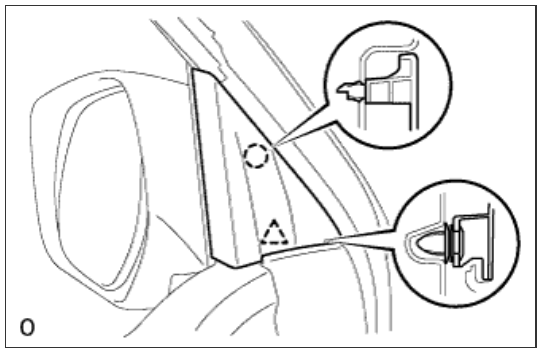
c. Attach the 4 claws and 14 clips to install the trim board.

d. Install the 2 screws.



3. INSTALL FRONT LOWER DOOR FRAME BRACKET GARNISH

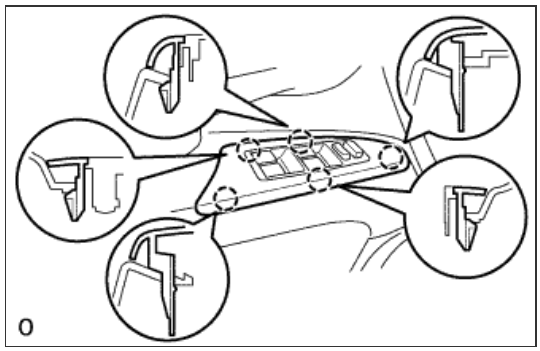
a. Attach the clip and claw to install the front door lower frame bracket garnish.



4. INSTALL FRONT UPPER ARMREST BASE PANEL

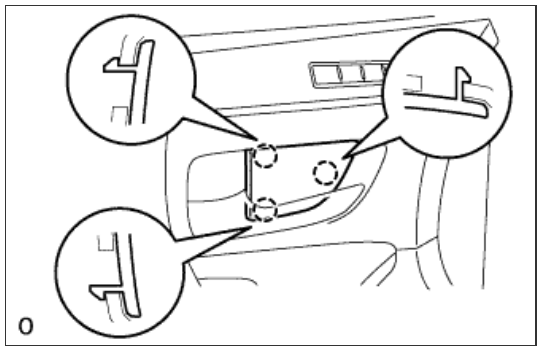
a. Connect the connector.

b. Attach the 5 claws to install the front upper armrest base panel.

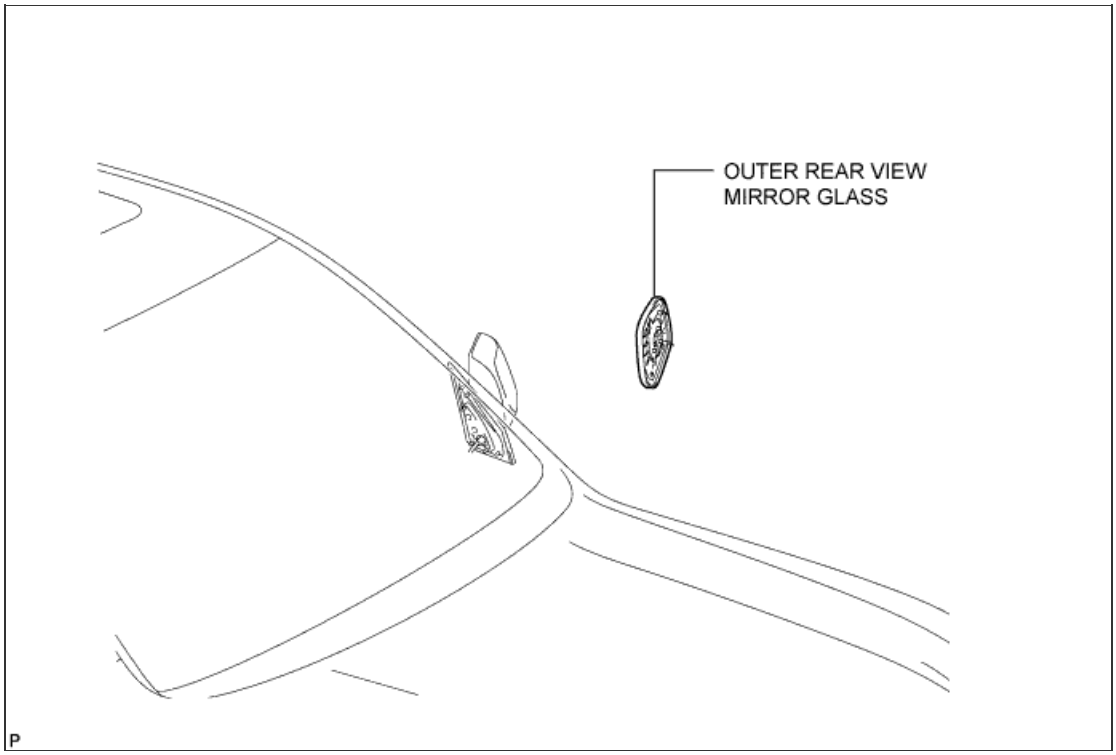


5. INSTALL FRONT DOOR INSIDE HANDLE BEZEL PLUG

a. Attach the 3 claws to install the inside handle bezel plug.



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.**

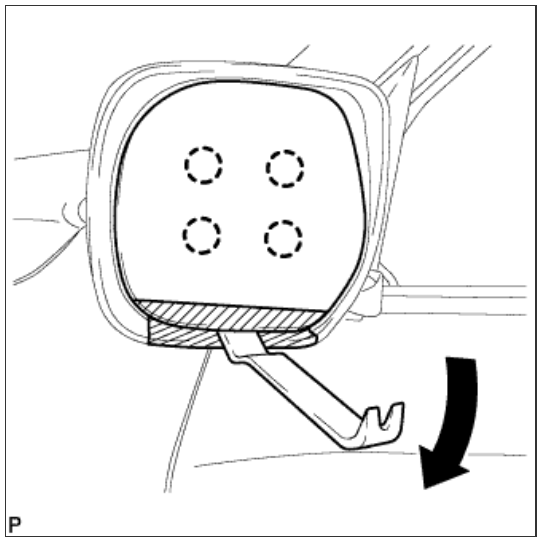
1. REMOVE OUTER REAR VIEW MIRROR GLASS

a. Push the upper part of the mirror surface and tilt it.

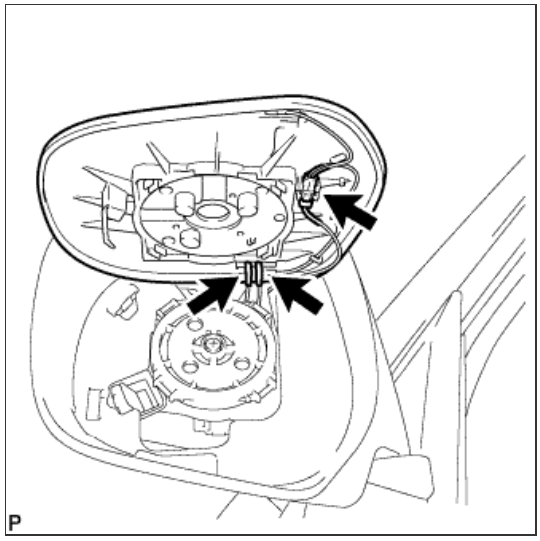
b. Using a moulding remover, detach the 4 claws and separate the outer rear view mirror glass from the mirror body.

HINT:

Apply protective tape to the outer rear view mirror to prevent it from being damaged.



c. Disconnect the 3 connectors and remove the mirror glass.



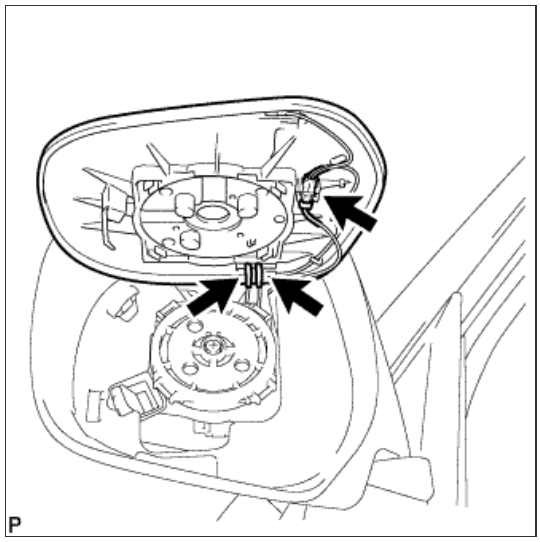
for Preparation Click here

HINT:

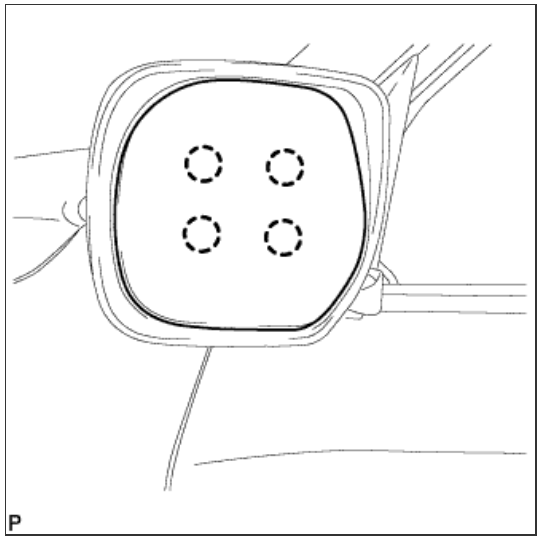
- **Use the same procedures for the LH side and RH side.**
- **The procedures listed below are for the LH side.**

1. INSTALL OUTER REAR VIEW MIRROR GLASS

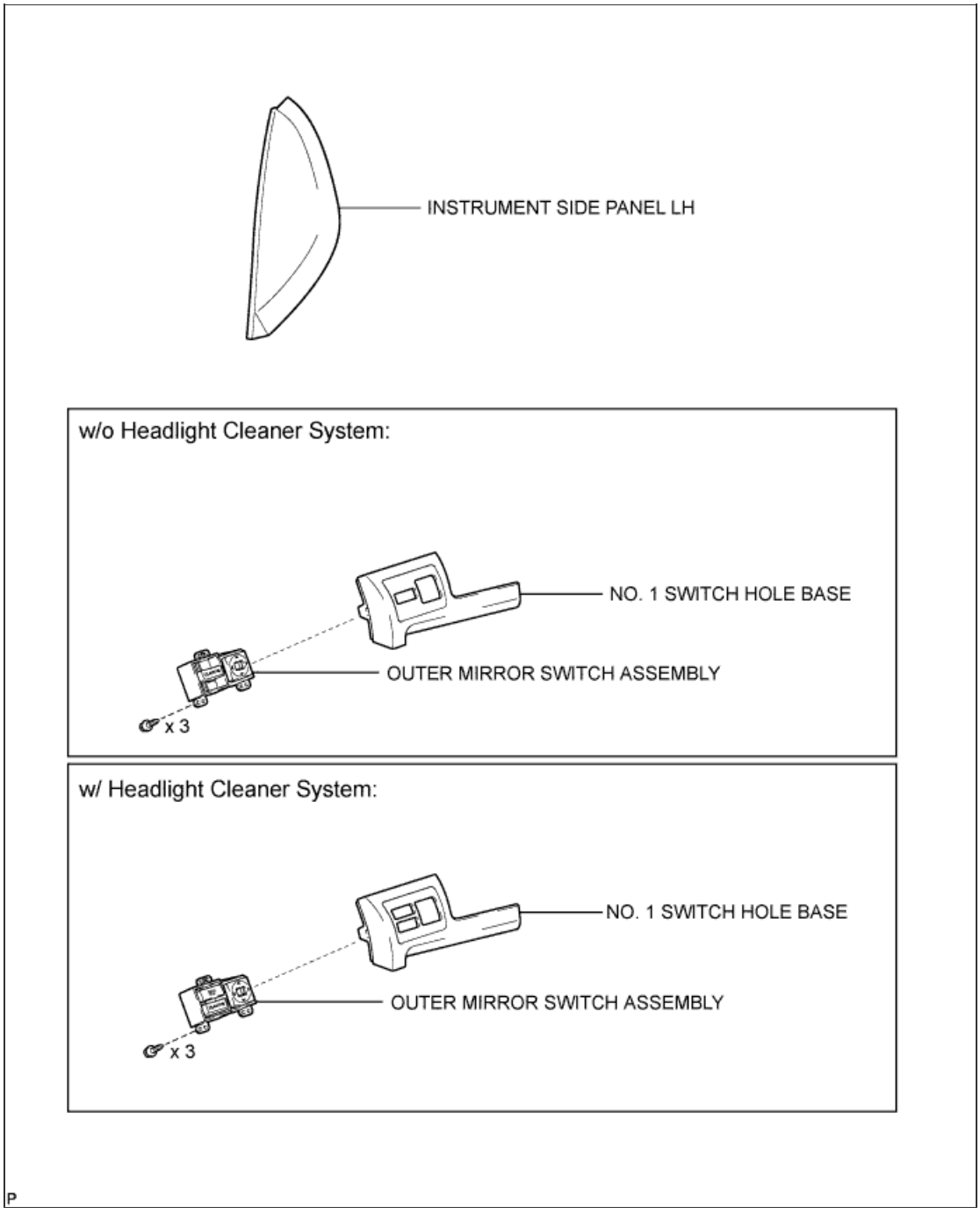
a. Connect the 3 connectors.



b. Attach the 4 claws to install the mirror glass.



for Preparation Click here



for Preparation Click here

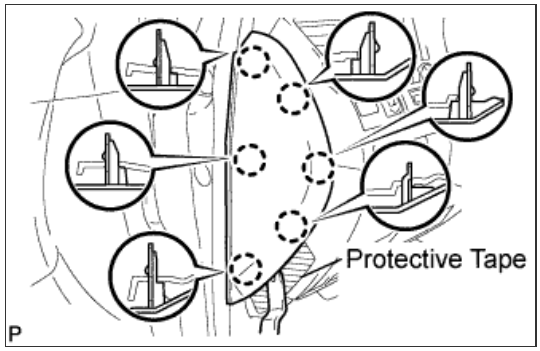
HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. REMOVE INSTRUMENT SIDE PANEL LH

a. Place protective tape as shown in the illustration.

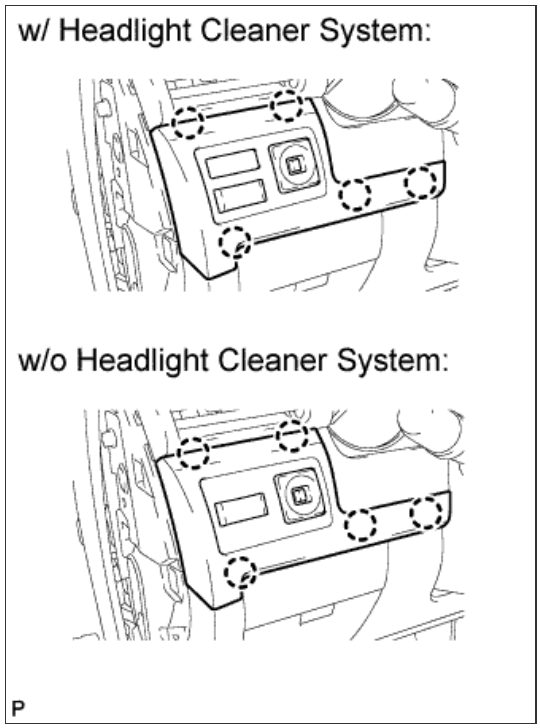
b. Using a moulding remover, detach the 6 claws and remove the side panel.



2. REMOVE NO. 1 SWITCH HOLE BASE

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

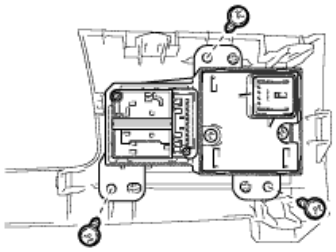
b. Disconnect the 2 connectors and remove the switch hole base.



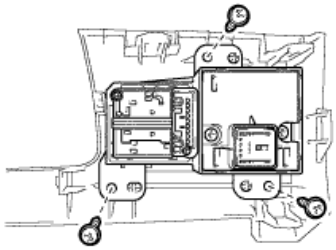
3. REMOVE OUTER MIRROR SWITCH ASSEMBLY

a. Remove the 3 screws and mirror switch.

w/ Headlight Cleaner System:



w/o Headlight Cleaner System:

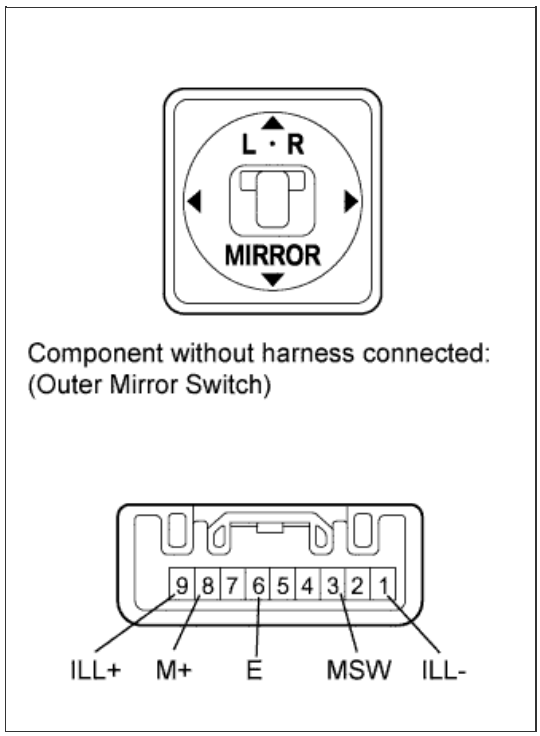


P

for Preparation Click here

1. INSPECT OUTER MIRROR SWITCH ASSEMBLY

a. Inspect the mirror control switch.



i. Select "L" on the left/right adjustment switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
8 (M+) - 6 (E)	Up switch pushed	90 to 110 Ω
	Down switch pushed	437 to 502 Ω
	Left switch pushed	744 to 856 Ω
	Right switch pushed	207 to 253 Ω
	No switches pushed	10 kΩ or higher
3 (MSW) - 6 (E)	Adjustment switch in L position	90 to 110 Ω
	Adjustment switch in neutral position	10 kΩ or higher

If the result is not as specified, replace the outer mirror switch assembly.

iii. Select "R" on the left/right adjustment switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
8 (M+) - 6 (E)	Up switch pushed	90 to 110 Ω
	Down switch pushed	437 to 502 Ω
	Left switch pushed	744 to 856 Ω
	Right switch pushed	207 to 253 Ω
	No switches pushed	10 kΩ or higher
3 (MSW) - 6 (E)	Adjustment switch in R position	Below 1 Ω
	Adjustment switch in neutral position	10 kΩ or higher

If the result is not as specified, replace the outer mirror switch assembly.

v. Inspect the switch illumination.
Apply battery voltage between the terminals of the light, and check the operation of the light.

OK:

Measurement Condition	Specified Condition

Battery positive (+) → Terminal 9 (ILL+) Battery negative (-) → Terminal 1 (ILL-)	Light comes on

If the result is not as specified, replace the outer mirror switch assembly.

b. Inspect the mirror retract switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
5 (E) - 1 (MR)	Mirror retract switch in fold position	Below 1 Ω
	Mirror retract switch not in fold position	10 kΩ or higher
5 (E) - 2 (MAT)	Mirror retract switch in AUTO position	Below 1 Ω
	Mirror retract switch not in AUTO position	10 kΩ or higher

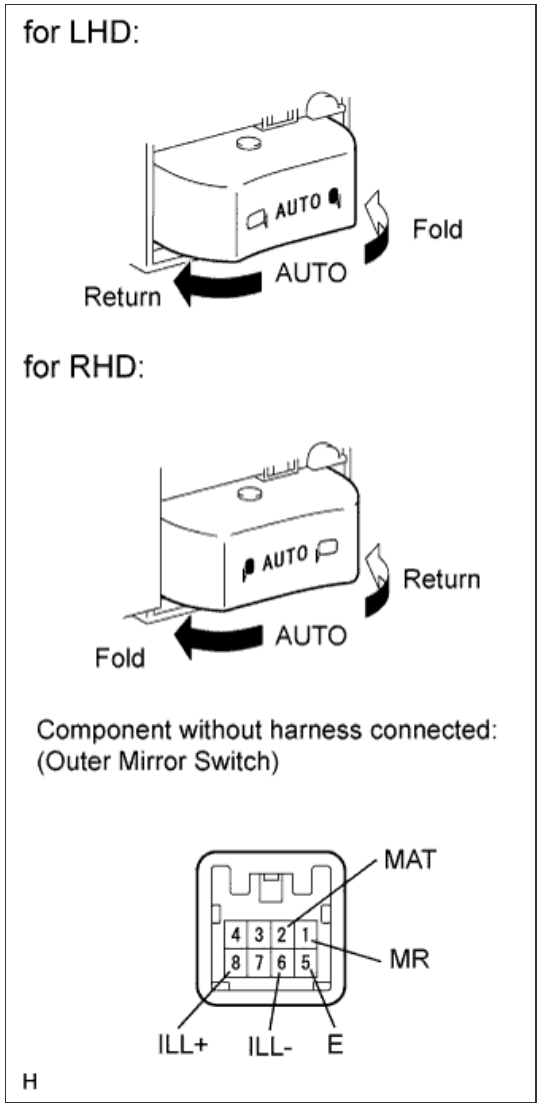
If the result is not as specified, replace the outer mirror switch assembly.

ii. Inspect the switch illumination.
Apply battery voltage between the terminals of the light, and check the operation of the light.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 8 (ILL+) Battery negative (-) → Terminal 6 (ILL-)	Light comes on

If the result is not as specified, replace the outer mirror switch assembly.



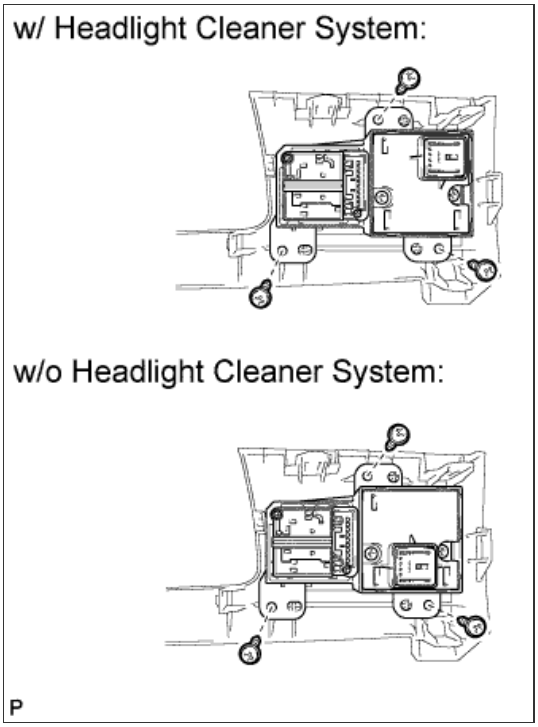
for Preparation Click here

HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. INSTALL OUTER MIRROR SWITCH ASSEMBLY

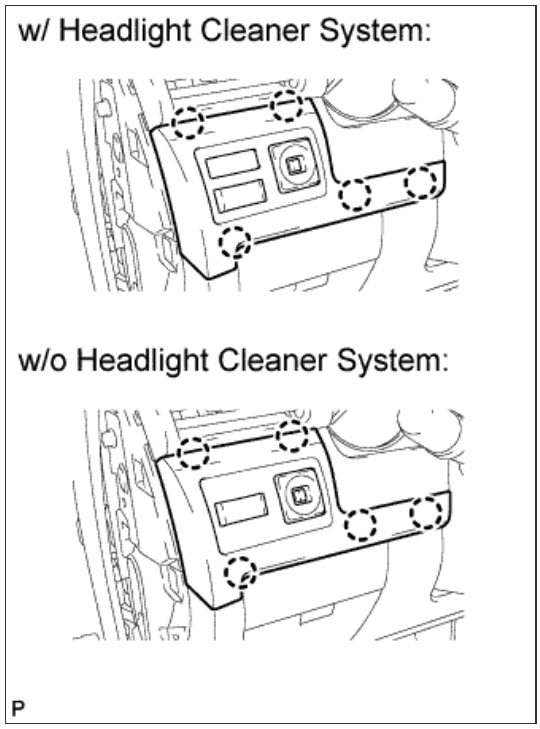
a. Install the mirror switch with the 3 screws.



2. INSTALL NO. 1 SWITCH HOLE BASE

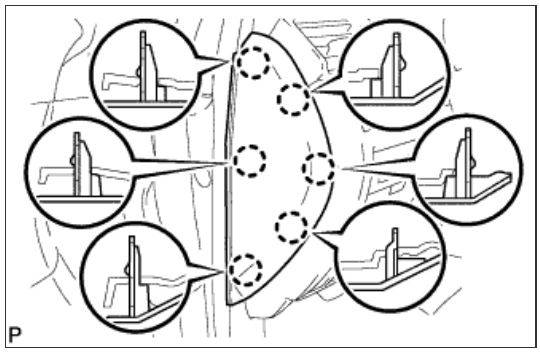
a. Connect the 2 connectors.

b. Attach the 5 claws to install the switch hole base.

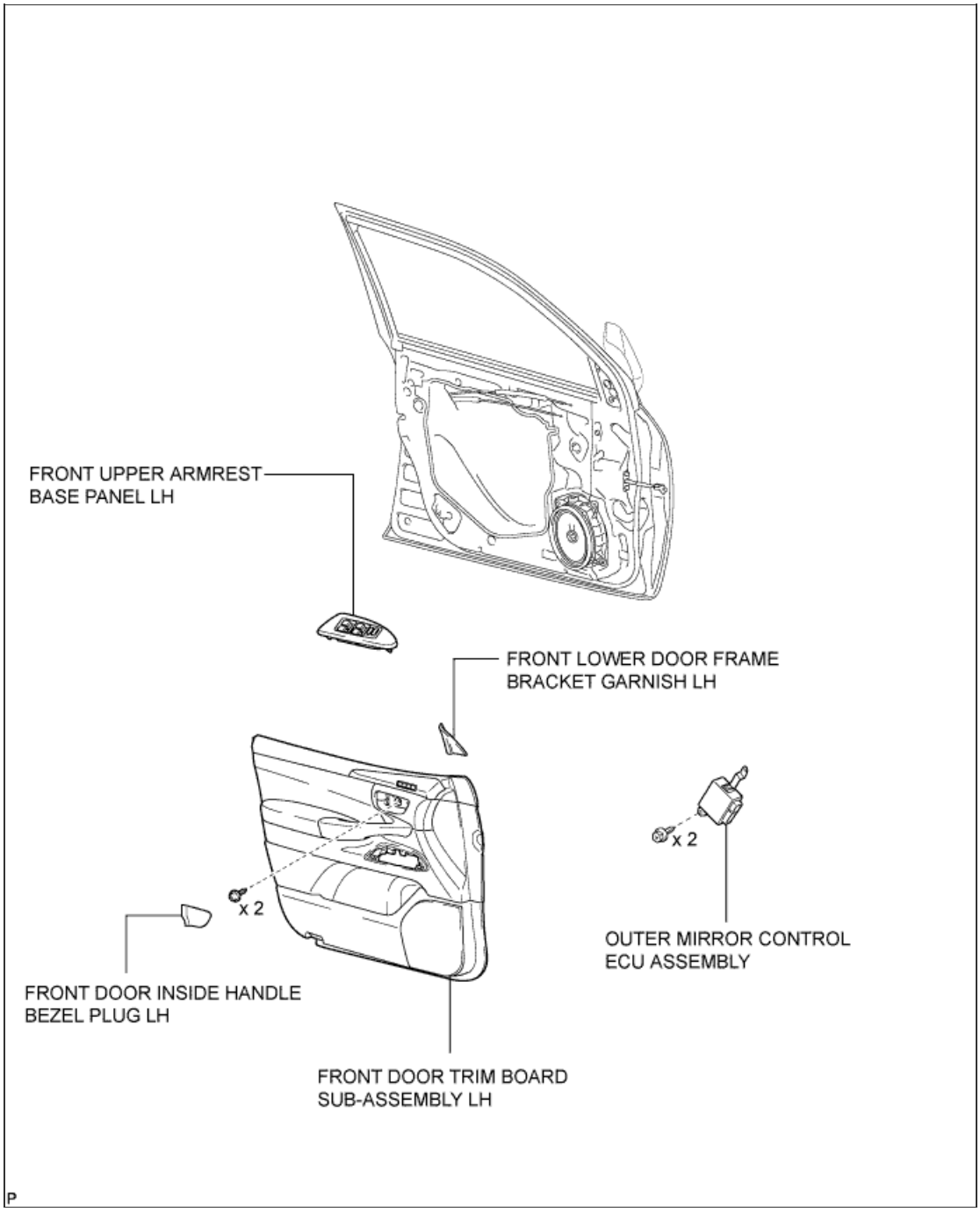


3. INSTALL INSTRUMENT SIDE PANEL LH

a. Attach the 6 claws to install the side panel.



for Preparation Click here



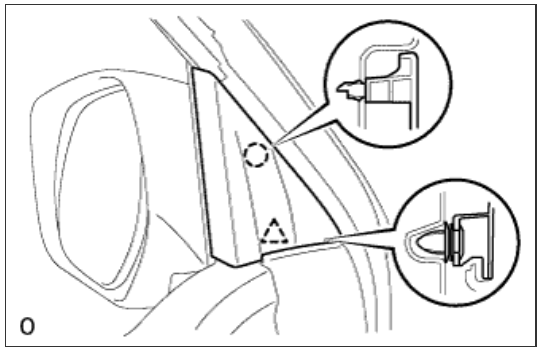
for Preparation Click here

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 lower door frame bracket garnish.

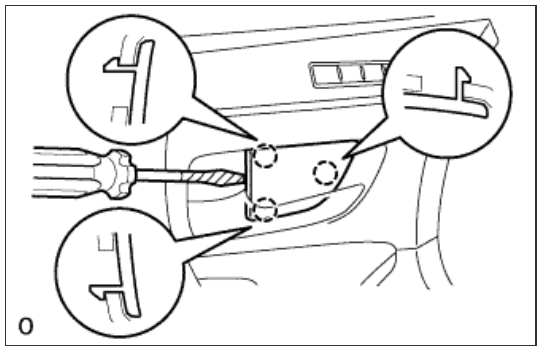


2. REMOVE FRONT DOOR INSIDE HANDLE BEZEL PLUG LH

a. Using a screwdriver, detach the 3 claws and remove the inside handle bezel plug.

HINT:

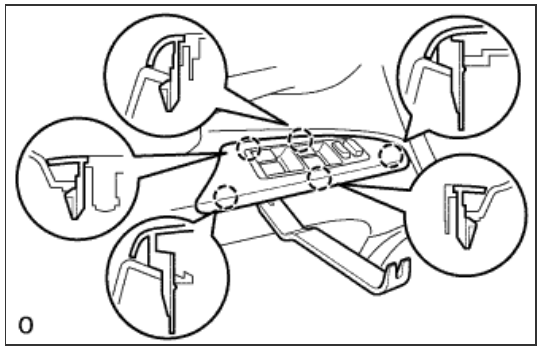
Tape the screwdriver tip before use.



3. REMOVE FRONT UPPER ARMREST BASE PANEL LH

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

b. Disconnect the connector and remove the front upper armrest base panel and multiplex network master switch.

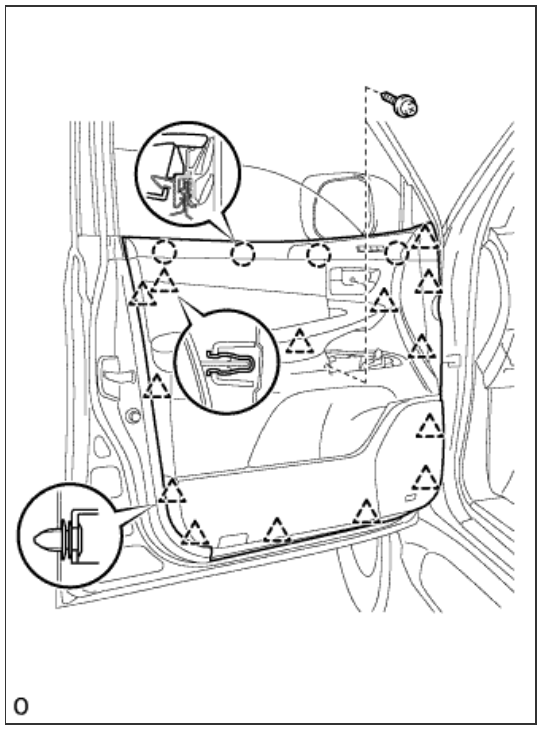


4. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

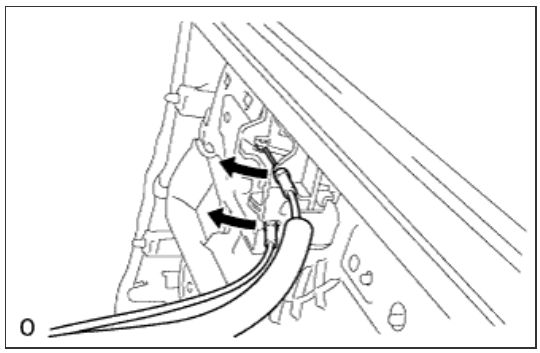
a. Remove the 2 screws.

b. Detach the 14 clips and 4 claws.

c. Disconnect the connector and remove the trim board.



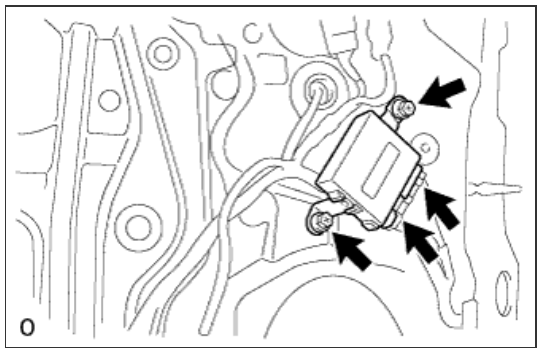
d. Disconnect the 2 cables from the inside handle.



5. REMOVE OUTER MIRROR CONTROL ECU ASSEMBLY

a. Disconnect the 2 connectors.

b. Remove the 2 screws and outer mirror control ECU.



for Preparation Click here

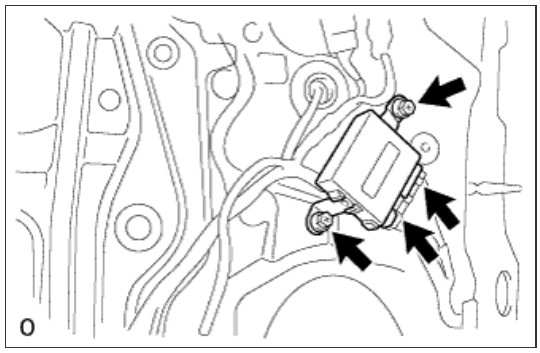
HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. INSTALL OUTER MIRROR CONTROL ECU ASSEMBLY

a. Connect the 2 connectors.

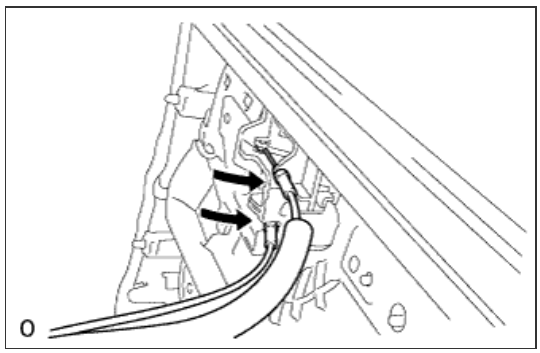
b. Install the outer mirror control ECU with the 2 screws.



2. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

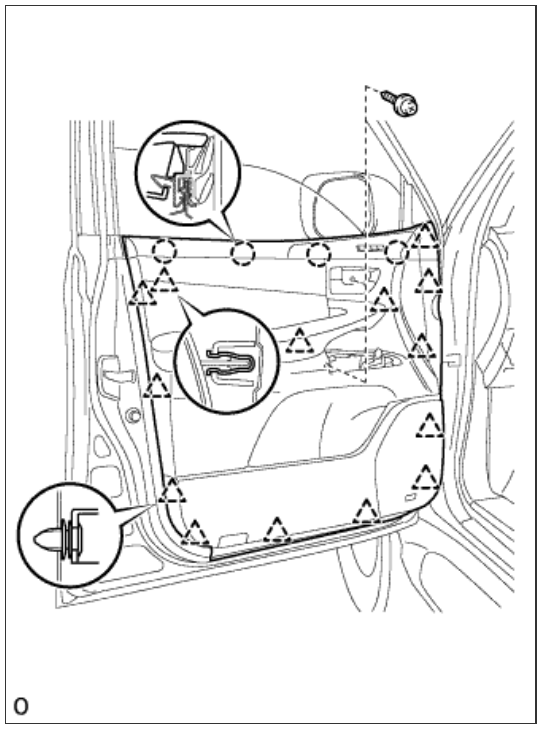
a. Connect the connector.

b. Connect the front door lock remote control cable and front door inside locking cable to the front door inside handle sub-assembly.



c. Attach the 4 claws and 14 clips to install the trim board.

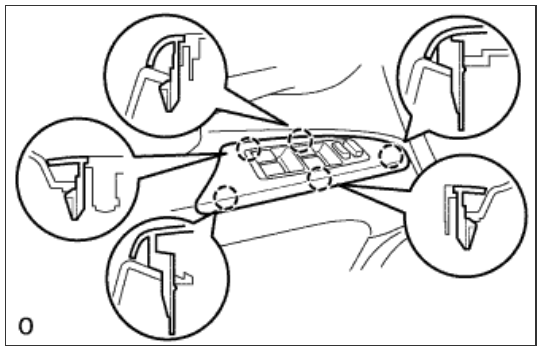
d. Install the 2 screws.



3. INSTALL FRONT UPPER ARMREST BASE PANEL LH

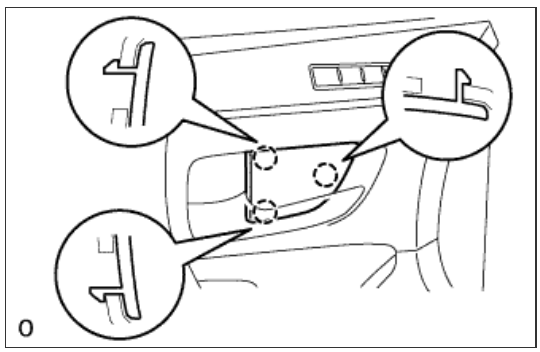
a. Connect the connector.

b. Attach the 5 claws to install the front upper armrest base panel.



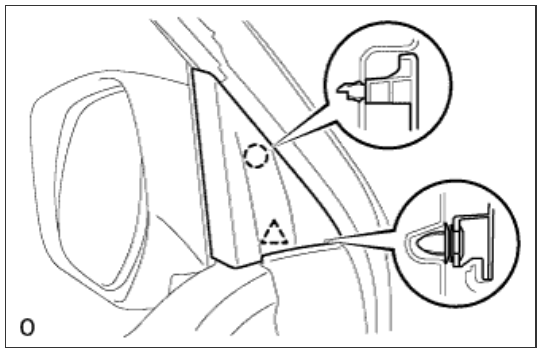
4. INSTALL FRONT DOOR INSIDE HANDLE BEZEL PLUG LH

a. Attach the 3 claws to install the inside handle bezel plug.

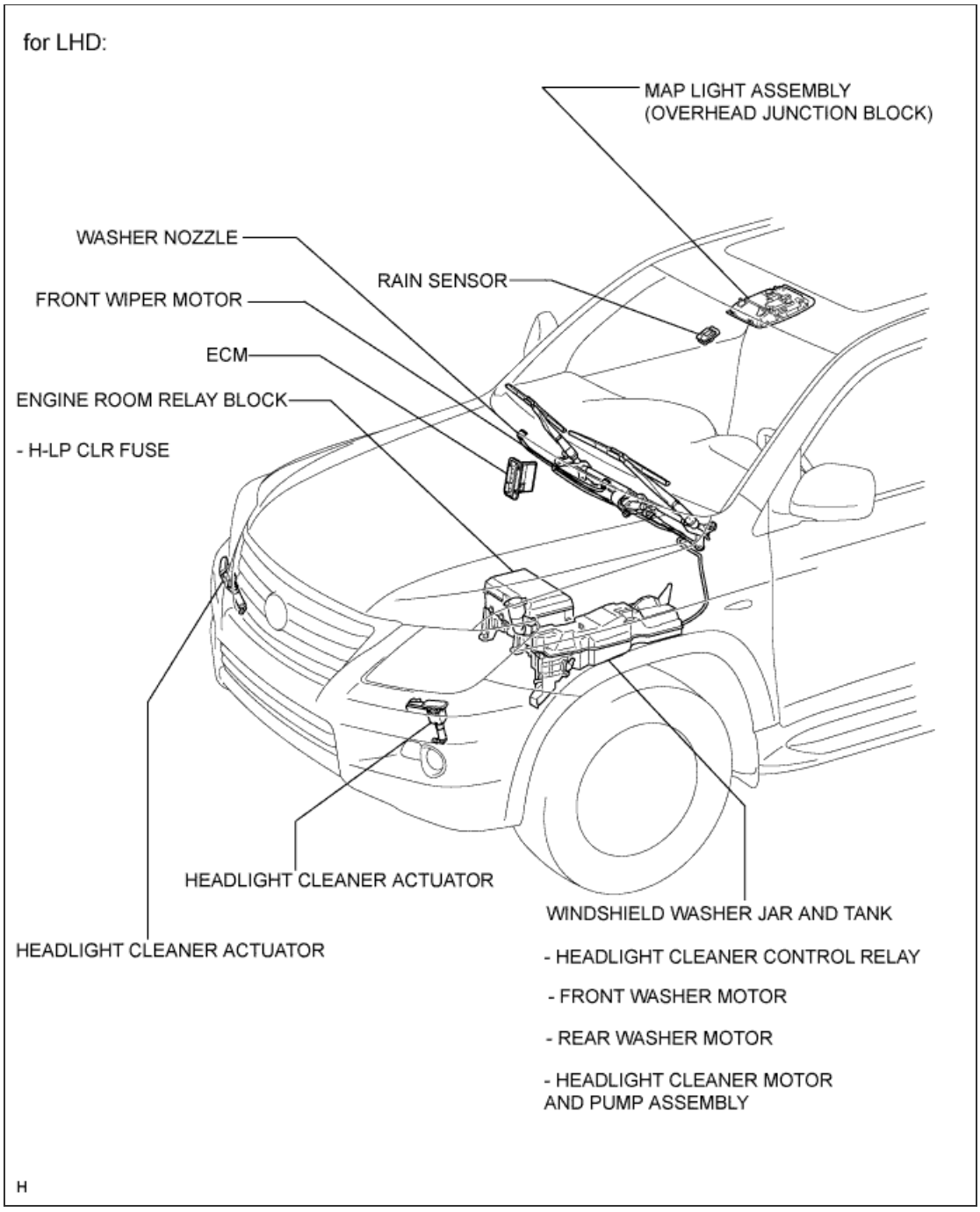


5. INSTALL FRONT LOWER DOOR FRAME BRACKET GARNISH LH

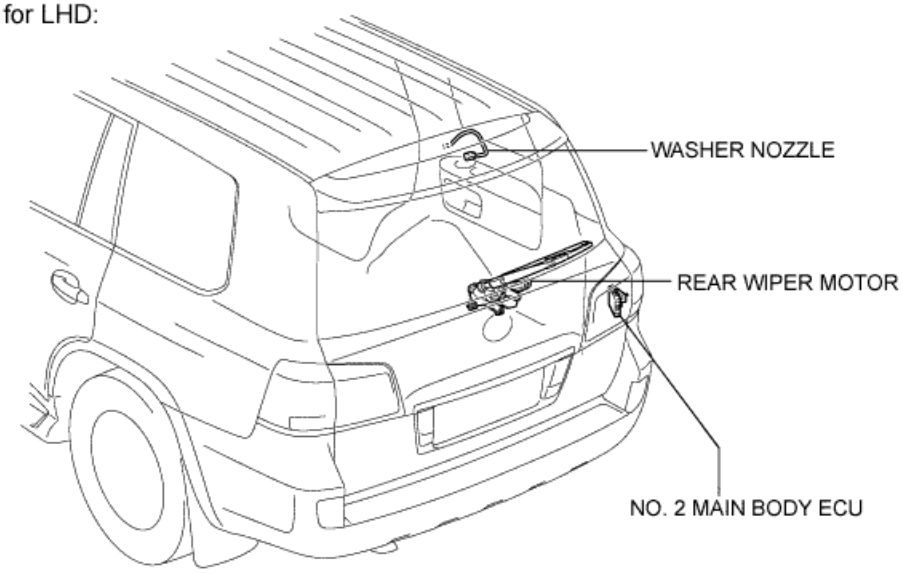
a. Attach the clip and claw to install the front door lower frame bracket garnish.

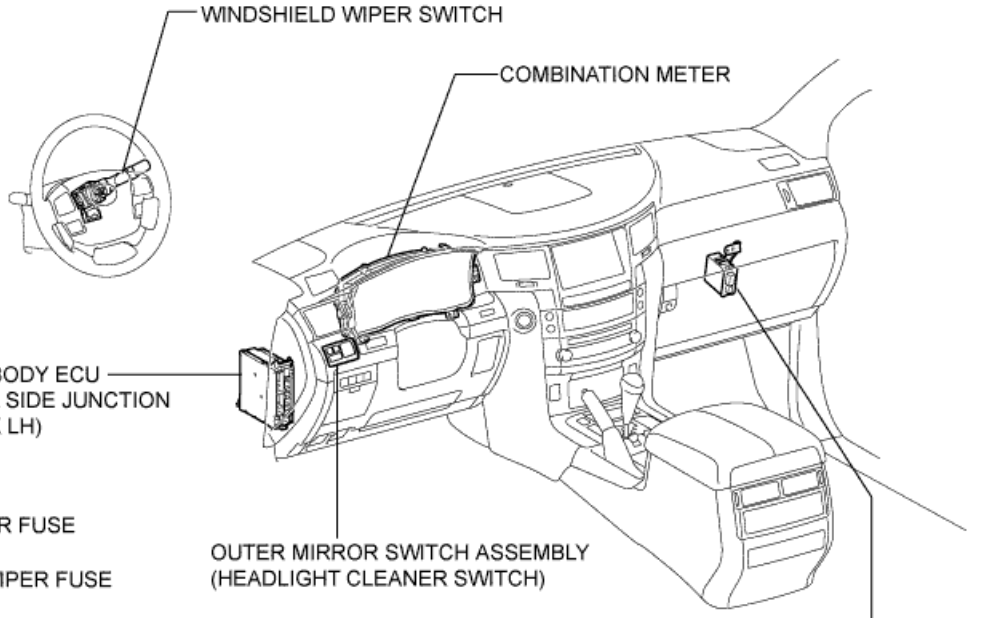

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for Preparation Click here



for LHD:

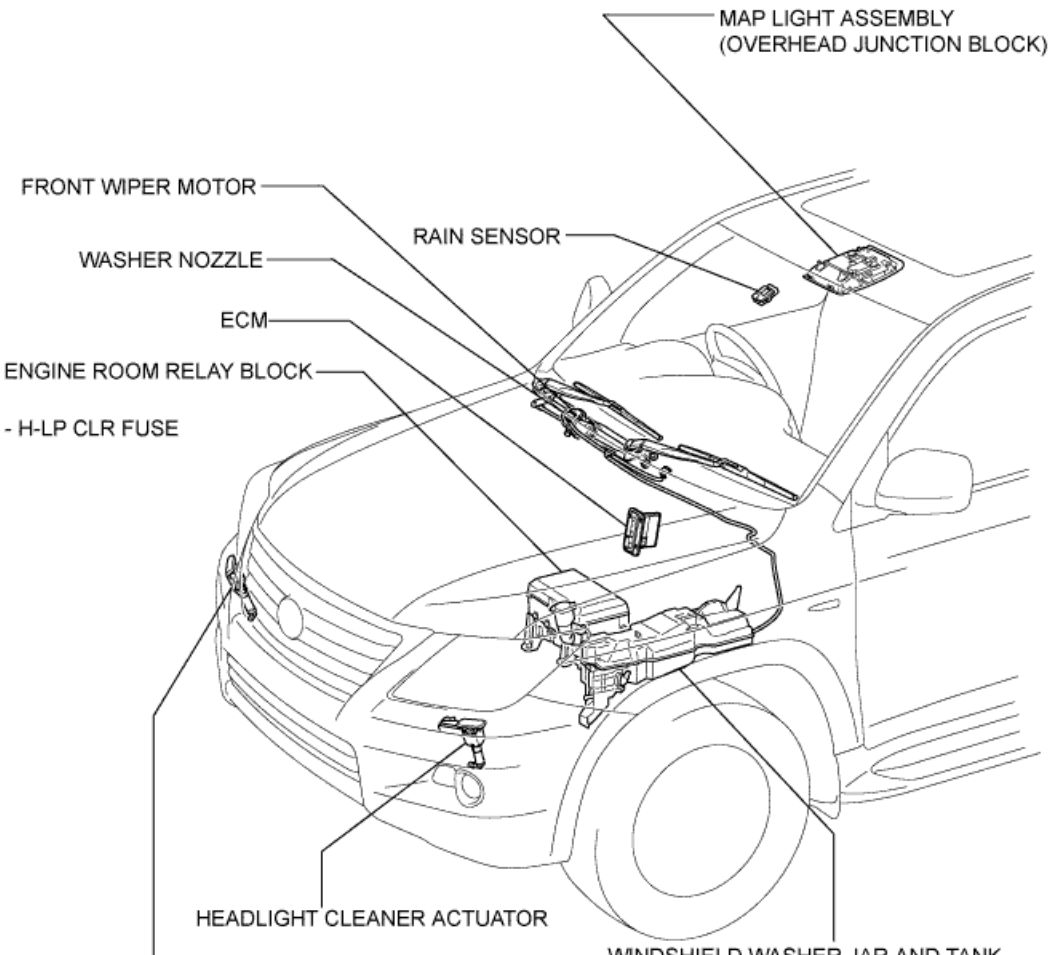




- WIPER FUSE
- RR WIPER FUSE
- WSH FUSE
- ECU-IG NO. 1 FUSE

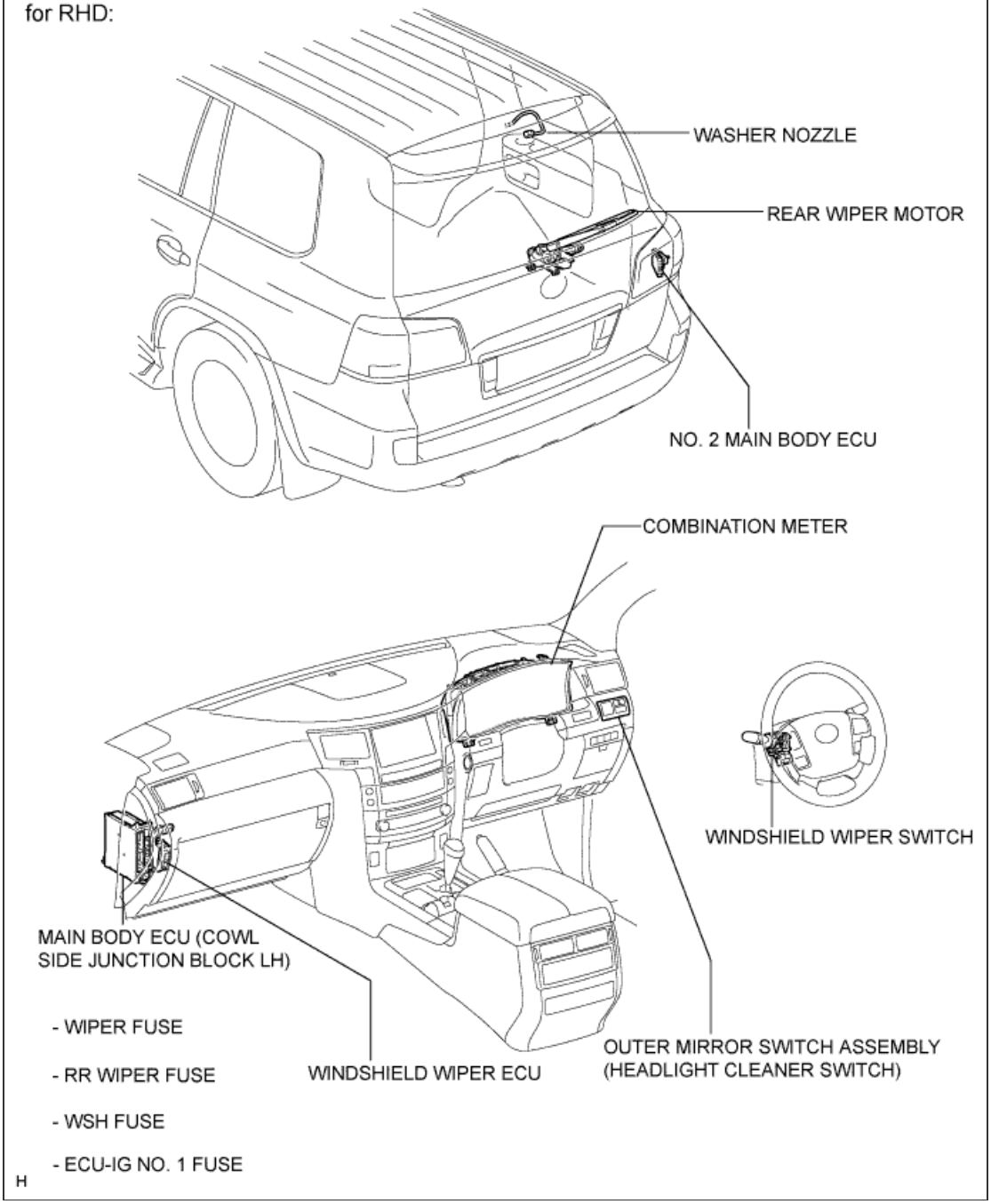
H

for RHD:


MAP LIGHT ASSEMBLY
(OVERHEAD JUNCTION BLOCK)
FRONT WIPER MOTOR
RAIN SENSOR
WASHER NOZZLE
ECM
ENGINE ROOM RELAY BLOCK
- H-LP CLR FUSE
HEADLIGHT CLEANER ACTUATOR
HEADLIGHT CLEANER ACTUATOR
WINDSHIELD WASHER JAR AND TANK
- HEADLIGHT CLEANER CONTROL RELAY
- FRONT WASHER MOTOR
- REAR WASHER MOTOR
- HEADLIGHT CLEANER MOTOR
AND PUMP ASSEMBLY

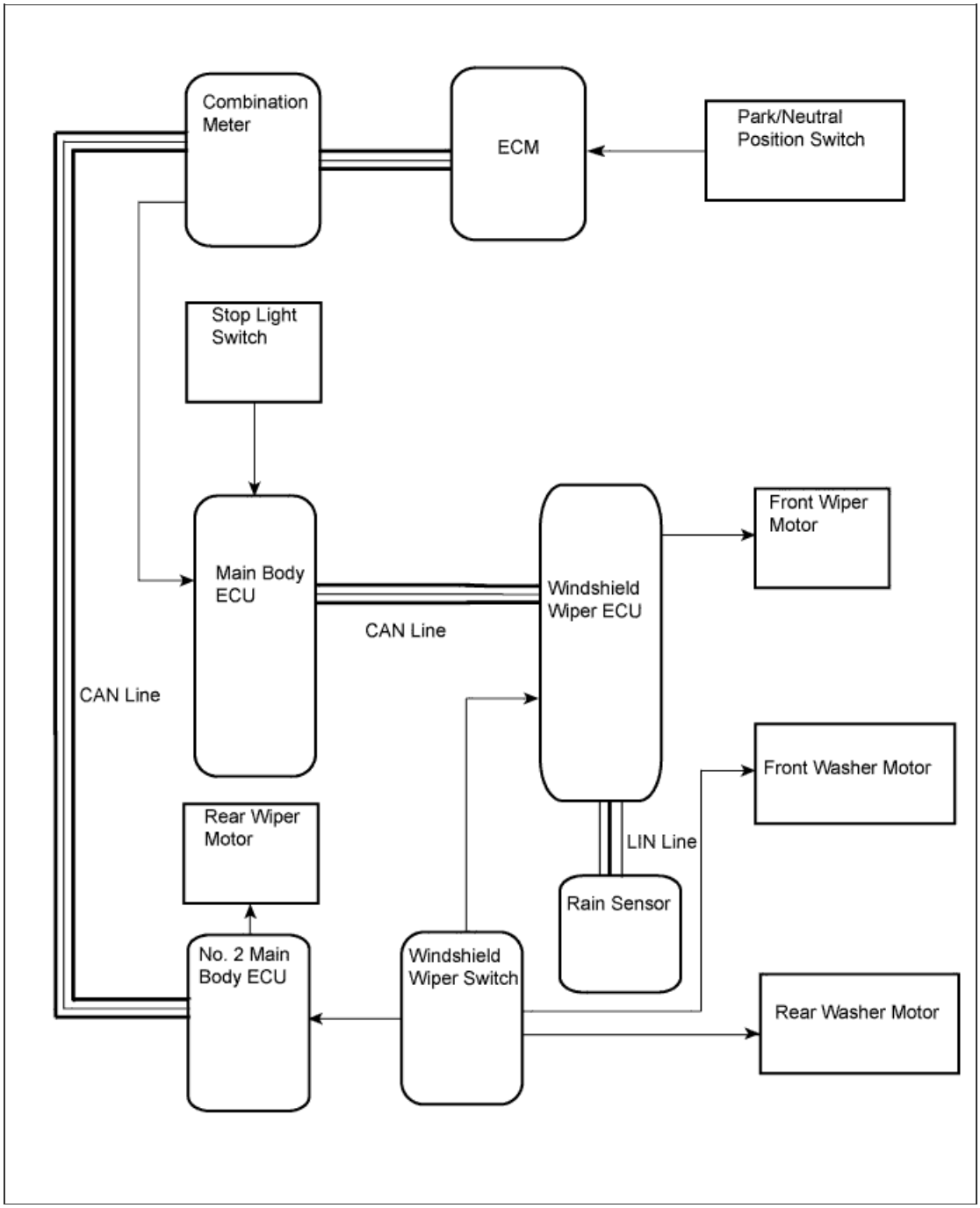
H

for RHD:


WASHER NOZZLE
REAR WIPER MOTOR
NO. 2 MAIN BODY ECU
COMBINATION METER
WINDSHIELD WIPER SWITCH
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- WIPER FUSE
- RR WIPER FUSE
- WSH FUSE
- ECU-IG NO. 1 FUSE
WINDSHIELD WIPER ECU
OUTER MIRROR SWITCH ASSEMBLY (HEADLIGHT CLEANER SWITCH)

H

for Preparation Click here



Communication Table

Transmitter	Receiving	Signal	Line
Rain Sensor	Windshield Wiper ECU	• HI continuous operation command signal • LO continuous operation command signal • LO single operation command signal • Manual intermittent operation command signal • Wiper angle variable demand signal	LIN
Windshield Wiper Switch	No. 2 Main Body ECU	Rear wiper switch signal	Direct Line
Combination Meter	Main Body ECU	Vehicle speed signal	Direct Line
Windshield Wiper ECU	Rain Sensor	Wiper and washer switch signal	LIN
ECM	No. 2 Main Body ECU	Reverse position signal	CAN

HINT:

- **Wiper operation is controlled by the main body ECU.**
- **The rain sensor controls the auto wiper function.**

for Preparation Click here

FRONT WIPER SYSTEM

a. The front wiper system receives the wiper operation signal from the windshield wiper switch, and the windshield wiper ECU operates the front wiper motor.

b. The windshield wiper ECU adjusts the intermittent interval during front wiper motor operation according to commands received from the windshield wiper switch. This adjustment is based on vehicle speed, brake signals, etc., and a determination of the vehicle driving and stopping conditions during the intermittent operation. The system has the following functions:

Function	Outline
Vehicle speed sensing intermittent wiper function*	This function controls the intermittent interval of the wipers according to the vehicle speed when the wiper switch is in the INT position.
Vehicle speed switching function	This function automatically switches the wipers on or off when the vehicle is stopped or starts moving with the wiper switch in the LO position.

HINT:

*: The vehicle speed sensing intermittent wiper function operates even when the fail-safe function operates due to a malfunction in the auto wiper function.

FRONT WASHER SYSTEM

a. The front washer system receives the wiper operation signal from the windshield wiper switch, and the windshield wiper ECU operates the front washer motor.

CONTINUOUS FRONT WASHER WIPER SYSTEM

a. The continuous front washer system receives the washer operation signal from the windshield wiper switch, and the windshield wiper ECU operates the front wiper motor. The front wipers are operated 3 times after the front washer is stopped.

b. The front wiper stops after operating 3 times from the point where the front washer switch has been on for more than 40 seconds continuously. The front wipers are then operated once at an interval of 3 to 7 seconds. The interval is determined by the vehicle speed signal received from the combination meter.

AUTOMATIC WIPER SYSTEM

a. In the automatic wiper system, the rain sensor mounted in the upper portion of the windshield sends a front wiper operation command, based on the amount of rainfall, to the windshield wiper ECU. The front wipers operate when the windshield wiper switch is in the AUTO position. The rain sensor sensitivity can be adjusted with the rain sensor adjusting switch.

b. In this system, the windshield wiper ECU receives the vehicle speed signal from the combination meter, and operates the front wipers according to the vehicle speed.

c. The windshield wiper ECU adjusts the intermittent interval during wiper motor operation according to commands received from the rain sensor. This adjustment is based on vehicle speed, etc., and a determination of the vehicle driving and stopping conditions during the intermittent operation.

HEADLIGHT CLEANER SYSTEM

a. The headlight cleaner system operates when the headlights are on and the headlight cleaner switch is pushed on.

REAR WIPER SYSTEM

a. In the rear wiper system, a rear wiper operation signal is sent from the windshield wiper switch to the No. 2 main body ECU. The No. 2 main body ECU receives the rear wiper operation signal and operates the rear wiper.

REVERSE-LINKED SYSTEM

a. In the reverse-linked system, with the front wipers operating, the reverse position signal is sent from the ECM to the No. 2 main body ECU.

The No. 2 main body ECU receives the reverse position signal and operates the rear wiper once.

for Preparation Click here

HINT:

- **Use these procedures to troubleshoot the wiper and washer 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 (for LHD) (Click here)

C. → Go to CAN COMMUNICATION SYSTEM (for RHD (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

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.REPAIR OR REPLACE

NEXT

8.CONFIRMATION TEST

NEXT

END

for Preparation Click here

HINT:

- **Use these procedures to troubleshoot the wiper and washer 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 (for LHD) (Click here)

C. → Go to CAN COMMUNICATION SYSTEM (for RHD (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

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.REPAIR OR REPLACE

NEXT

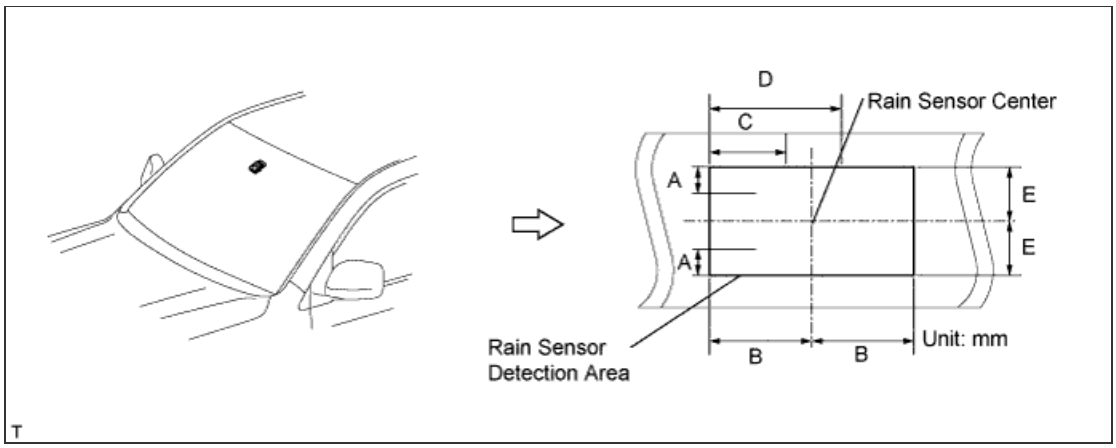
8.CONFIRMATION TEST

NEXT

END

for Preparation Click here

AUTOMATIC WIPER OPERATION



Standard Measurement:

Area	Specified Condition
A	7 mm (0.276 in.)
B	22 mm (0.866 in.)
C	16.6 mm (0.653 in.)
D	26.6 mm (1.05 in.)
E	12 mm (0.472 in.)

a. LO operation inspection

i. Turn the engine switch on (IG), and set the windshield wiper switch to AUTO.

ii. Flatten the end of a cotton swab soaked with water so that it is 4 to 6 mm (0.157 to 0.236 in.) wide.

iii. Wipe the cotton swab in the center of the rain sensor detection area (within the range shown in the illustration), and check that the wiper operates once.

b. HI operation inspection

i. Cut 2 or 3 squares out of tissue paper so that they are 25 mm (0.984 in.) long on each side, and soak them with water.

ii. Jack up the vehicle.

iii. Depress the accelerator pedal so that the wheel speed is at 30 km/h (19 mph).

iv. Place the wet tissue paper onto the rain sensor detection area so that the area is completely covered, and check that the wiper operates on HI.

REAR WIPER OPERATION

a. With the engine switch on (IG) and the front wipers operating, when the shift lever is moved to R, check that the rear wiper operates once.

FRONT WASHER OPERATION

a. Turn the engine switch on (IG) and operate the front washer, then check that the front wipers operate.

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.

Front Wiper and Washer System

Symptom	Suspected Area	See page
Wiper and washer systems do not operate at all	Wiper and washer switch circuit	Click here
	Windshield wiper ECU	Click here
Wiper system does not operate at all	WIPER fuse	-
	Wiper motor power source circuit	Click here
	Wiper and washer switch circuit	Click here
	Front wiper motor circuit	Click here
	Windshield wiper ECU	Click here
Wiper system does not operate (LO, INT)	Wiper and washer switch circuit	Click here
	Front wiper motor circuit	Click here
	Windshield wiper ECU	Click here
Wiper system does not operate (HI)	Wiper switch (Hi-speed) circuit	Click here
	Front wiper motor circuit	Click here
	Windshield wiper ECU	Click here
Wiper system does not stop	Wiper switch (Hi-speed) circuit	Click here
	Front wiper motor circuit	Click here
	Windshield wiper ECU	Click here
Washer system does not operate	Wiper and washer switch circuit	Click here
	Washer motor circuit	Click here
	Windshield wiper ECU	Click here

Rear Wiper and Washer System

Symptom	Suspected Area	See page
Rear wiper and washer system does not operate	Windshield wiper switch	Click here
	Harness or connector	-
Rear wiper system does not operate	RR WIPER fuse	-
	Windshield wiper switch	Click here
	Rear wiper motor circuit	Click here
	Harness or connector	-
Rear washer system does not operate	Windshield wiper switch	Click here
	Rear washer motor	Click here
	Harness or connector	-
Rear wiper arm does not return to its original position when wiper switch is turned off	Rear wiper motor	Click here
	Harness or connector	-

Auto Wiper System

Symptom	Suspected Area	See page
Auto wiper system does not operate (manual operation)	Rain sensor circuit	Click here
	Rain sensor	Click here
	Windshield wiper ECU	Click here

Headlight Cleaner System

Symptom	Suspected Area	See page
	Headlight cleaner switch circuit	Click here
	Headlight cleaner motor and relay circuit	Click here

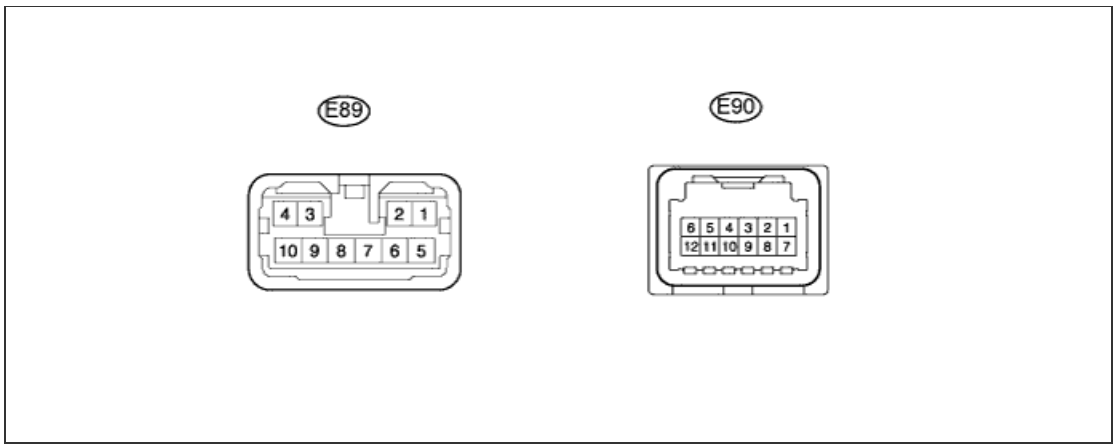
Headlight cleaner system does not operate at all	Windshield wiper ECU	Click here
	Headlight cleaner control relay	Click here

Other

Symptom	Suspected Area	See page
Washer fluid level warning system does not operate	Harness or connector	-
	Windshield wiper ECU	Click here

for Preparation Click here

CHECK WINDSHIELD WIPER ECU



a. Disconnect the E89 and E90 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
E89-5 (IG1I) - E90-10 (E)	G - W-B	Power source	Engine switch on (IG)	11 to 14 V
E90-10 (E) - Body ground	W-B - Body ground	Power ground	Always	Below 1 Ω

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

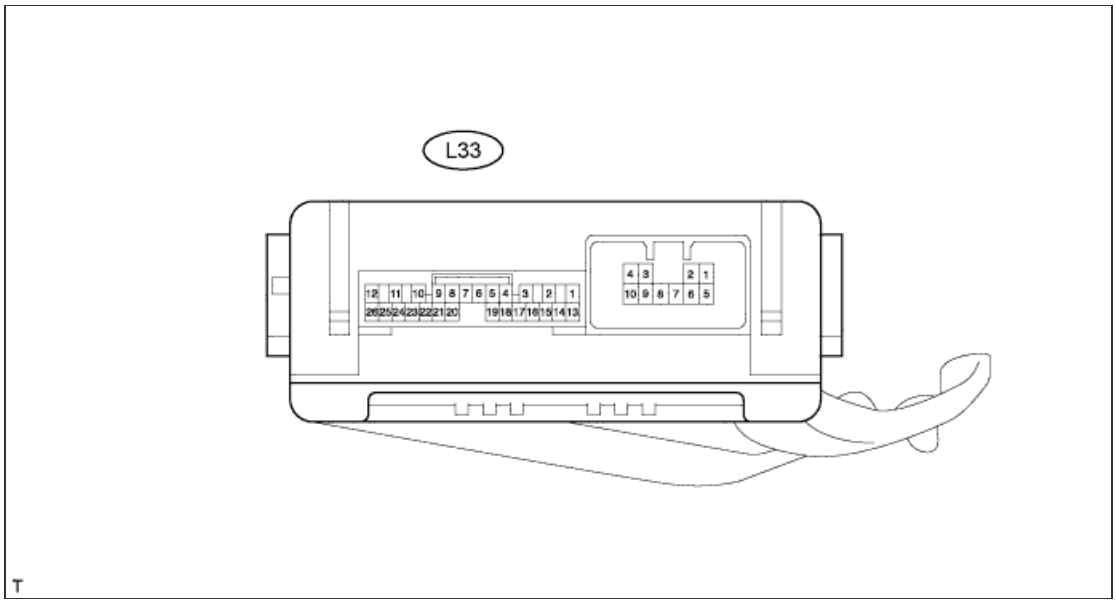
c. Reconnect the E89 and E90 ECU connectors.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
E89-7 (+SM) - Body ground	W - Body ground	Front wiper motor operation signal	Front wiper operated	11 to 14 V
			Front wiper stopped	Below 1 V
E89-8 (WIG) - Body ground	B - Body ground	Front wiper motor power source circuit	Engine switch off	Below 1 V
			Engine switch on (IG)	11 to 14 V
E89-10 (1S) - Body ground	G - Body ground	Front wiper motor power supply circuit	Front wiper switch off	Below 1 V
			Front wiper switch LO	11 to 14 V
E89-9 (2S) - Body ground	R - Body ground	Front wiper motor power supply circuit (HI signal)	Front wiper switch off	Below 1 V
			Front wiper switch HI	11 to 14 V
E90-2 (W) - Body ground	L - Body ground	Front washer motor power source circuit	Front washer switch off	11 to 14 V
			Front washer switch on	Below 1 V

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

CHECK NO. 2 MAIN BODY ECU



a. Disconnect the L33 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
L33-14 (BECU) - L33-7 (GND)	R - W-B	Power source	Always	11 to 14 V
L33-13 (SIG) - L33-7 (GND)	G - W-B	Power source	Engine switch on (IG)	11 to 14 V
L33-7 (GND) - Body ground	W-B - Body ground	Power source	Always	Below 1 V

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

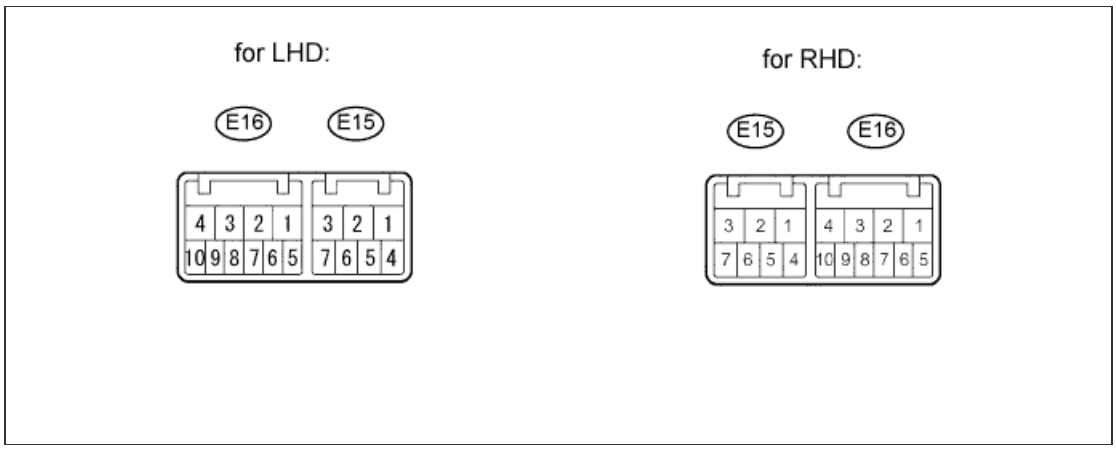
c. Reconnect the L33 ECU connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
L33-1 (RWSM) - Body ground	G - Body ground	Rear wiper motor operation signal	Rear wiper operated	11 to 14 V
			Rear wiper stopped	Below 1 V
L33-4 (WRLO) - Body ground	G - Body ground	Rear wiper motor power supply circuit	Rear wiper switch off	Below 1 V
			Rear wiper switch on	11 to 14 V
L33-5 (WRSW) - Body ground	B - Body ground	Rear washer motor power source circuit	Rear washer switch off	Below 1 V
			Rear washer switch on	11 to 14 V

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

CHECK WINDSHIELD WIPER SWITCH



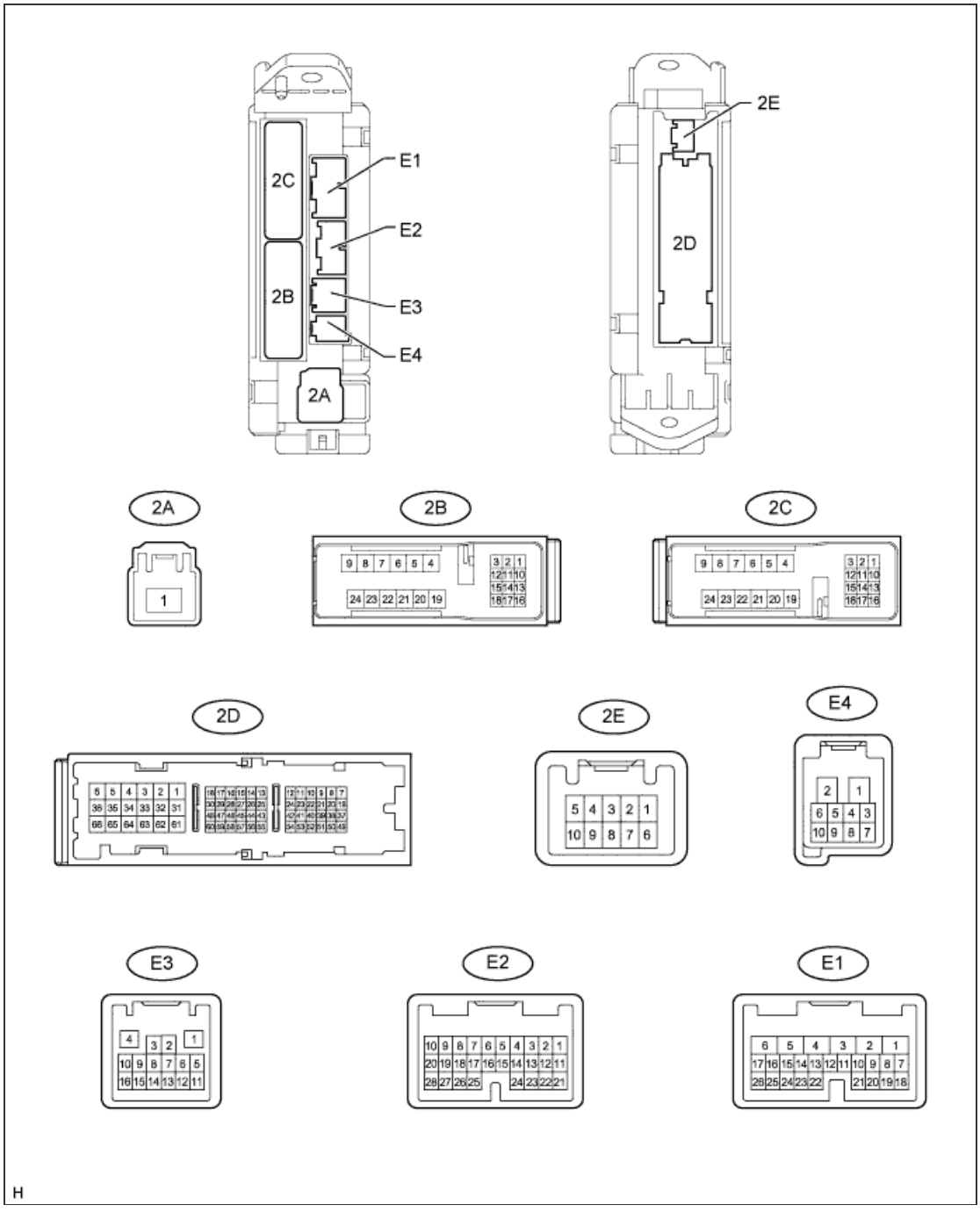
a. Disconnect the E16 switch connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
E16-2 (+B) - E16-10 (E)*1	B - W-B	Power source circuit (from battery)	Engine switch on (IG)	11 to 14 V
E16-3 (+B) - E16-5 (E)*2	B - W-B	Power source circuit (from battery)	Engine switch on (IG)	11 to 14 V
E16-10 (E) - Body ground*1	W-B - Body ground	Ground circuit	Always	Below 1 V
E16-5 (E) - Body ground*2	W-B - Body ground	Ground circuit	Always	Below 1 V

*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 2D, 2B, E2 and E1 main body ECU connectors.

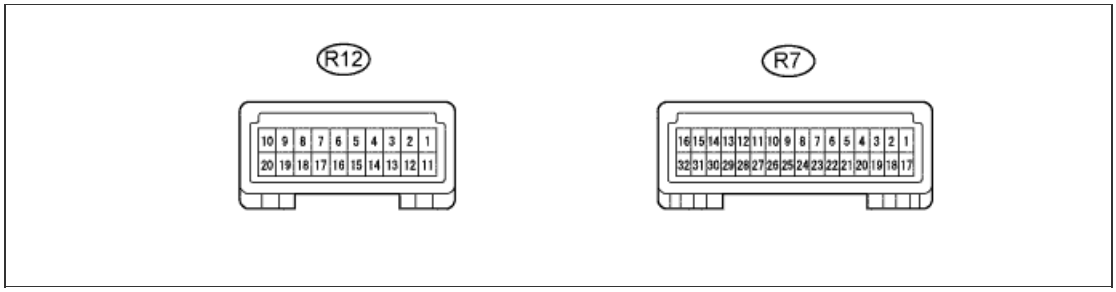
b. Measure the voltage according to the value(s) in the table below.

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

E1-6 (AM1) - 2D-62 (GND2)	W - W-B	ECU power supply (from battery)	Always	11 to 14 V
E2-11 (IG2D) - 2D-62 (GND2)	B - W-B	IG signal circuit	Engine switch off	Below 1 V
			Engine switch on (IG)	11 to 14 V
2B-22 (STP) - 2D-62 (GND2)	R - W-B	Stop light switch circuit	Stop light switch off	Below 1 V
			Stop light switch on	11 to 14 V
2D-62 (GND2) - Body ground	W-B - Body ground	Ground circuit	Always	Below 1 V

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

CHECK MAP LIGHT



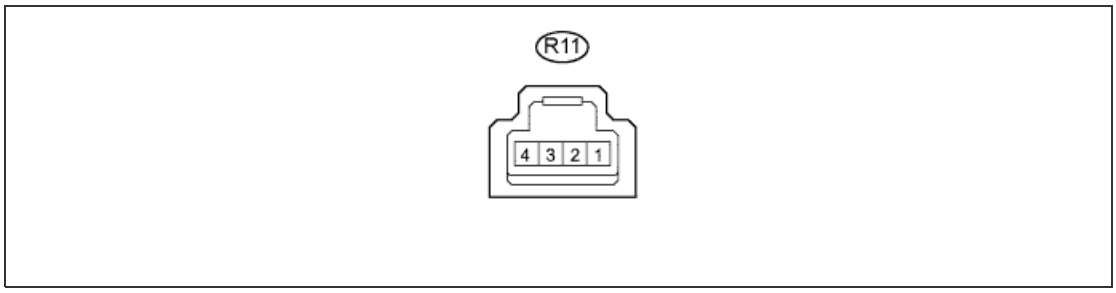
a. Disconnect the R7 and R12 map light connectors.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
R7-6 (+B2) - R12-20 (GND5)	R - W-B	ECU power supply (from battery)	Always	11 to 14 V
R7-9 (IG) - R12-20 (GND5)	G - W-B	IG signal circuit	Engine switch off	Below 1 V
			Engine switch on (IG)	11 to 14 V
R12-20 (GND5) - Body ground	W-B - Body ground	Ground circuit	Always	Below 1 V

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

CHECK RAIN SENSOR



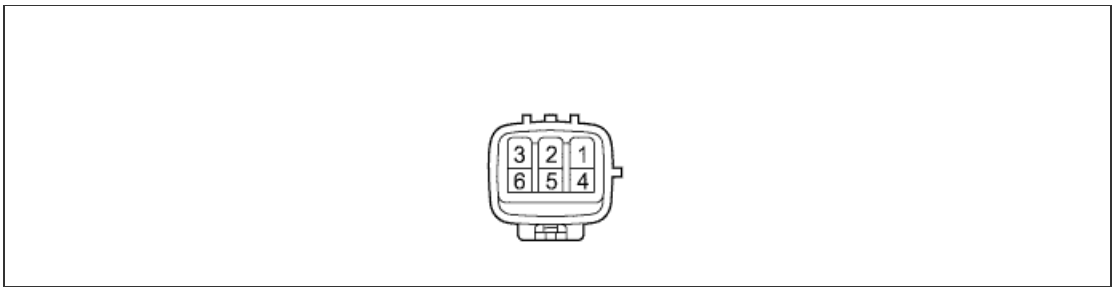
a. Disconnect the R11 rain sensor connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
R11-4 (SIG) - Body ground	G - Body ground	IG signal circuit (to IG relay)	Engine switch off	Below 1 V
			Engine switch on (IG)	11 to 14 V
R11-1 (ES) - Body ground	W - Body ground	Ground circuit	Always	Below 1 V

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

CHECK HEADLIGHT CLEANER CONTROL RELAY



a. Disconnect the 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
3 (IG) - 4 (E)	R-B - W-B	IG signal circuit (to IG relay)	Engine switch off	Below 1 V
			Engine switch on (IG)	11 to 14 V
6 (PB) - 4 (E)	W-G - W-B	Headlight cleaner motor operation signal	Headlight cleaner motor stopped	Below 1 V
			Headlight cleaner motor operating	11 to 14 V

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

c. Reconnect the relay connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
2 (H) - 4 (E)	LG - W-B	Headlight cleaner switch and headlight switch operation signal	Headlight cleaner switch off	Below 1 V
			Headlight switch off	Below 1 V
			Headlight cleaner switch and headlight switch on	11 to 14 V

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

for Preparation Click here

FRONT WIPER SYSTEM

a. When the wiper switch is in any position other than "OFF" and the blades are frozen, a malfunction is detected by the windshield wiper ECU and the wiper operation is stopped.

HINT:

Recovery condition: the engine switch is turned off.

b. When the rain sensor is broken and the wiper switch is in the AUTO position, the front wiper system is changed to the intermittent mode.

HINT:

Recovery condition: the signal level error cancellation is received from the rain sensor.

c. When the rain sensor overheats and the front wiper is in the HI operation mode, the front wiper system is changed to the LO operation mode.

HINT:

Recovery condition: the engine switch is turned off or the wiper switch is turned to any position other than INT or LO.

d. When the front controller malfunctions, the front wiper system can be set to the HI operation mode with the combination switch only.

HINT:

Recovery condition: the front controller returns to normal.

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 engine switch off.

c. Connect the intelligent tester to the DLC3.

d. Turn the engine switch on (IG).

e. Turn the intelligent tester on.

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

g. According to the display on the tester, read the "Data List".

Body No. 5

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
F Wiper LO Switch	Front wiper LO switch / ON or OFF	ON: Front wiper switch in LO position OFF: Front wiper switch not in LO position	-
F Wiper HI Switch	Front wiper HI switch / ON or OFF	ON: Front wiper switch in HI position OFF: Front wiper switch not in HI position	-
F Wiper AUTO Switch	Front wiper AUTO switch / ON or OFF	ON: Front wiper switch in AUTO position OFF: Front wiper switch not in AUTO position	-
F Wiper MIST Switch	Front wiper MIST switch / ON or OFF	ON: Front wiper switch in MIST position OFF: Front wiper switch not in MIST position	-
F Washer Switch	Front washer switch / ON or OFF	ON: Front washer switch on OFF: Front washer switch off	-

Rain Sensor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Rain Sensor Cold	Rain sensor cold / COLD or OK	COLD: Front wiper switch in AUTO position OK: Front wiper switch not in AUTO position	-
Rain Sensor Hot	Rain sensor cold / HOT or OK	HOT: Front wiper switch in AUTO position OK: Front wiper switch not in AUTO position	-

Body No. 4

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
IG Switch SIG	Engine switch signal / ON or OFF	ON: Engine switch on (IG) OFF: Engine switch off	-
R Wiper Switch	Rear wiper switch / ON or OFF	ON: Rear wiper switch not in off position OFF: Rear wiper switch in off position	-
R Wiper Int Switch	Rear wiper INT switch / ON or OFF	ON: Rear wiper switch in INT position OFF: Rear wiper switch not in INT position	-
R Wiper Lo Switch	Rear wiper LO switch / ON or OFF	ON: Rear wiper switch in LO position OFF: Rear wiper switch not in LO position	-
R Washer Switch	Rear washer switch / ON or OFF	ON: Rear washer switch on OFF: Rear washer switch off	-

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Stop Light Switch	Stop light switch signal / ON or OFF	ON: Stop light switch on	-

		OFF: Stop light switch off	

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.

NOTICE:

When a Body No. 5 (windshield wiper ECU) and Body No. 4 (No. 2 main body ECU) related front wiper switch is on, Active Test items related to the front wiper switch are prohibited (double operation prohibition). Check that the front wiper switches are off before performing Active Tests.

a. Warm up the engine.

b. Turn the engine switch off.

c. Connect the intelligent tester to the DLC3.

d. Turn the engine switch on (IG).

e. Turn the intelligent tester on.

f. Enter the following menus: Body / (desired system) / Active Test.

g. According to the display on the tester. perform the "Active Test".

Body No. 5

Tester Display	Test Part	Control Range	Diagnostic Note
Wiper Mot (HI)	Wiper motor HI operation	ON / OFF	-
Wiper Mot (LO)	Wiper motor LO operation	ON / OFF	-

Body No. 4

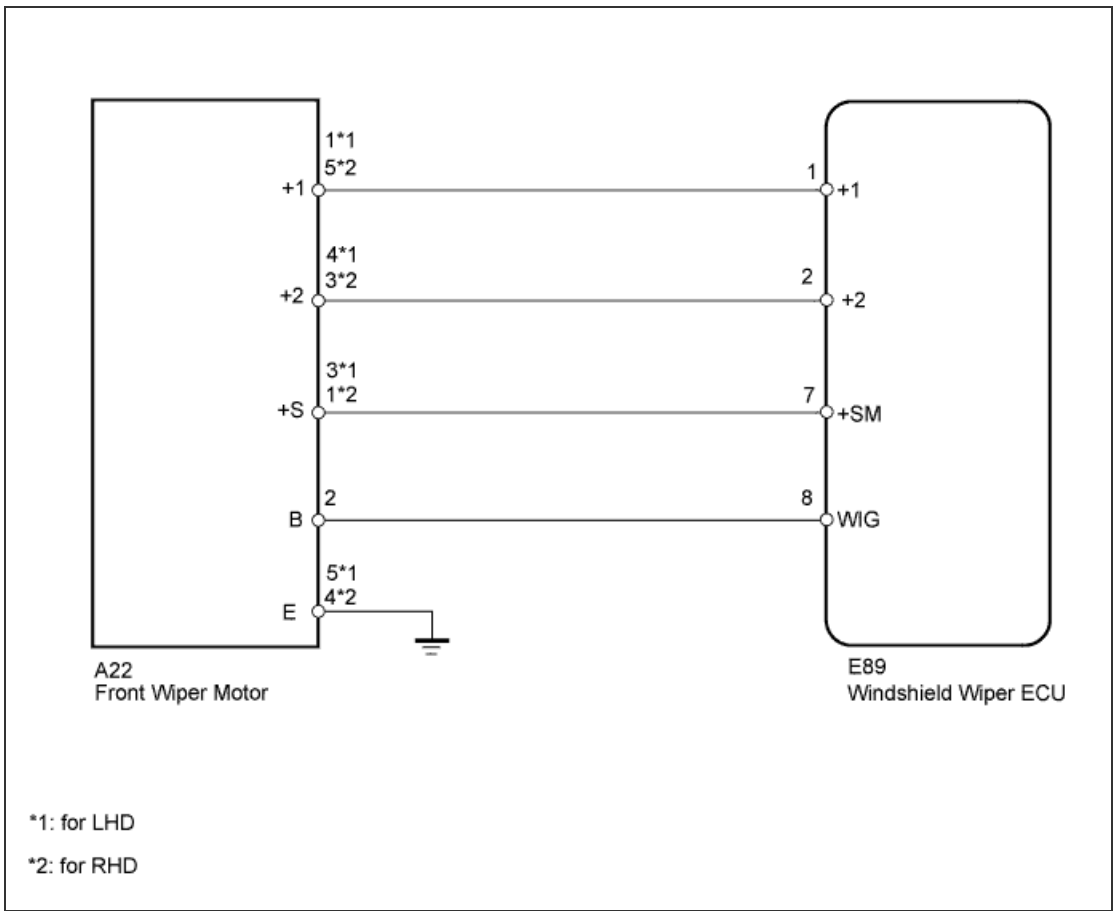
Tester Display	Test Part	Control Range	Diagnostic Note
R Wiper (LO)	Wiper motor LO operation	ON / OFF	-

for Preparation Click here

DESCRIPTION

The windshield wiper ECU controls the wiper motor.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (FRONT WIPER MOTOR)

a. Select the Active Test, use the intelligent tester to generate a control command, and then check the front wiper motor.

NOTICE:

When a Body No. 5 (windshield wiper ECU) related front wiper switch is on, Active Test items related to the front wiper switch are prohibited (double operation prohibition). Check that the front wiper switches are off before performing Active Test.

Body No. 5

Item	Test Details	Control Range	Diagnostic Note
Wiper Mot (HI)	Wiper motor HI operation	ON / OFF	-
Wiper Mot (LO)	Wiper motor LO operation	ON / OFF	-

OK:

Front wiper motor operates.

NG → Go to step 2

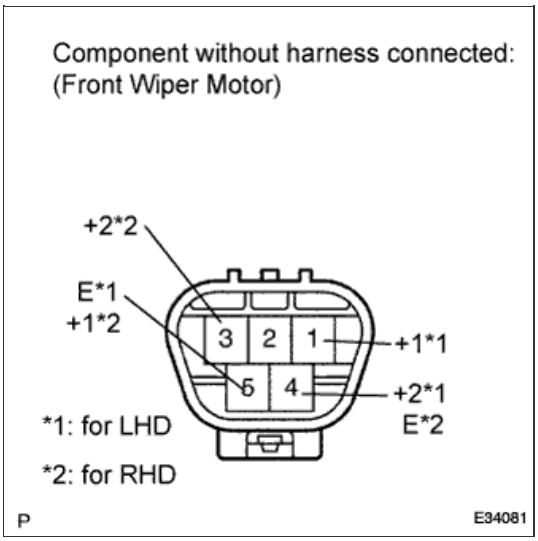
OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

2.INSPECT FRONT WIPER MOTOR

a. Remove the front wiper motor (Click here).

b. Apply battery voltage to the front wiper motor connector and check the speed of the front wiper motor.



OK:

for LHD

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 (+1) Battery negative (-) → Terminal 5 (E)	Motor operates at low speed
Battery positive (+) → Terminal 4 (+2) Battery negative (-) → Terminal 5 (E)	Motor operates at high speed

for RHD

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 5 (+1) Battery negative (-) → Terminal 4 (E)	Motor operates at low speed
Battery positive (+) → Terminal 3 (+2) Battery negative (-) → Terminal 4 (E)	Motor operates at high speed

NG → REPLACE FRONT WIPER MOTOR (Click here)

OK

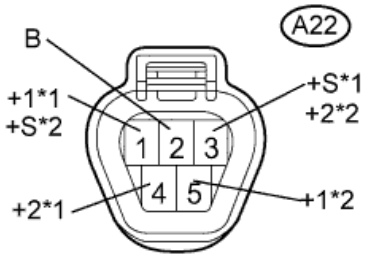
3.CHECK HARNESS AND CONNECTOR (FRONT WIPER MOTOR - WINDSHIELD WIPER ECU AND BODY GROUND)

a. Disconnect the A22 motor connector.

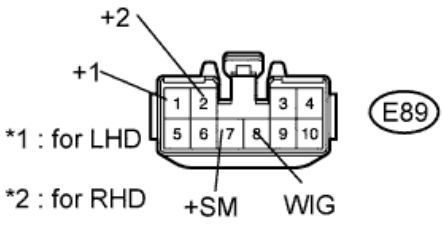
b. Disconnect the E89 ECU connector.

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

Front view of wire harness connector:
(to Front Wiper Motor)



Front view of wire harness connector:
(to Windshield Wiper ECU)



Standard Resistance:

for LHD

Tester Connection	Condition	Specified Condition
A22-2 (B) - E89-8 (WIG)	Always	Below 1 Ω
A22-1 (+1) - E89-1 (+1)		
A22-4 (+2) - E89-2 (+2)		
A22-3 (+S) - E89-7 (+SM)		
A22-5 (E) - Body ground		
A22-3 (+S) - Body ground	Always	10 kΩ or higher
A22-2 (B) - Body ground		
A22-4 (+2) - Body ground		
A22-1 (+1) - Body ground		

for RHD

Tester Connection	Condition	Specified Condition
A22-2 (B) - E89-8 (WIG)	Always	Below 1 Ω
A22-5 (+1) - E89-1 (+1)		
A22-3 (+2) - E89-2 (+2)		
A22-1 (+S) - E89-7 (+SM)		
A22-4 (E) - Body ground		
A22-1 (+S) - Body ground	Always	10 kΩ or higher
A22-2 (B) - Body ground		
A22-3 (+2) - Body ground		
A22-5 (+1) - Body ground		

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

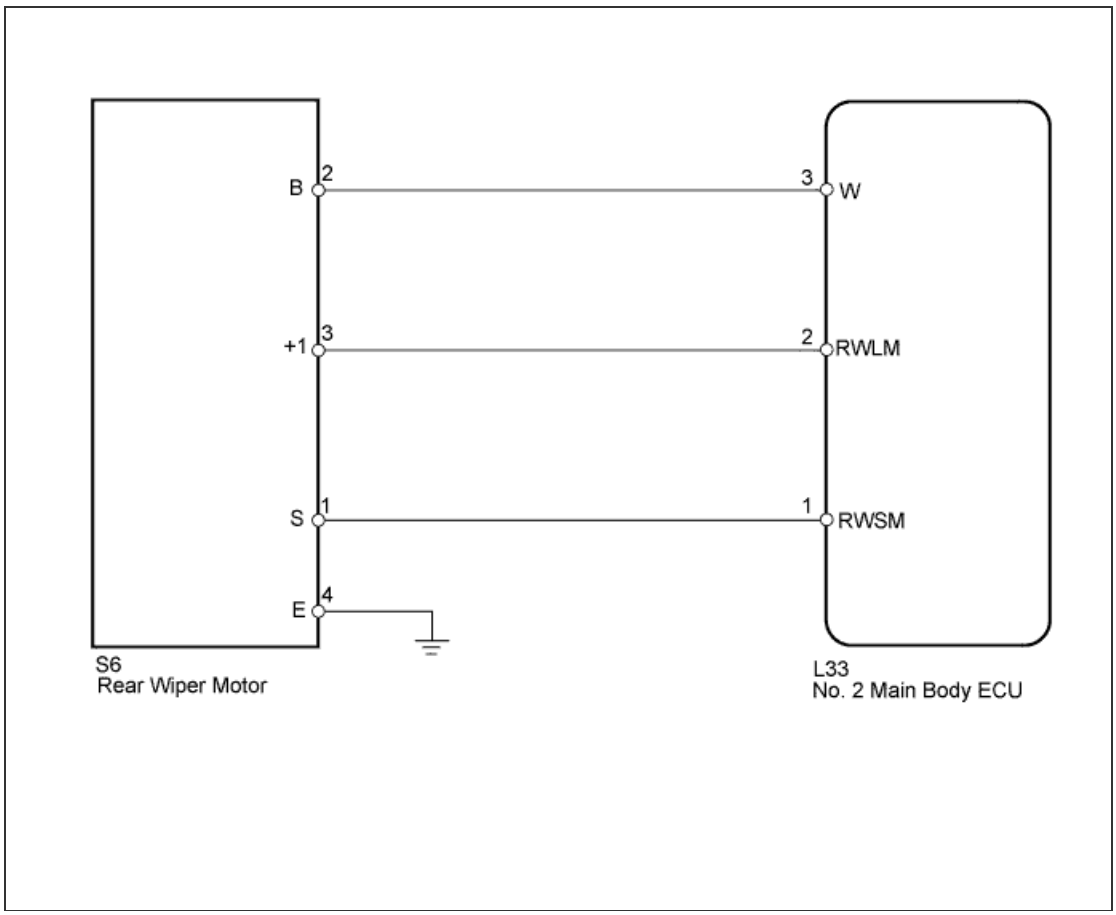
REPLACE WINDSHIELD WIPER ECU (Click here)

for Preparation Click here

DESCRIPTION

The No. 2 main body ECU controls the rear wiper motor.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (REAR WIPER MOTOR)

a. Select the Active Test, use the intelligent tester to generate a control command, and then check the rear wiper motor.

NOTICE:

When a Body No. 4 (No. 2 main body ECU) related front wiper switch is on, Active Test items related to the front wiper switch are prohibited (double operation prohibition). Check that the front wiper switches are off before performing Active Test.

Body No. 4

Item	Test Details	Control Range	Diagnostic Note
R Wiper (LO)	Rear wiper motor LO operation	ON / OFF	-

OK:

Rear wiper motor operates.

NG → Go to step 2

OK → PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

2.INSPECT REAR WIPER MOTOR

a. Remove the rear wiper motor (Click here).

b. Apply battery voltage to the rear wiper motor connector and check if the rear wiper motor operates.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 3 (+1) Battery negative (-) → Terminal 4 (E)	Motor operates

Component without harness connected:
(Rear Wiper Motor)



NG → REPLACE REAR WIPER MOTOR (Click here)

OK

3.CHECK HARNESS AND CONNECTOR (REAR WIPER MOTOR - NO. 2 MAIN BODY ECU AND BODY GROUND)

a. Disconnect the S6 motor connector.

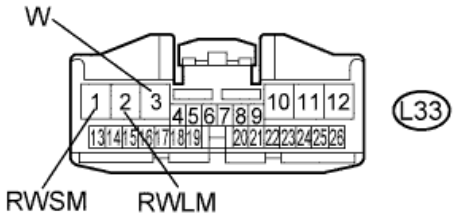
b. Disconnect the L33 ECU connector.

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

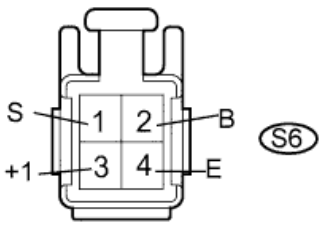
Standard Resistance:

Tester Connection	Condition	Specified Condition
S6-2 (B) - L33-3 (W)	Always	Below 1 Ω
S6-3 (+1) - L33-2 (RWLM)		
S6-1 (S) - L33-1 (RWSM)		
S6-4 (E) - Body ground		
S6-2 (B) - Body ground	Always	10 kΩ or higher
S6-3 (+1) - Body ground		
S6-1 (S) - Body ground		

Front view of wire harness connector:
(to No. 2 Main Body ECU)



Front view of wire harness connector:
(to Rear Wiper Motor)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

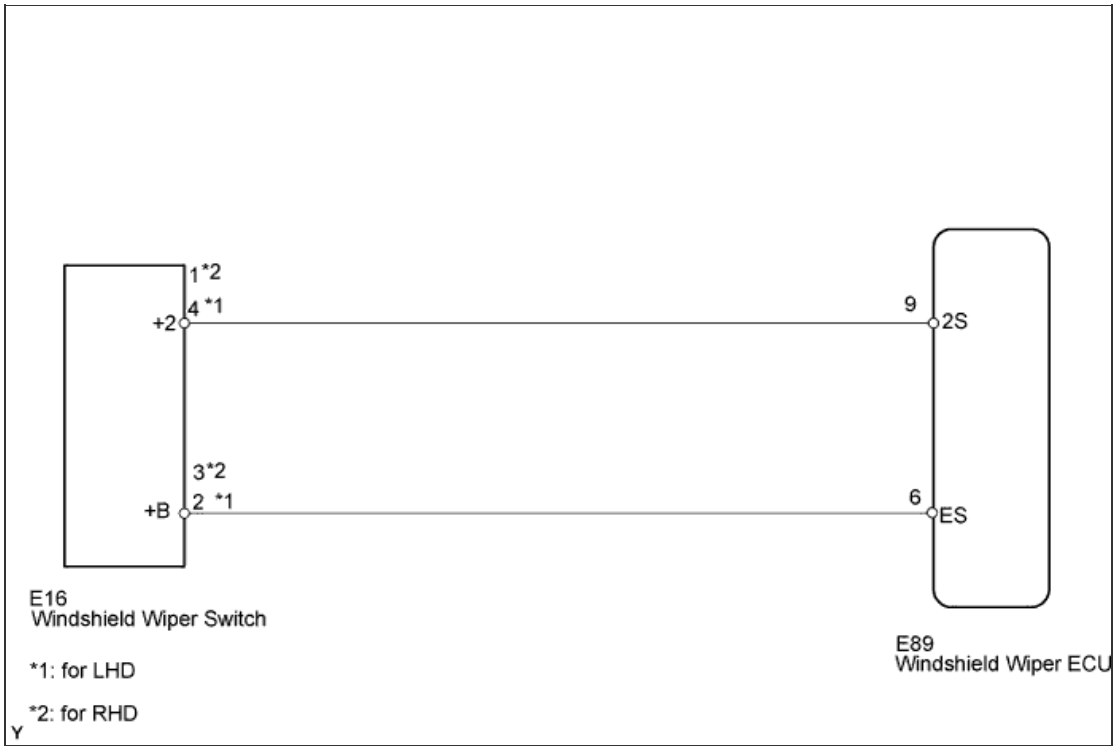
REPLACE NO. 2 MAIN BODY ECU (Click here)

for Preparation Click here

DESCRIPTION

The windshield wiper ECU receives the HI position signal of the wiper switch to operate the wiper motor at HI speed. Even if the ECU malfunctions, its circuit structure enables it to operate the wiper in HI operation mode.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (WINDSHIELD WIPER SWITCH ASSEMBLY)

a. Check the Data List for proper functioning of the windshield wiper switch.

Body No. 5

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
F Wiper HI Switch	Front wiper HI switch / ON or OFF	ON: Front wiper switch in HI position OFF: Wiper switch not in HI position	-

OK:
Wiper switch operates.

NG → Go to step 2

OK →

REPLACE WINDSHIELD WIPER ECU (Click here)

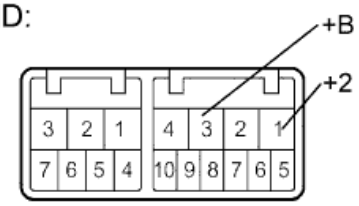
2.INSPECT WINDSHIELD WIPER SWITCH

a. Disconnect or remove the switch (Click here).

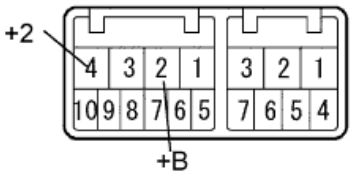
b. Measure the resistance according to the value(s) in the table below.

Component without harness connected:
(Windshield Wiper Switch)

for RHD:



for LHD:



Standard Resistance:

for LHD

Tester Connection	Switch Condition	Specified Condition
4 (+2) - 2 (+B)	Wiper switch in HI position	Below 1 Ω
4 (+2) - 2 (+B)	Wiper switch not in HI position	10 kΩ or higher

for RHD

Tester Connection	Switch Condition	Specified Condition
1 (+2) - 3 (+B)	Wiper switch in HI position	Below 1 Ω
1 (+2) - 3 (+B)	Wiper switch not in HI position	10 kΩ or higher

NG → REPLACE WINDSHIELD WIPER SWITCH (Click here)

OK

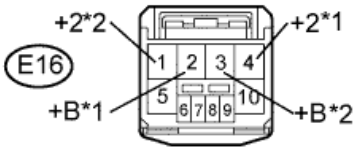
3.CHECK HARNESS AND CONNECTOR (WINDSHIELD WIPER SWITCH - WINDSHIELD WIPER ECU)

a. Disconnect the E16 switch connector.

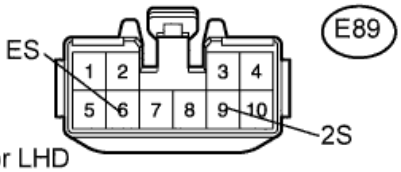
b. Disconnect the E89 ECU connector.

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

Front view of wire harness connector:
(Windshield Wiper Switch)



Front view of wire harness connector:
(Windshield Wiper ECU)



*1: for LHD

*2: for RHD

Standard Resistance:

for LHD

Tester Connection	Condition	Specified Condition
E16-4 (+2) - E89-9 (2S)	Always	Below 1 Ω
E16-2 (+B) - E89-6 (ES)		
E89-9 (2S) - Body ground	Always	10 kΩ or higher
E89-6 (ES) - Body ground		

for RHD

Tester Connection	Condition	Specified Condition
E16-1 (+2) - E89-9 (2S)	Always	Below 1 Ω
E16-3 (+B) - E89-6 (ES)		
E89-9 (2S) - Body ground	Always	10 kΩ or higher
E89-6 (ES) - Body ground		

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

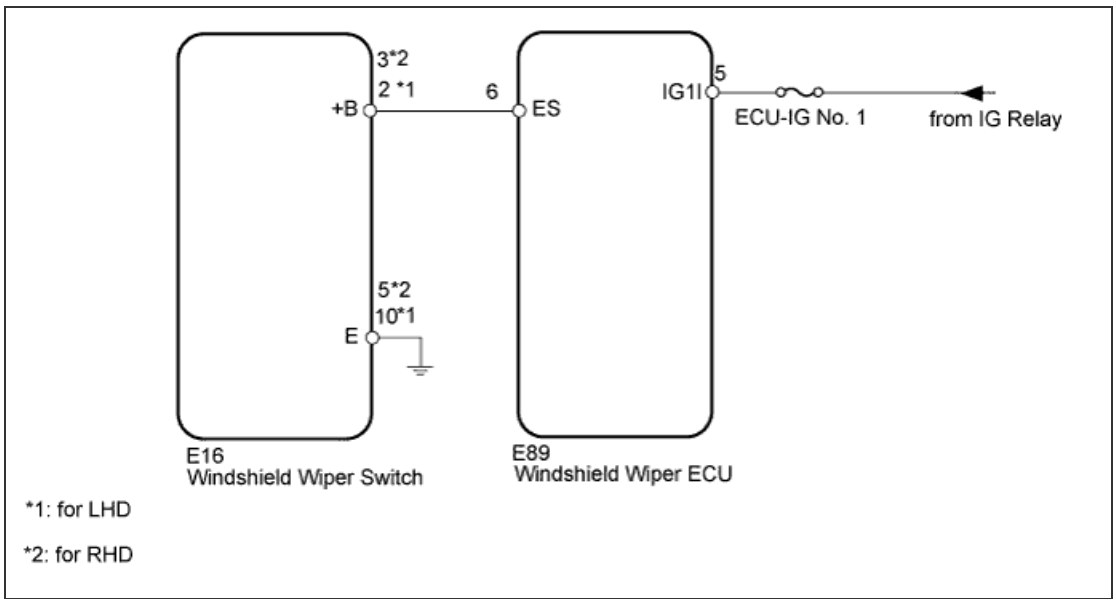
REPLACE WINDSHIELD WIPER ECU (Click here)

for Preparation Click here

DESCRIPTION

This circuit provides power to operate the windshield wiper switch. The manual operation signals are sent to the windshield wiper ECU.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.INSPECT FUSE (ECU-IG No. 1)

a. Remove the ECU-IG No. 1 fuse from the cowl side junction block LH.

b. Measure the resistance according to the value in the table below.

Standard Resistance:

Tester Connection	Condition	Specified Condition
ECU-IG No. 1 fuse	Always	Below 1 Ω

NG → REPLACE FUSE

OK

2.READ VALUE USING INTELLIGENT TESTER (WINDSHIELD WIPER SWITCH)

a. Check the Data List for proper functioning of the windshield wiper switch.

Body No. 5

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
F Wiper LO Switch	Front wiper LO switch / ON or OFF	ON: Front wiper switch in LO OFF: Front wiper switch not in LO	-
F Wiper HI Switch	Front wiper HI switch / ON or OFF	ON: Front wiper switch in HI OFF: Front wiper switch not in HI	-
F Wiper AUTO Switch	Front wiper AUTO switch / ON or OFF	ON: Front wiper switch in AUTO OFF: Front wiper switch not in AUTO	-
F Wiper MIST Switch	Front wiper MIST switch / ON or OFF	ON: Front wiper switch in MIST OFF: Front wiper switch not in MIST	-
F Washer Switch	Front washer switch / ON or OFF	ON: Front washer switch on OFF: Front washer switch off	-

Body No. 4

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
R Wiper LO Switch	Rear wiper LO switch / ON or OFF	ON: Rear wiper switch in LO OFF: Rear wiper switch no in LO	-
R Wiper Int Switch	Rear wiper INT switch / ON or OFF	ON: Rear wiper switch in INT OFF: Rear wiper switch no in INT	-
R Washer Switch	Rear washer switch / ON or OFF	ON: Rear washer switch on OFF: Rear washer switch off	-

OK:

The display is as specified in the normal condition.

NG → Go to step 3

OK

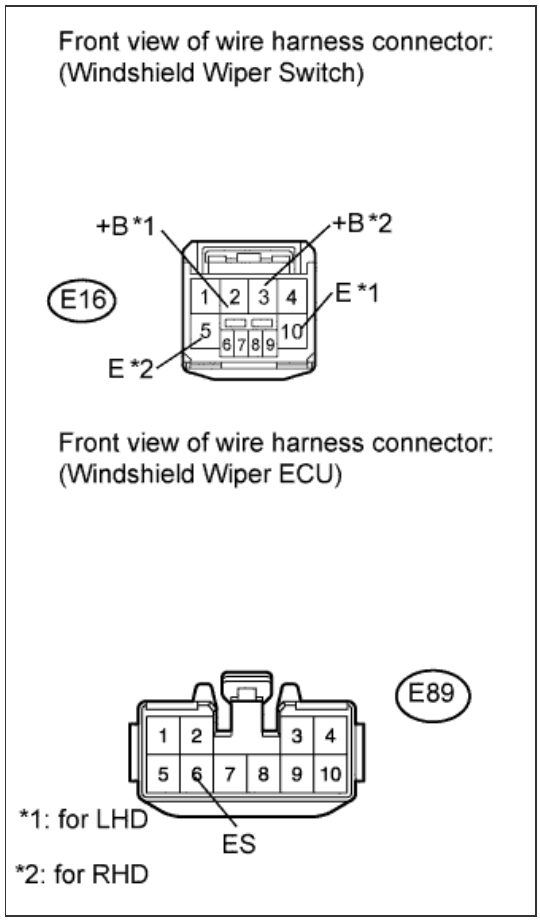
PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

3.CHECK HARNESS AND CONNECTOR (WINDSHIELD WIPER SWITCH - BATTERY AND BODY GROUND)

a. Disconnect the E16 switch connector.

b. Disconnect the E89 ECU connector.

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



Standard Resistance:

for LHD

Tester Connection	Switch Condition	Specified Condition
E16-2 (+B) - E89-6 (ES)	Always	Below 1 Ω
E16-10 (E) - Body ground		
E16-2 (+B) - Body ground		10 kΩ or higher

for RHD

Tester Connection	Switch	Specified

	Condition	Condition
E16-3 (+B) - E89-6 (ES)	Always	Below 1 Ω
E16-5 (E) - Body ground		
E16-3 (+B) - Body ground		10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

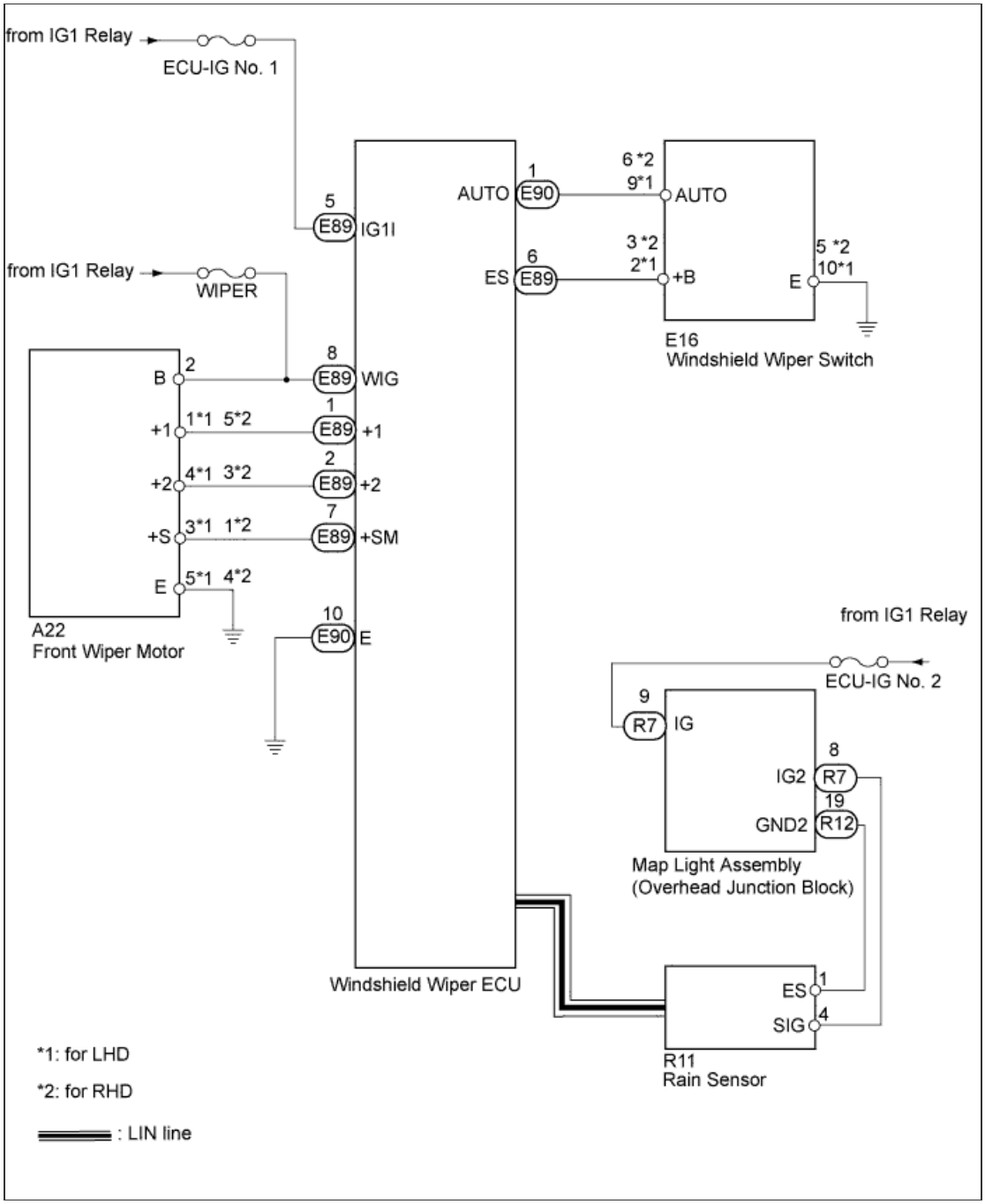
REPLACE WINDSHIELD WIPER SWITCH ASSEMBLY (Click here)

for Preparation Click here

DESCRIPTION

The auto wiper system adjusts the wiper speed to the optimum speed based on the amount of rain. The rain sensor mounted on the windshield detects rainfall. This system operates when the windshield wiper switch is set to AUTO. The rain sensor sensitivity can be adjusted with the rain sensor adjusting switch. Signals are sent to the windshield wiper ECU from the windshield wiper switch through the CAN line, and from the rains sensor through the LIN line. Based on these signals, the windshield wiper ECU operates the wiper and determines its operation speed.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK WIPER

a. Check the symptoms of the wiper. Check if the causes of the symptoms are any of the following conditions shown in the charts.

It is Raining but Wiper does not Operate

Condition	Note

Windshield wiper switch in position other than AUTO	Wiper only operates at AUTO setting
Rain sensor temperature is -10°C (14°F) or less, or 70°C (158°F) or more	• To prevent improper operation, wiper does not operate when rain sensor temperature is -10°C (14°F) or less • To prevent damage to rain sensor, wiper does not operate when outside temperature is 70°C (158°F) or more, or when interior temperature of sensor is 90°C (194°F) or more
It is drizzling, or there is scattered rain	If rain droplets do not contact rain sensor, or rain droplets are very small, they are not detected

It is not Raining but Wiper Operates

Condition	Note
Condensation on windshield	Wiper may operate if condensation occurs in rain sensor detection area. If condensation recurs after rain sensor detection area is wiped, wiper operation may continue.
Sun rays are strong	If sudden changes in light intensity occur, wiper may operate
Sudden temperature changes	If sudden changes in temperature occur (A/C heater is used in winter, etc.), wiper may operate
Object is contacting rain sensor	If inner mirror contacts or strikes rain sensor, wiper may operate
Windshield wiper switch off by AUTO	Wiper operates 1 time after windshield wiper switch is turned off by AUTO

Wiper Operation is Irregular

Condition	Note
• Wiper blade is deteriorated • Windshield surface is oily	Rain sensor detects rain amount when wipers are operating. When rain is not completely wiped off by wipers, decrease in ability to detect amount of rain occurs.
• During scattered rain • Heavy rain with large droplets	• During scattered rain or when rain droplets are large, rain droplets contact the sensor intermittently, causing wiper operation to be irregular • During heavy rain, it is difficult for sensor to learn "no rain" condition, causing wiper operation to be irregular
Wiper volume is set to minimum	Minimum wiper volume setting is designed to be non-sensitive (for users who prefer non-sensitive operation), resulting in irregular wiper operation
Problem with wiper motor position signal	When wiper motor position signal has chattering, wiper may operate excessively. During auto wiper operation inspection, if wiper operates several times, and replacement of rain sensor does not correct problem, wiper motor may be malfunctioning.

OK:

Causes of symptoms are one or more of above conditions

NG → Go to step 2

OK

END

2.CHECK WIPER OPERATION

a. Set the windshield wiper switch to the LO and HI setting, and check that the wipers operate normally.

OK:

Wipers operate normally

NG → PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

OK

3.CHECK WINDSHIELD WIPER SWITCH

a. Set the windshield wiper switch to AUTO, and check the problem symptom.

Result

Result	Proceed to
It is raining but wiper does not operate	A
It is not raining but wiper operates	B

B → Go to step 10

A

4.CHECK OPERATION OF WIPER

a. Check operation of the wipers.

Result

Result	Proceed to
Wiper does not operate normally	A
It is raining but wiper does not operate	B

B → Go to step 10

A

5.CHECK WIPER RUBBER

a. Activate the washer and check the wiping ability of the wiper.

OK:
No residue after wipe

NG → REPLACE WIPER RUBBER (Click here)

OK

6.READ VALUE USING INTELLIGENT TESTER (COMBINATION SWITCH)

a. Check the Data List for proper functioning of the combination switch.

Body No. 5

Tester Display	Measurement Item / Range	Normal Condition	Diagnostic Note
F Wiper AUTO Switch	Front wiper AUTO switch / ON or OFF	ON: Front wiper switch in AUTO position OFF: Wiper switch not in AUTO position	-

OK:
Windshield wiper switch operates.

NG → REPLACE WINDSHIELD WIPER SWITCH ASSEMBLY (Click here)

OK

7.CHECK RAIN SENSOR

a. Check that the rain sensor is installed properly.

OK:
When viewed from outside of vehicle, rain sensor tape is not peeling and has no air bubbles or dust on it, and sensor has not come off bracket

NG → REPLACE RAIN SENSOR TAPE (Click here)

OK

8.READ VALUE USING INTELLIGENT TESTER (RAIN SENSOR)

a. Check the Data List for proper functioning of the rain sensor.

Rain Sensor

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Rain Sensor Cold	Rain sensor cold / COLD or OK	COLD: Front wiper switch in AUTO position OK: Wiper switch not in AUTO position	-
Rain Sensor Hot	Rain sensor cold / HOT or OK	HOT: Front wiper switch in AUTO position OK: Wiper switch not in AUTO position	-

OK:
Rain sensor operates.

NG → REPLACE RAIN SENSOR (Click here)

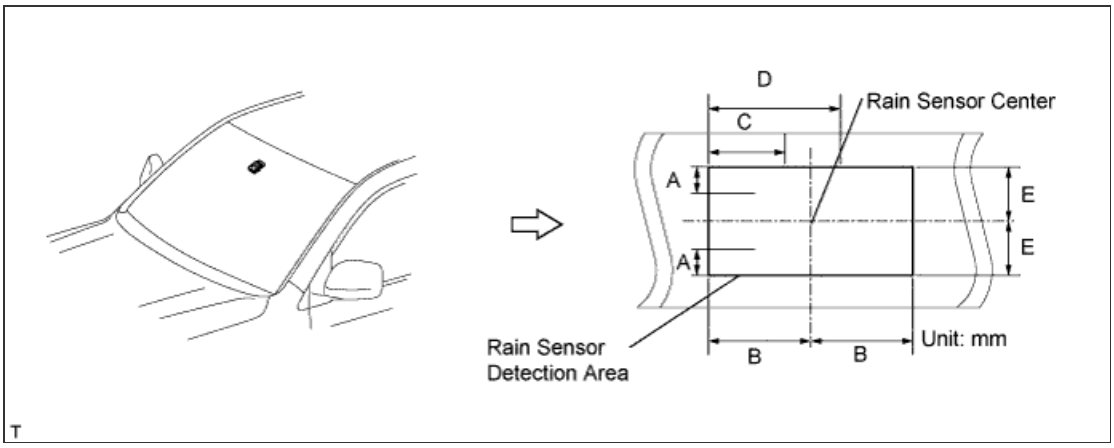
OK

9.CHECK RAIN SENSOR

a. Set the windshield wiper switch to AUTO. Flatten the end of a cotton swab soaked with water so that it is 4 to 6 mm (0.157 to 0.236 in.) wide. Touch the swab to the rain sensor detection area and check that the wiper LO operation occurs once.

Standard Measurement

Area	Specified Condition
A	7 mm (0.276 in.)
B	22 mm (0.866 in.)
C	16.6 mm (0.654 in.)
D	26.6 mm (1.05 in.)
E	12 mm (0.472 in.



Result

Result	Proceed to
Wiper does not operate	A
Wiper operates normally	B
Any other operation	C

B → END

C → REPLACE WINDSHIELD WIPER ECU (Click here)

A

REPLACE RAIN SENSOR (Click here)

10.CHECK RAIN SENSOR

a. Check that the rain sensor is installed properly.

OK:

When viewed from outside of vehicle, rain sensor tape is not peeling and has no air bubbles or dust on it, and sensor has not come off bracket

NG → REPLACE RAIN SENSOR TAPE (Click here)

OK

REPLACE RAIN SENSOR (Click here)

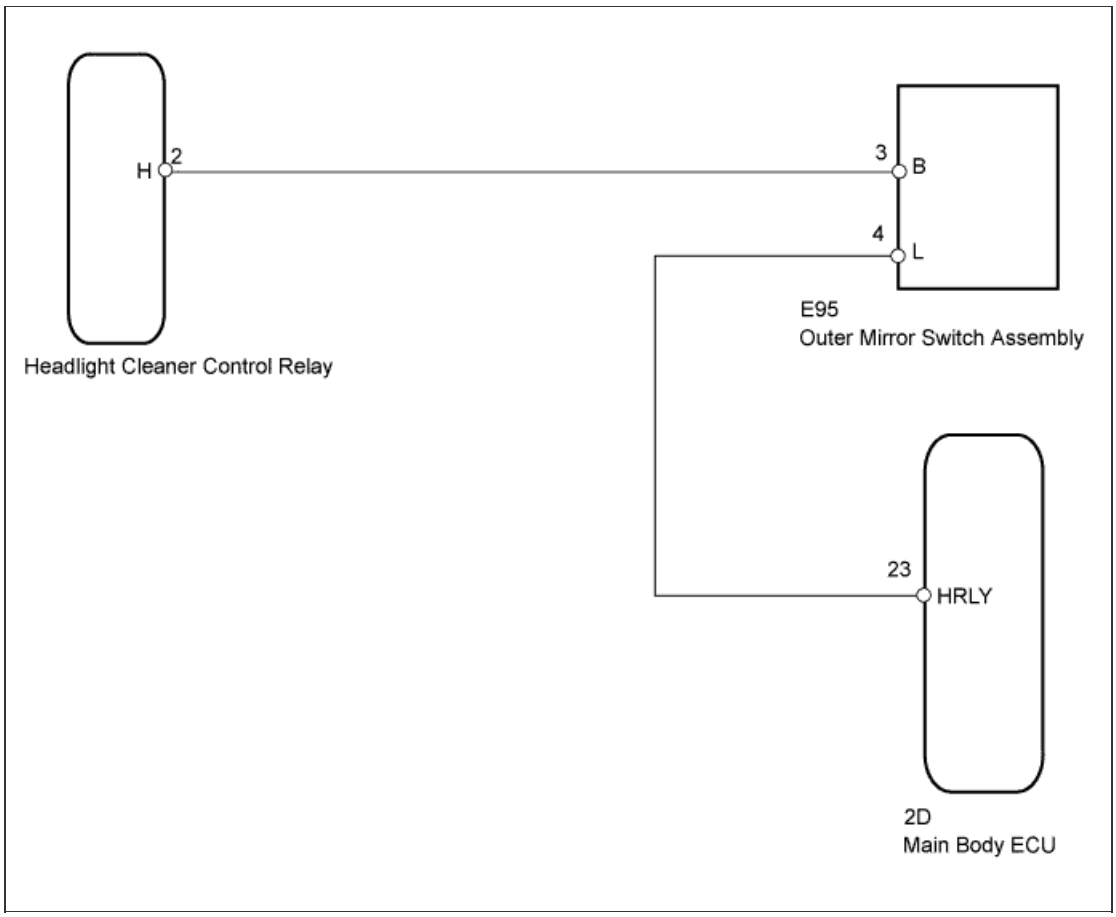
for Preparation Click here

DESCRIPTION

This circuit detects the conditions of the headlight cleaner switch.

- Headlight cleaner switch signal
- Headlight operating signal
- Daytime running light operating signal
- Front washer motor operating signal

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK HEADLIGHT ASSEMBLY (LO BEAM)

a. Check that the headlights illuminate in LO beam.

OK:
Headlights illuminate in LO beam

NG → GO TO LIGHTING SYSTEM (Click here)

OK

2.INSPECT OUTER MIRROR SWITCH ASSEMBLY

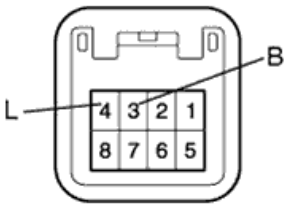
a. Disconnect the E95 switch connector.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
3 (B) - 4 (L)	Headlight cleaner switch off	10 kΩ or higher
3 (B) - 4 (L)	Headlight cleaner switch on	Below 1 Ω

Component without harness connected:
(Outer Mirror Switch)



NG → REPLACE OUTER MIRROR SWITCH ASSEMBLY (Click here)

OK

3.CHECK HARNESS AND CONNECTOR (OUTER MIRROR SWITCH - HEADLIGHT CLEANER CONTROL RELAY AND MAIN BODY ECU)

a. Disconnect the relay connector.

b. Disconnect the E95 switch connector.

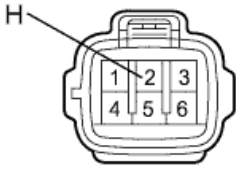
c. Disconnect the 2D main body ECU connector.

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

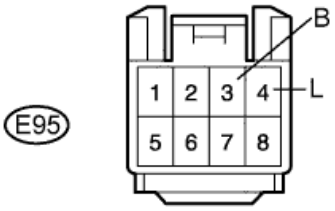
Standard Resistance:

Tester Connection	Condition	Specified Condition
2 (H) - E95-3 (B)	Always	Below 1 Ω
E95-4 (L) - 2D-23 (HRLY)		
2 (H) - Body ground	Always	10 kΩ or higher
E95-3 (B) - Body ground		
E95-4 (L) - Body ground		
2D-23 (HRLY) - Body ground		

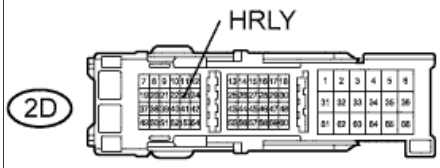
Front view of wire harness connector:
(to Headlight Cleaner Control Relay)



Front view of wire harness connector:
(to Outer Mirror Switch)



Front view of wire harness connector:
(to Main Body ECU)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

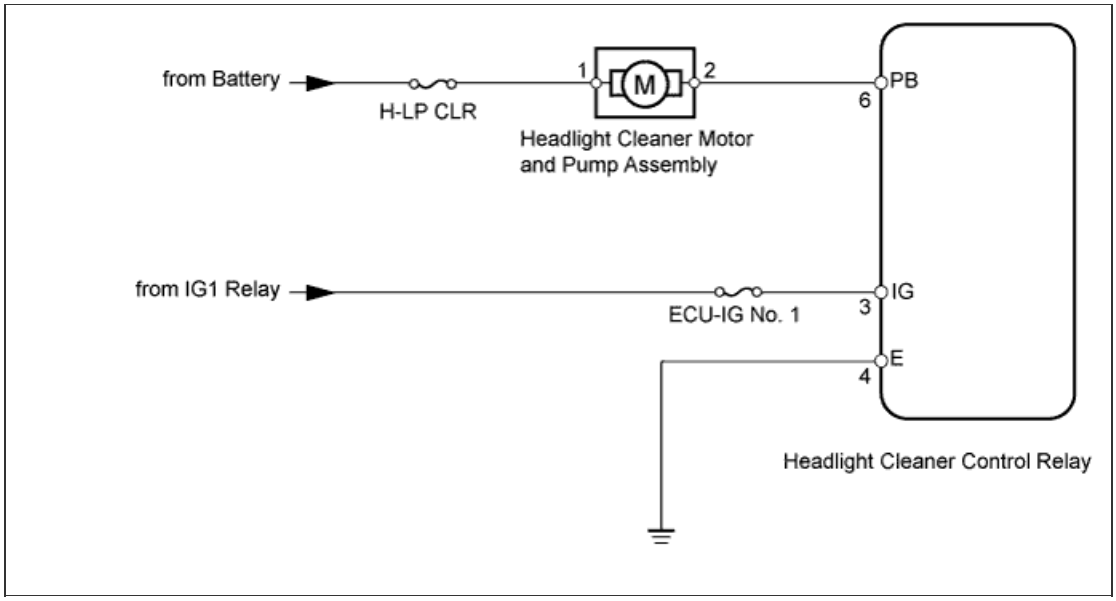
REPLACE HEADLIGHT CLEANER CONTROL RELAY (Click here)

for Preparation Click here

DESCRIPTION

This circuit provides power to the headlight cleaner control relay.
The headlight cleaner control relay sends the signal from the switch, etc. to the headlight cleaner motor to operate the headlight cleaner system.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.INSPECT FUSE (ECU-IG No. 1, H-LP CLR)

a. Remove the ECU-IG No. 1 fuse from the cowl side junction block LH.

b. Remove the H-LP CLR 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
ECU-IG No. 1 fuse	Always	Below 1 Ω
H-LP CLR fuse		

NG → REPLACE FUSE

OK

2.CHECK HARNESS AND CONNECTOR (HEADLIGHT CLEANER CONTROL RELAY - BATTERY AND BODY GROUND)

a. Disconnect the A17 relay connector.

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
3 (IG) - Body ground	Engine switch on (IG)	11 to 14 V
3 (IG) - Body		

ground	Engine switch off	Below 1 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
4 (E) - Body ground	Always	Below 1 Ω

Front view of wire harness connector:
(to Headlight Cleaner Control Relay)



H

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3.INSPECT HEADLIGHT CLEANER MOTOR AND PUMP ASSEMBLY

a. Remove the headlight cleaner motor (Click here).

b. Apply battery voltage to the headlight cleaner motor connector and check the operation of the headlight cleaner motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 2	Headlight cleaner motor operation is normal

Component without harness connected:
(Headlight Cleaner Motor and Pump Assembly)



NG → REPLACE HEADLIGHT CLEANER MOTOR AND PUMP ASSEMBLY (Click here)

OK

4.CHECK HARNESS AND CONNECTOR (CLEANER MOTOR - CONTROL RELAY AND BATTERY)

a. Disconnect the cleaner motor connector.

b. Disconnect the control relay connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
1 - Body ground	Always	11 to 14 V

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

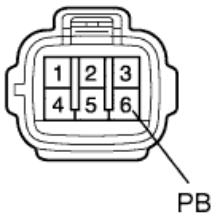
Standard Resistance:

Tester Connection	Condition	Specified Condition
2 - 6 (PB)	Always	Below 1 Ω
2 - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Headlight Cleaner Motor and Pump Assembly)



Front view of wire harness connector:
(to Headlight Cleaner Control Relay)



N

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

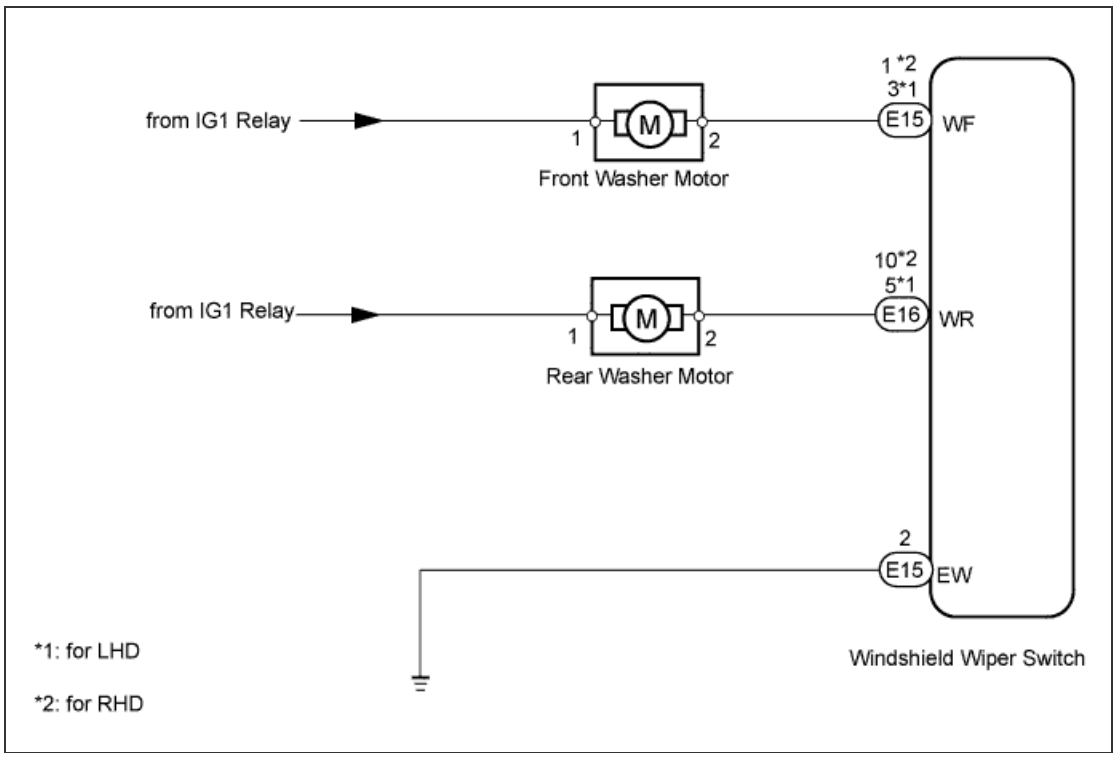
PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (Click here)

for Preparation Click here

DESCRIPTION

The windshield wiper ECU receives washer switch information from the front wiper switch, and operates the washer motor.

WIRING DIAGRAM



INSPECTION PROCEDURE

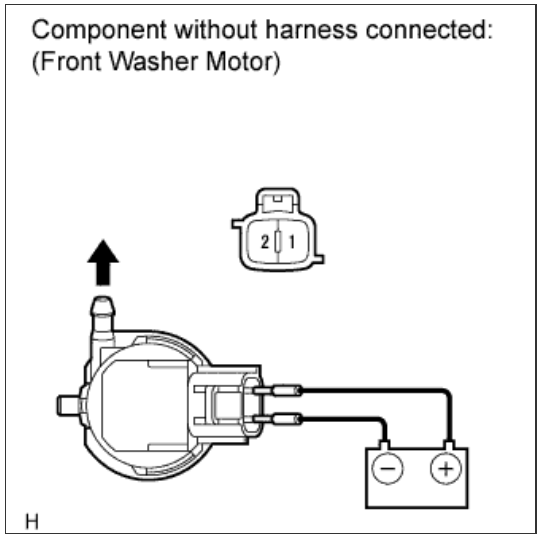
1.INSPECT FRONT WASHER MOTOR

a. Remove the front washer motor (Click here).

b. Apply battery voltage to the windshield washer motor connector and check the operation of the windshield washer motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 2	Front washer motor operation is normal



NG → REPLACE FRONT WASHER MOTOR (Click here)

OK

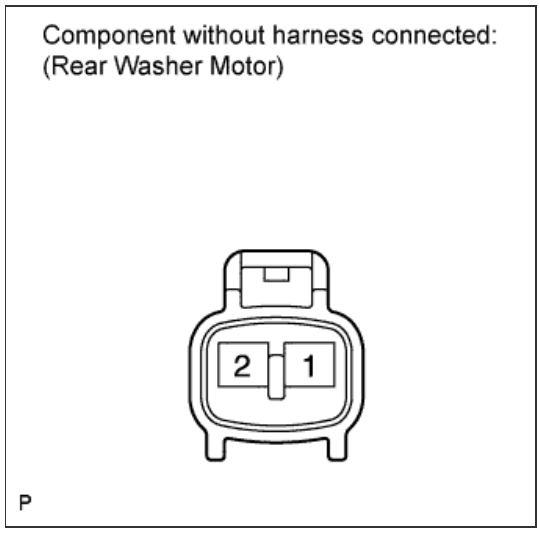
2.INSPECT REAR WASHER MOTOR

a. Remove the rear washer motor (Click here).

b. Apply battery voltage to the windshield washer motor connector and check the operation of the windshield washer motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 2	Rear washer motor operation is normal



NG → REPLACE REAR WASHER MOTOR (Click here)

OK

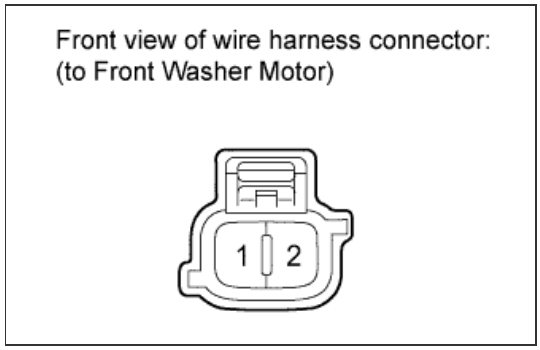
3.CHECK HARNESS AND CONNECTOR (FRONT WASHER MOTOR - BODY GROUND)

a. Disconnect the front washer motor connector.

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Engine switch on (IG)	11 to 14 V



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

4.CHECK HARNESS AND CONNECTOR (REAR WASHER MOTOR - BODY GROUND)

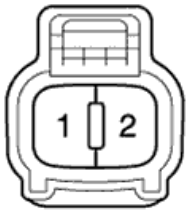
a. Disconnect the rear washer motor connector.

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Engine switch on (IG)	11 to 14 V

Front view of wire harness connector:
(to Rear Washer Motor)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5.CHECK HARNESS AND CONNECTOR (WINDSHIELD WIPER SWITCH - BODY GROUND)

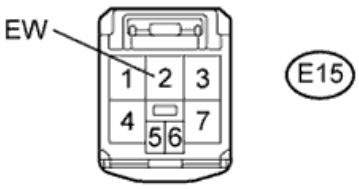
a. Disconnect the E15 windshield wiper switch connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E15-2 (EW) - Body ground	Always	Below 1 Ω

Front view of wire harness connector:
(to Windshield Wiper Switch)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

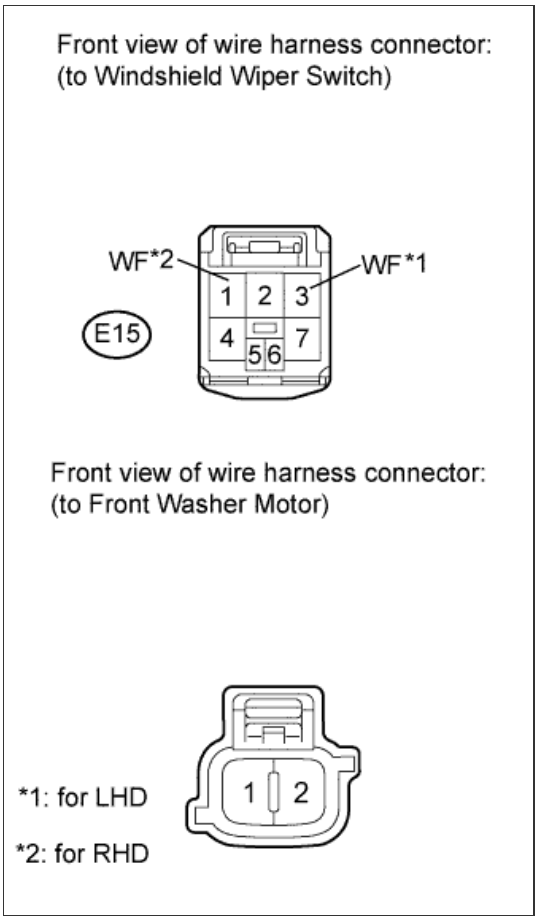
OK

6.CHECK HARNESS AND CONNECTOR (FRONT WASHER MOTOR - WINDSHIELD WIPER SWITCH)

a. Disconnect the E15 windshield wiper switch connector.

b. Disconnect the washer motor connector.

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



Standard Resistance:

for LHD

Tester Connection	Condition	Specified Condition
2 - E15-3 (WF)	Always	Below 1 Ω
2 - Body ground	Always	10 kΩ or higher

for RHD

Tester Connection	Condition	Specified Condition
2 - E15-1 (WF)	Always	Below 1 Ω
2 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

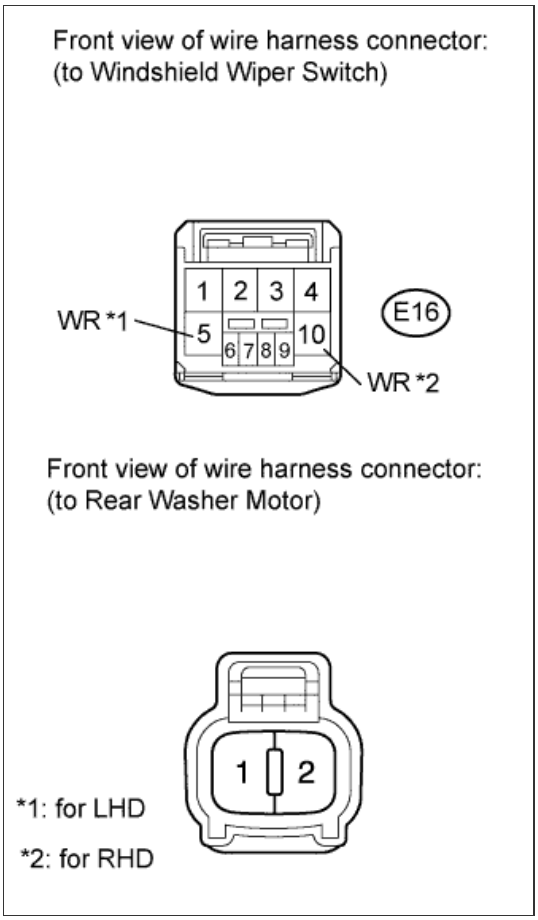
OK

7.CHECK HARNESS AND CONNECTOR (REAR WASHER MOTOR - WINDSHIELD WIPER SWITCH)

a. Disconnect the E16 windshield wiper switch connector.

b. Disconnect the washer motor connector.

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



Standard Resistance:

for LHD

Tester Connection	Condition	Specified Condition
2 - E16-5 (WR)	Always	Below 1 Ω
2 - Body ground	Always	10 kΩ or higher

for RHD

Tester Connection	Condition	Specified Condition
2 - E16-10 (WR)	Always	Below 1 Ω
2 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

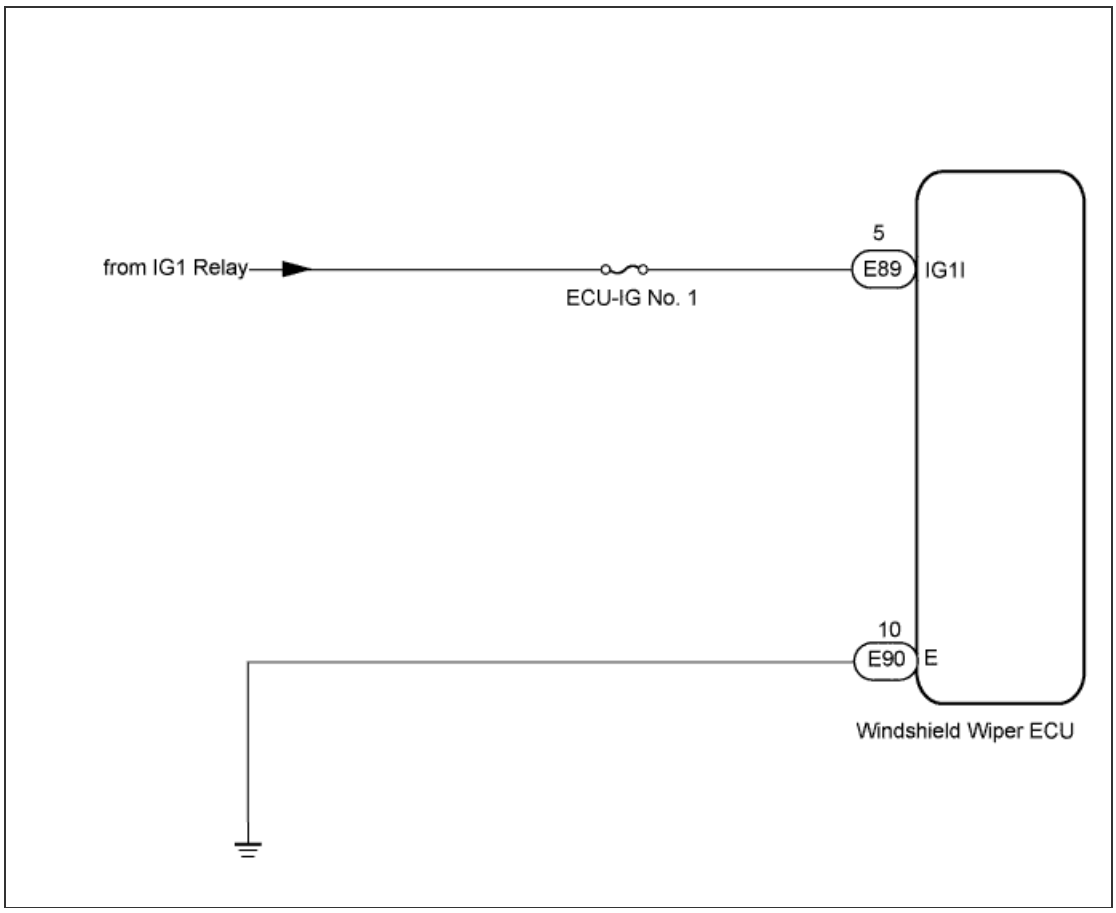
REPLACE WINDSHIELD WIPER SWITCH (Click here)

for Preparation Click here

DESCRIPTION

This circuit provides power to the windshield wiper ECU and operates the front wiper motor.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.INSPECT FUSE (ECU-IG No. 1)

a. Remove the ECU-IG No. 1 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. 1 fuse	Always	Below 1 Ω

NG → REPLACE FUSE

OK

2.CHECK HARNESS AND CONNECTOR (WINDSHIELD WIPER ECU - BATTERY AND BODY GROUND)

a. Disconnect the E89 and E90 windshield wiper ECU connectors.

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

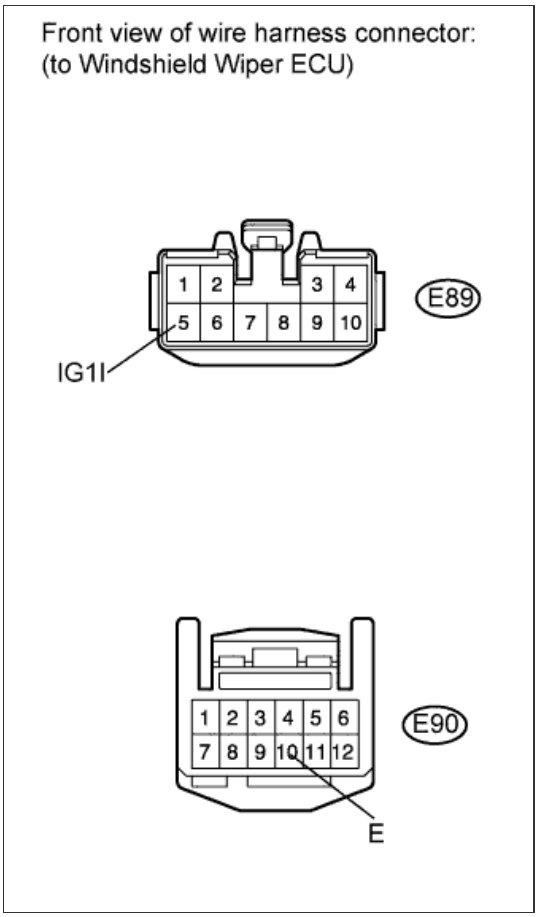
Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
E89-5 (IG1I) - Body ground	Engine switch on (IG)	11 to 14 V
	Engine switch off	Below 1 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E90-10 (E) - Body ground	Always	Below 1 Ω

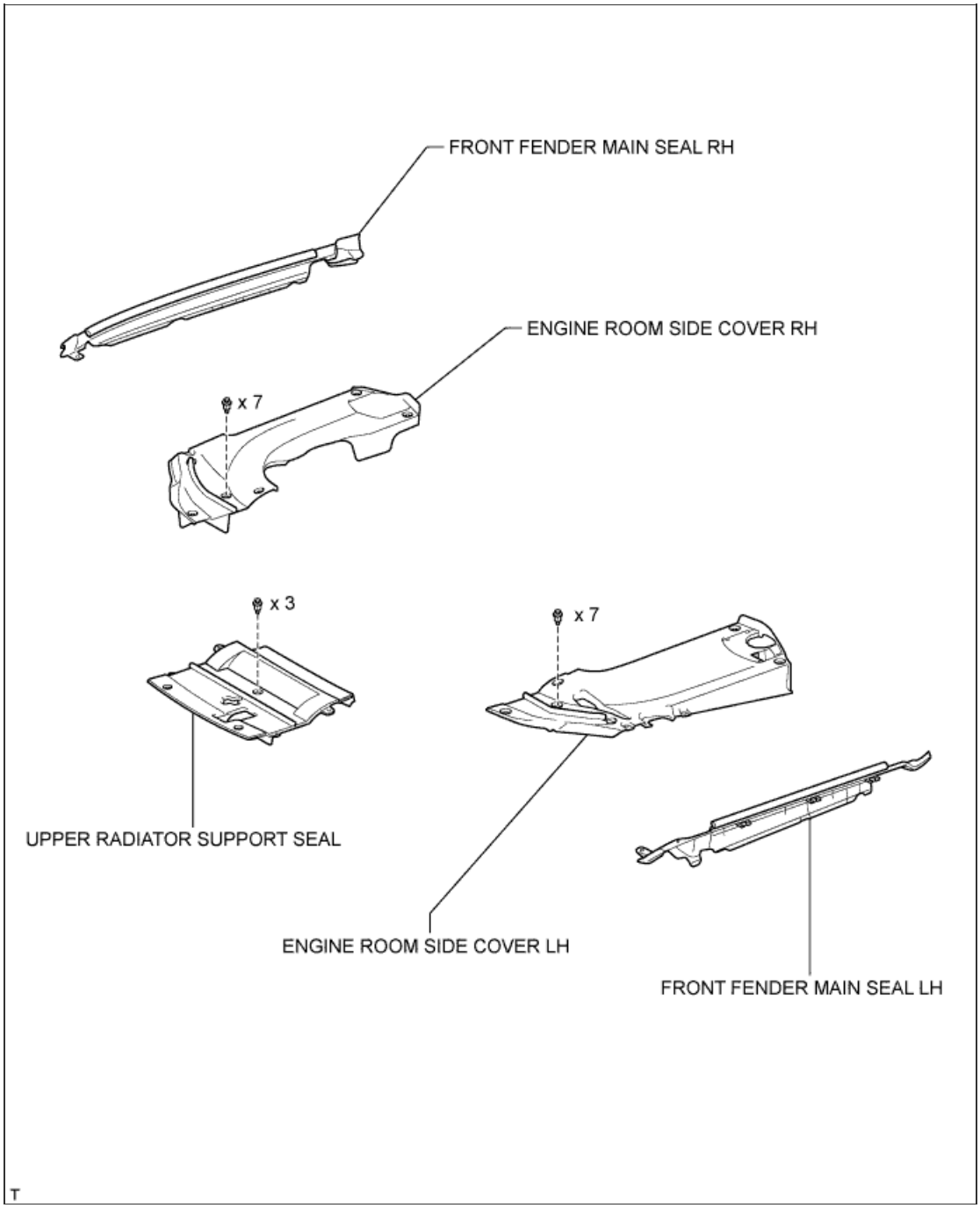


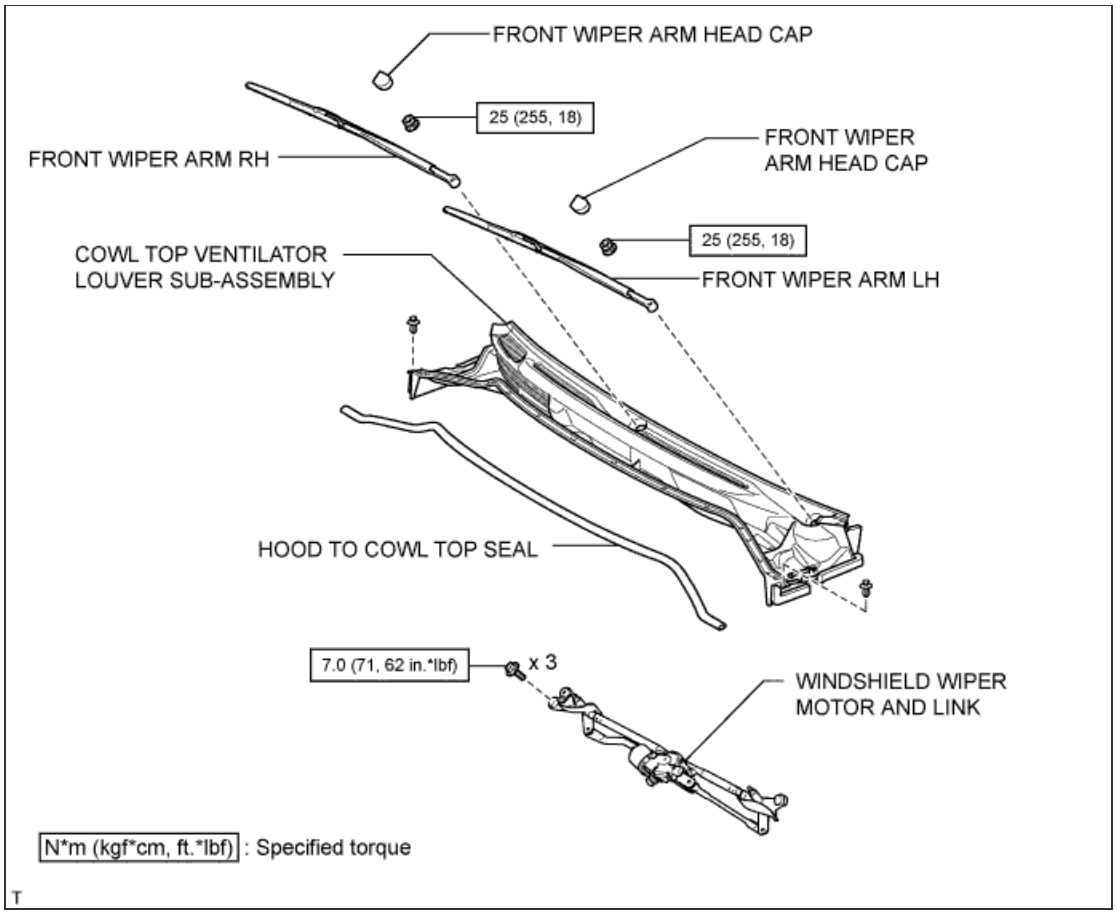
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

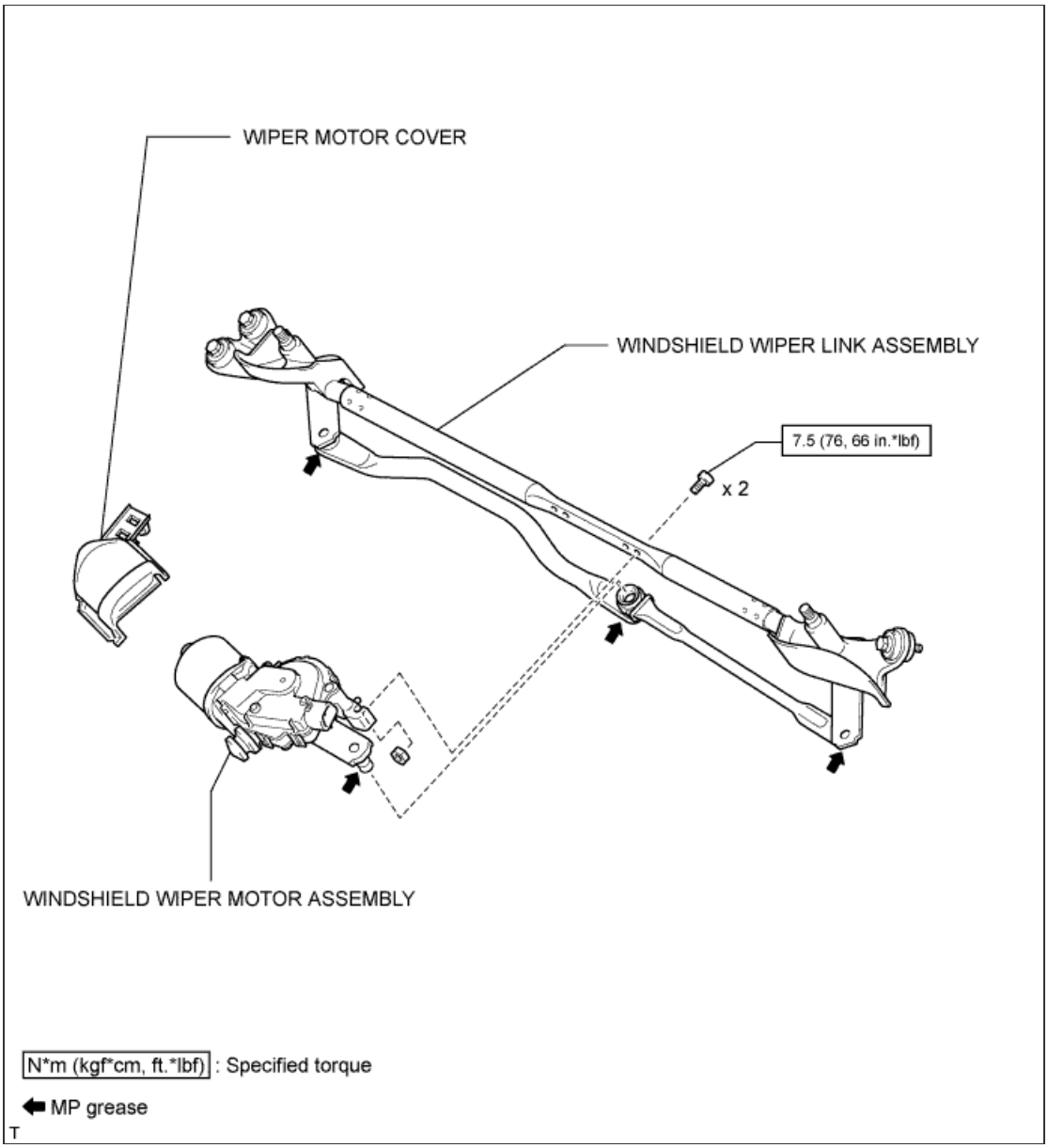
OK

REPLACE WINDSHIELD WIPER ECU (Click here)

for Preparation Click here




FRONT WIPER ARM HEAD CAP
25 (255, 18)
FRONT WIPER ARM RH
FRONT WIPER ARM HEAD CAP
25 (255, 18)
COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY
FRONT WIPER ARM LH
HOOD TO COWL TOP SEAL
7.0 (71, 62 in.*lbf)
x 3
WINDSHIELD WIPER MOTOR AND LINK
N*m (kgf*cm, ft.*lbf) : Specified torque
T


WIPER MOTOR COVER
WINDSHIELD WIPER LINK ASSEMBLY
7.5 (76, 66 in.*lbf)
x 2
WINDSHIELD WIPER MOTOR ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
MP grease

T

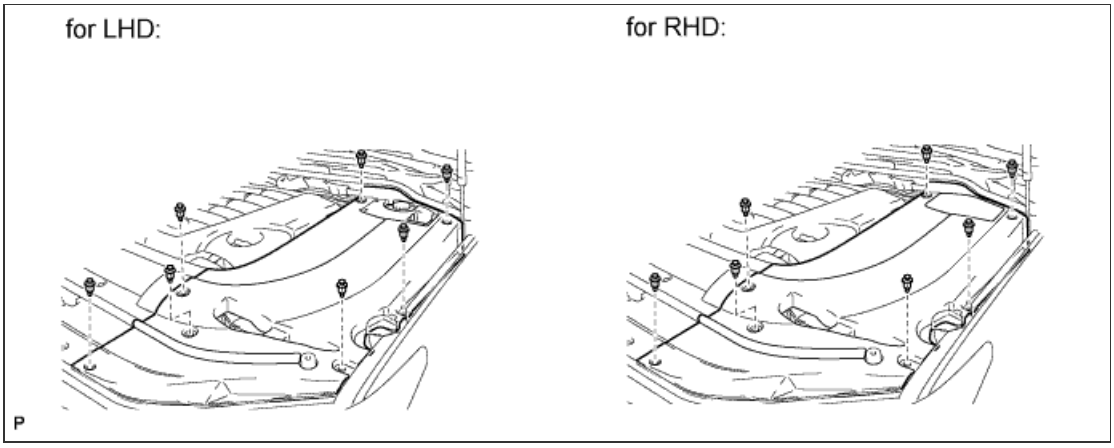
for Preparation Click here

HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

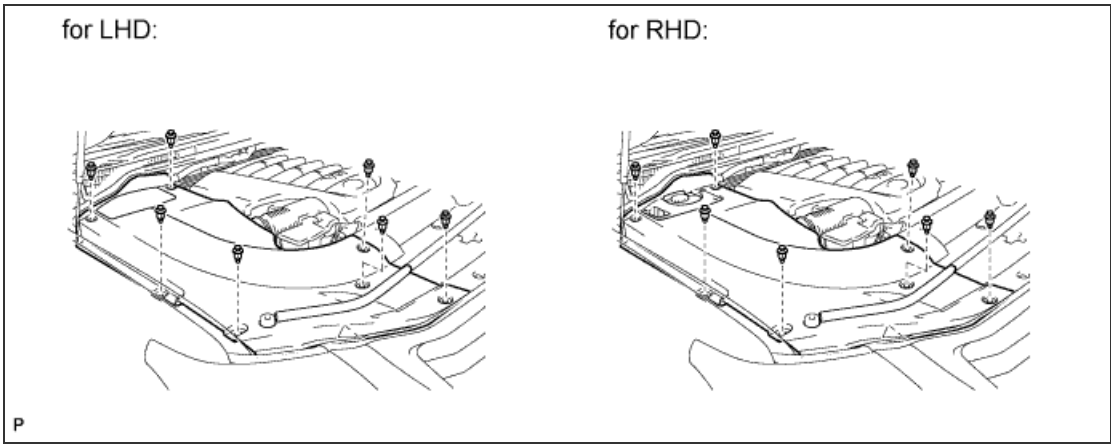
1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



2. REMOVE ENGINE ROOM SIDE COVER RH

a. Remove the 7 clips and engine room side cover.



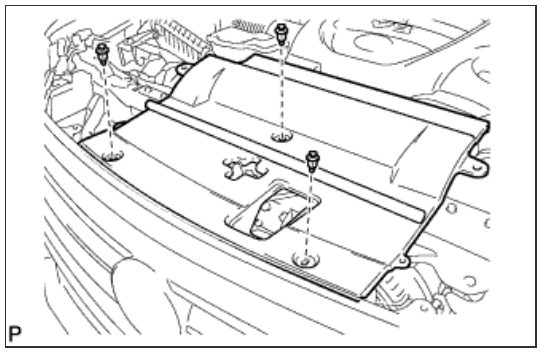
3. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

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

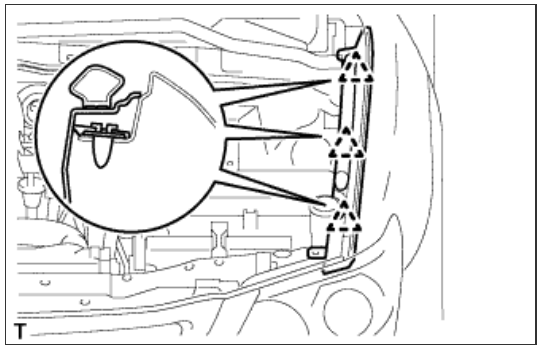
4. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 3 clips and upper radiator support seal.



5. REMOVE FRONT FENDER MAIN SEAL LH

a. Using a clip remover, detach the 3 clips and remove the fender main seal.



6. REMOVE FRONT FENDER MAIN SEAL RH

HINT:

Use the same procedures described for the LH side.

7. REMOVE FRONT WIPER ARM LH

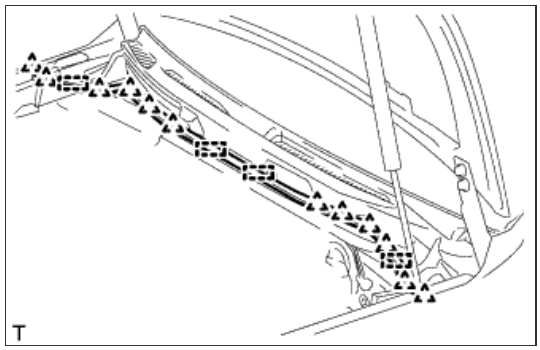
a. Remove the nut, wiper arm and blade.

8. REMOVE FRONT WIPER ARM RH

a. Remove the nut, wiper arm and blade.

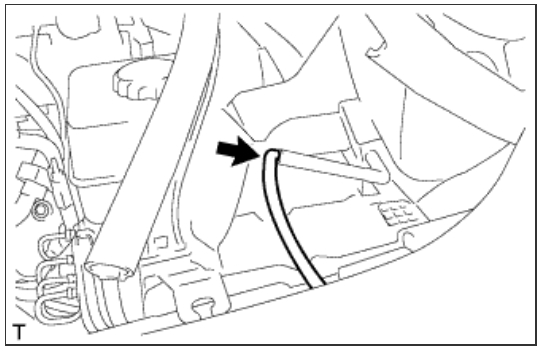
9. REMOVE HOOD TO COWL TOP SEAL

a. Using a clip remover, detach the 12 clips and 4 clamps, and remove the hood to cowl top seal.



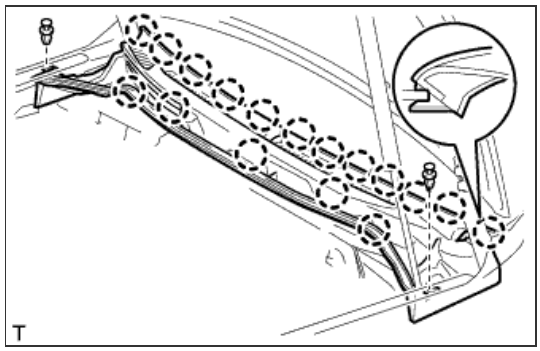
10. REMOVE COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY

a. Disconnect the washer hose.



b. Remove the 2 clips.

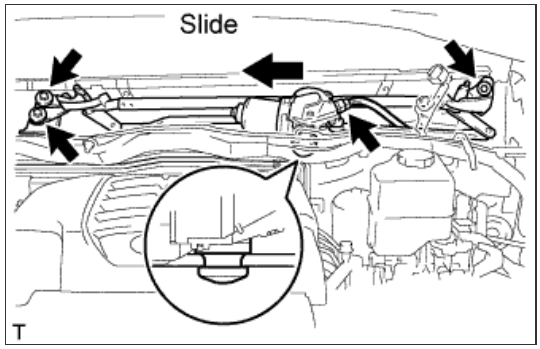
c. Detach the 17 claws and remove the cowl top ventilator louver sub-assembly.



11. REMOVE WINDSHIELD WIPER MOTOR AND LINK

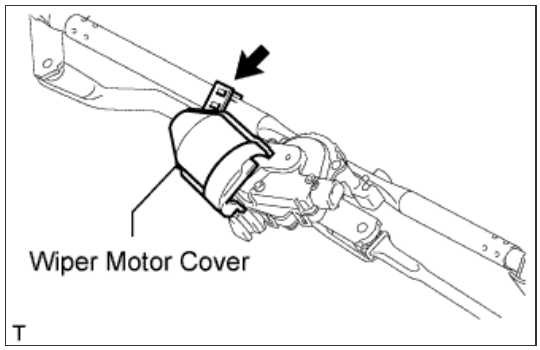
a. Disconnect the connector. Then detach the clamp and remove the wire harness from the cowl top panel.

b. Remove the 3 bolts and slide the wiper motor and link to disconnect the connection as shown in the illustration and remove the wiper motor and link.



12. REMOVE WINDSHIELD WIPER MOTOR ASSEMBLY

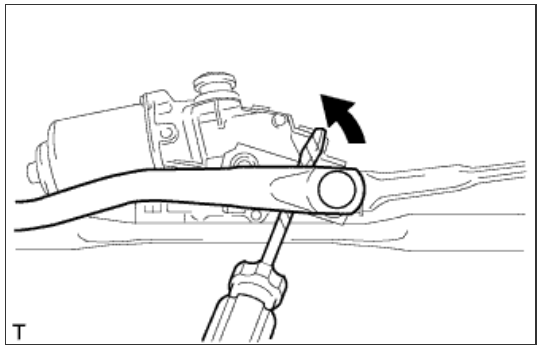
a. Detach the clamp and remove the wiper motor cover.



b. Using a screwdriver with the tip wrapped with protective tape, disconnect the rod of the windshield wiper link assembly from the crank arm pivot of the windshield wiper motor assembly as shown in the illustration.

HINT:

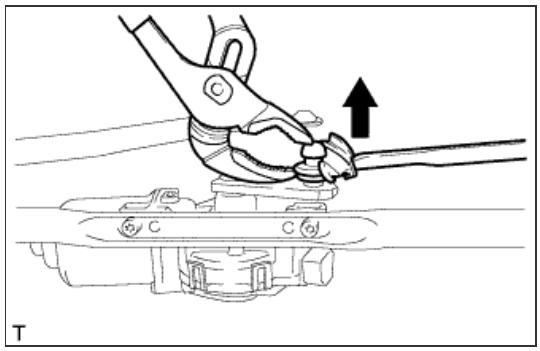
Tape the screwdriver tip before use.



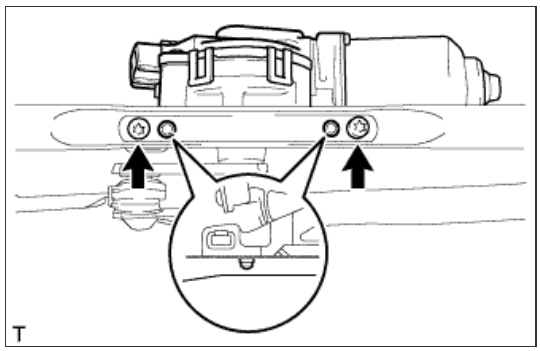
c. Using a pair of water pump pliers, pull back the boot, taking care not to damage it, and remove the wiper arm from the crank arm pivot as shown in the illustration.

NOTICE:

Do not damage the pivot.



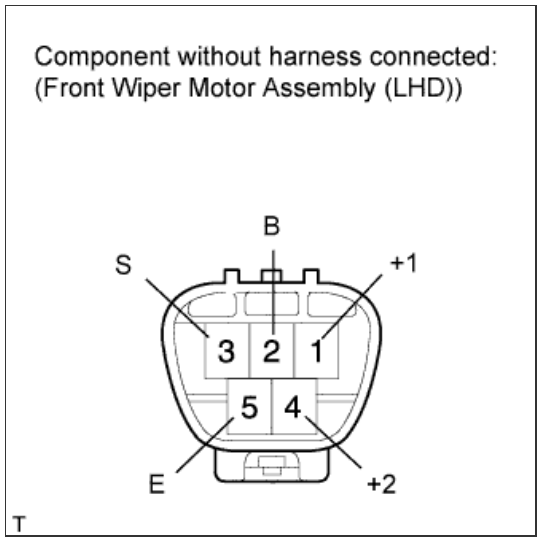
d. Using a T30 "TORX" socket, remove the 2 screws and wiper motor from the windshield wiper link.



for Preparation Click here

1. INSPECT WINDSHIELD WIPER MOTOR ASSEMBLY (for LHD)

a. Check the LO operation.



i. Apply battery voltage to the front wiper motor connector and check the speed of the front wiper motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 (+1) Battery negative (-) → Terminal 5 (E)	Motor operates at low speed

If the result is not as specified, replace the windshield wiper motor assembly.

b. Check the HI operation.

i. Apply battery voltage to the front wiper motor connector and check the speed of the front wiper motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 (+2) Battery negative (-) → Terminal 5 (E)	Motor operates at high speed

If the result is not as specified, replace the windshield wiper motor assembly.

c. Check the automatic stop operation.

i. Connect the positive (+) battery lead to terminal 1 (+1) of the connector and the negative (-) battery lead to terminal 5 (E). With the motor operating at low speed (LO), disconnect the positive (+) battery lead from terminal 1 (+1) to stop the wiper motor operation at any position other than the automatic stop position.

ii. Using SST, connect terminals 3 (S) and 1 (+1). Then connect the positive (+) battery lead to terminal 2 (B) of the connector to restart the motor operation at low speed (LO).

SST
09843-18040

iii. Check that the motor stops automatically at the automatic stop position.

OK:
Automatically stops.

If the result is not as specified, replace the windshield wiper motor assembly.

2. INSPECT WINDSHIELD WIPER MOTOR ASSEMBLY (for RHD)

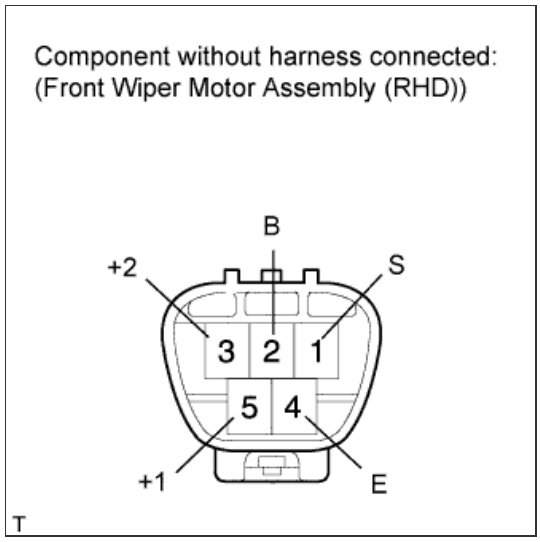
a. Check the LO operation.

i. Apply battery voltage to the front wiper motor connector and check the speed of the front wiper motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 5 (+1) Battery negative (-) → Terminal 4 (E)	Motor operates at low speed

If the result is not as specified, replace the windshield wiper motor assembly.



b. Check the HI operation.

i. Apply battery voltage to the front wiper motor connector and check the speed of the front wiper motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 3 (+2) Battery negative (-) → Terminal 4 (E)	Motor operates at high speed

If the result is not as specified, replace the windshield wiper motor assembly.

c. Check the automatic stop operation.

i. Connect the positive (+) battery lead to terminal 5 (+1) of the connector and the negative (-) battery lead to terminal 4 (E). With the motor operating at low speed (LO), disconnect the positive (+) battery lead from terminal 5 (+1) to stop the wiper motor operation at any position other than the automatic stop position.

ii. Using SST, connect terminals 1 (S) and 5 (+1). Then connect the positive (+) battery lead to terminal 2 (B) of the connector to restart the motor operation at low speed (LO).

SST

09843-18040

iii. Check that the motor stops automatically at the automatic stop position.

OK:

Automatically stops.

If the result is not as specified, replace the windshield wiper motor assembly.

for Preparation Click here

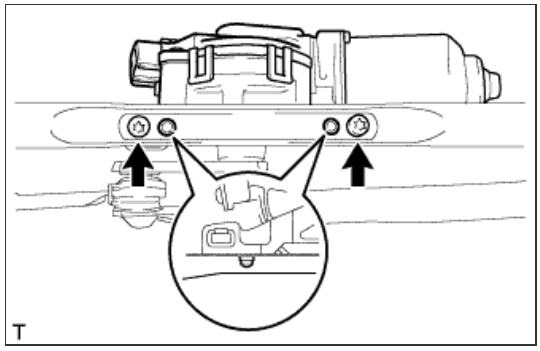
HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. INSTALL WINDSHIELD WIPER MOTOR ASSEMBLY

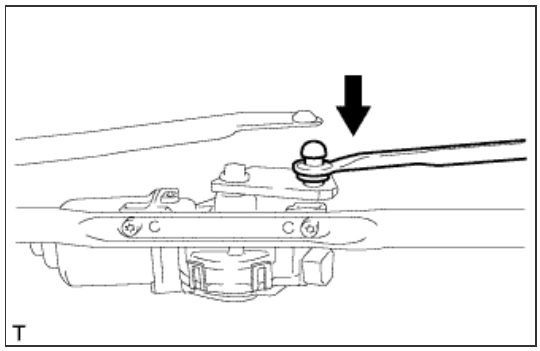
a. Using a T30 "TORX" socket, install the wiper motor with the 2 screws.

Torque:
7.5 N*m{ 76 kgf*cm , 66 in.*lbf }

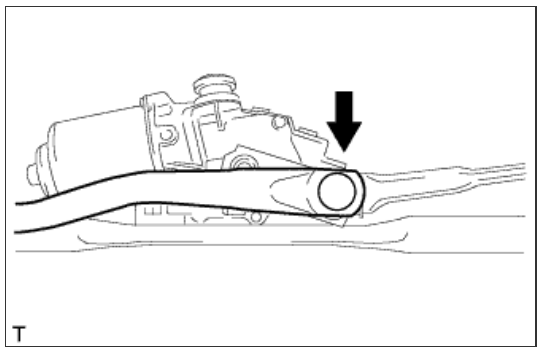


b. Apply MP grease to the crank arm pivot of the windshield wiper motor assembly.

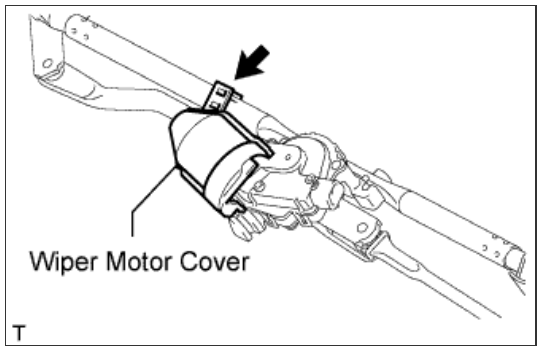
c. Install the link to the wiper motor.



d. Install the link to the wiper motor.



e. Install the wiper motor cover with the clamp.

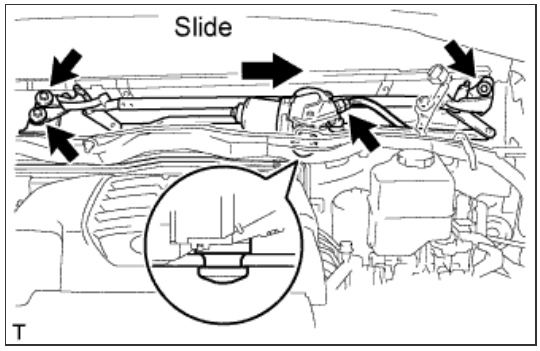


2. INSTALL WINDSHIELD WIPER MOTOR AND LINK

a. Slide the windshield wiper motor and link assembly as shown in the illustration so that the pin fits into place, and then install the windshield wiper motor and link assembly with the 3 bolts.

Torque:
7.0 N*m{ 71 kgf*cm , 62 in.*lbf }

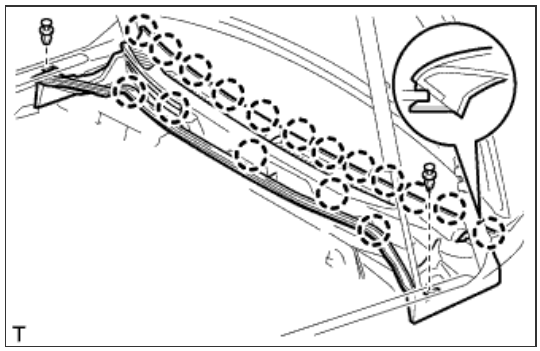
b. Connect the connector, attach the clamp and install the wire harness to the cowl top panel.



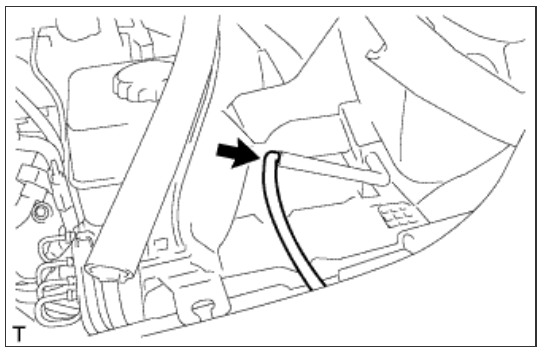
3. INSTALL COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY

a. Push in the ventilator louver to attach the 17 claws and install the ventilator louver.

b. Install the 2 clips.

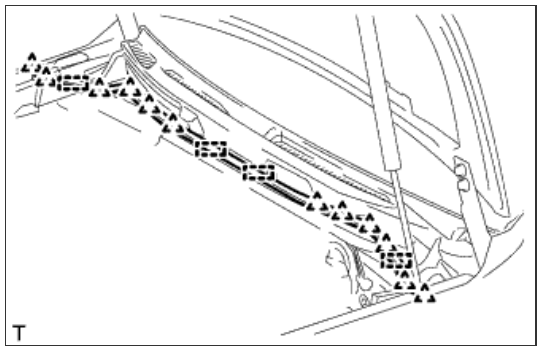


c. Connect the washer hose.



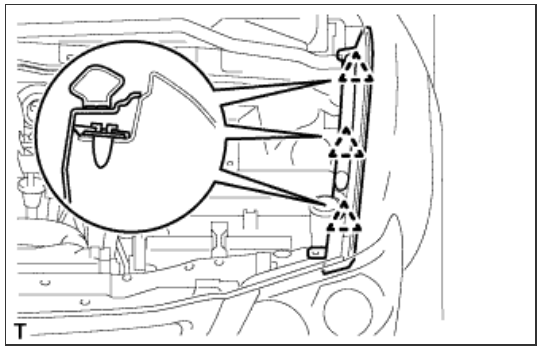
4. INSTALL HOOD TO COWL TOP SEAL

a. Attach the 12 clips and 4 clamps to install the hood to cowl top seal.



5. INSTALL FRONT FENDER MAIN SEAL LH

a. Attach the 3 clips to install the fender main seal.



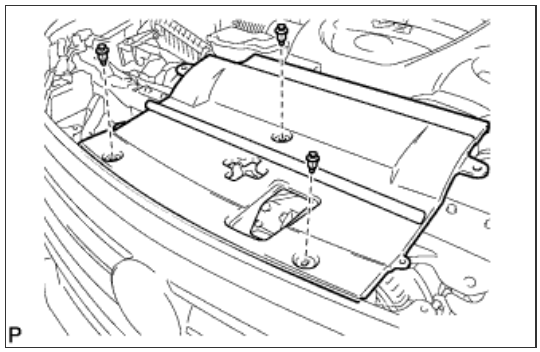
6. INSTALL FRONT FENDER MAIN SEAL RH

HINT:

Use the same procedures described for the LH side.

7. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the upper radiator support seal with the 3 clips.



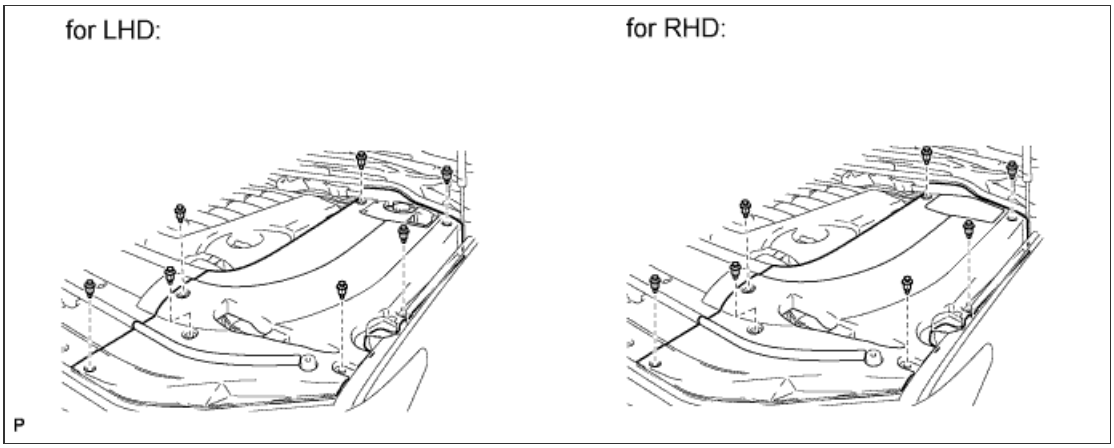
8. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

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

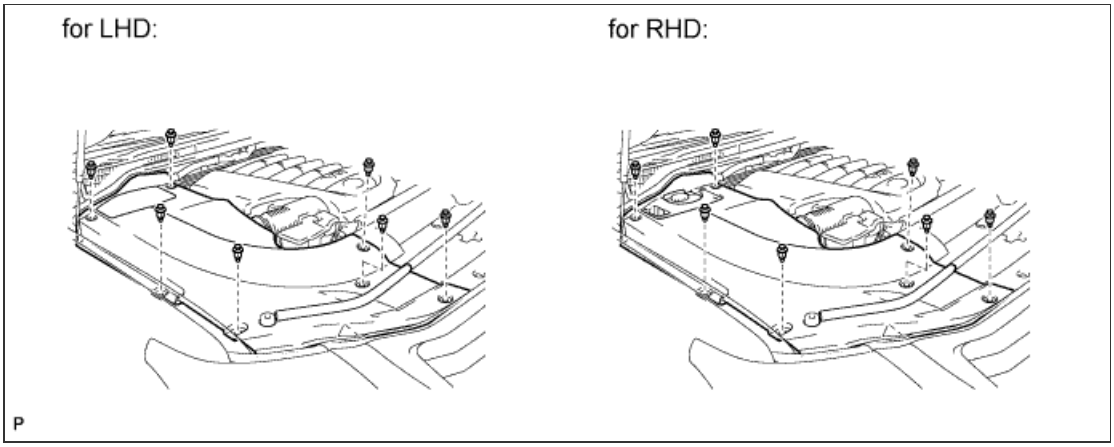
9. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



10. INSTALL ENGINE ROOM SIDE COVER RH

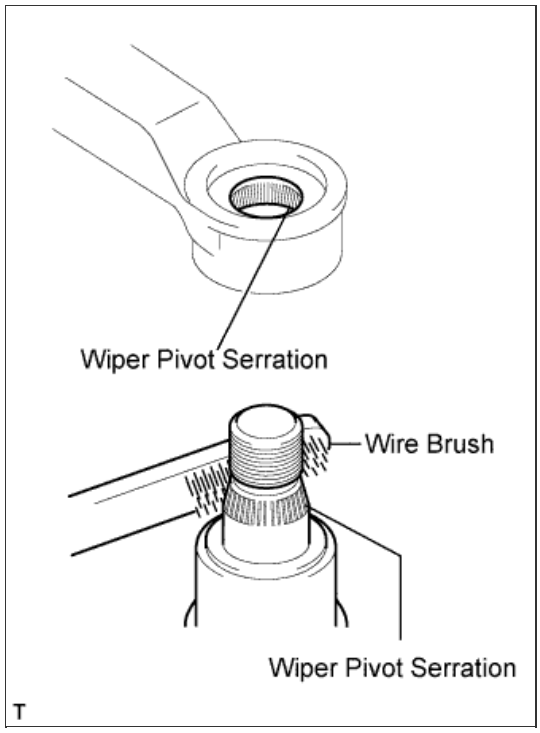
a. Install the engine room side cover with the 7 clips.



11. INSTALL FRONT WIPER ARM LH

a. Stop the wiper motor at the automatic stop position.

b. Clean the wiper pivot serrations with a wire brush.



c. Install the wiper arm and blade with the nut. Make sure that the wiper arm and blade come to the position shown in the illustration.

Standard:

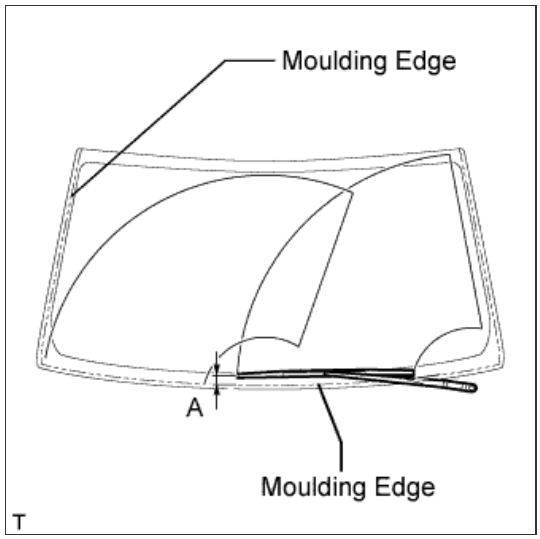
Position	Specified Condition
A	16.8 to 36.8 mm (0.661 to 1.45 in.)

Torque:

25 N*m{ 255 kgf*cm , 18 ft.*lbf }

HINT:

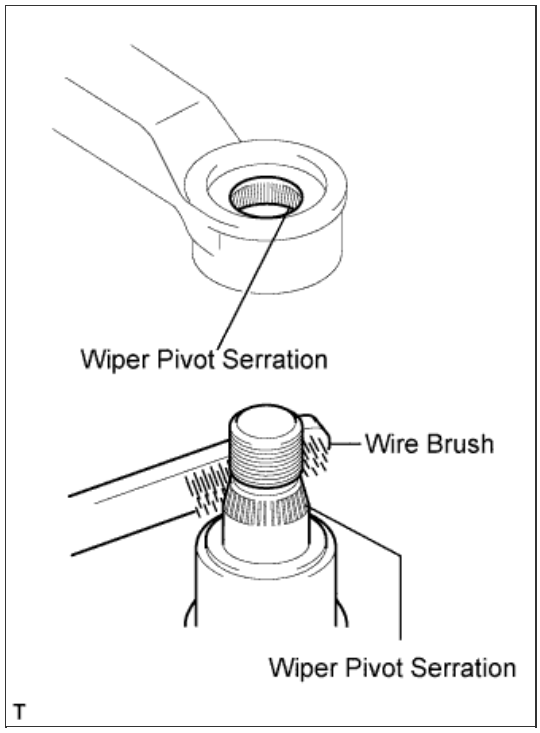
Hold down the wiper arm hinge with your hand while tightening the nut.



12. INSTALL FRONT WIPER ARM RH

a. Stop the wiper motor at the automatic stop position.

b. Clean the wiper pivot serrations with a wire brush.



c. Install the wiper arm and blade with the nut. Make sure that the wiper arm and blade come to the position shown in the illustration.

Standard:

Position	Specified Condition
B	20.0 to 40.0 mm (0.787 to 1.57 in.)

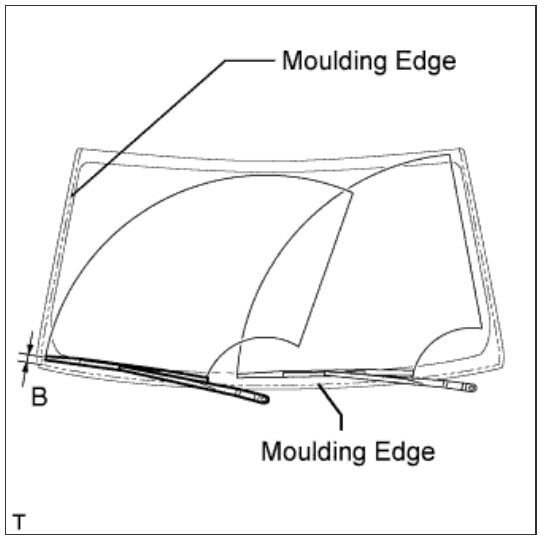
Torque:

25 N*m{ 255 kgf*cm , 18 ft.*lbf }

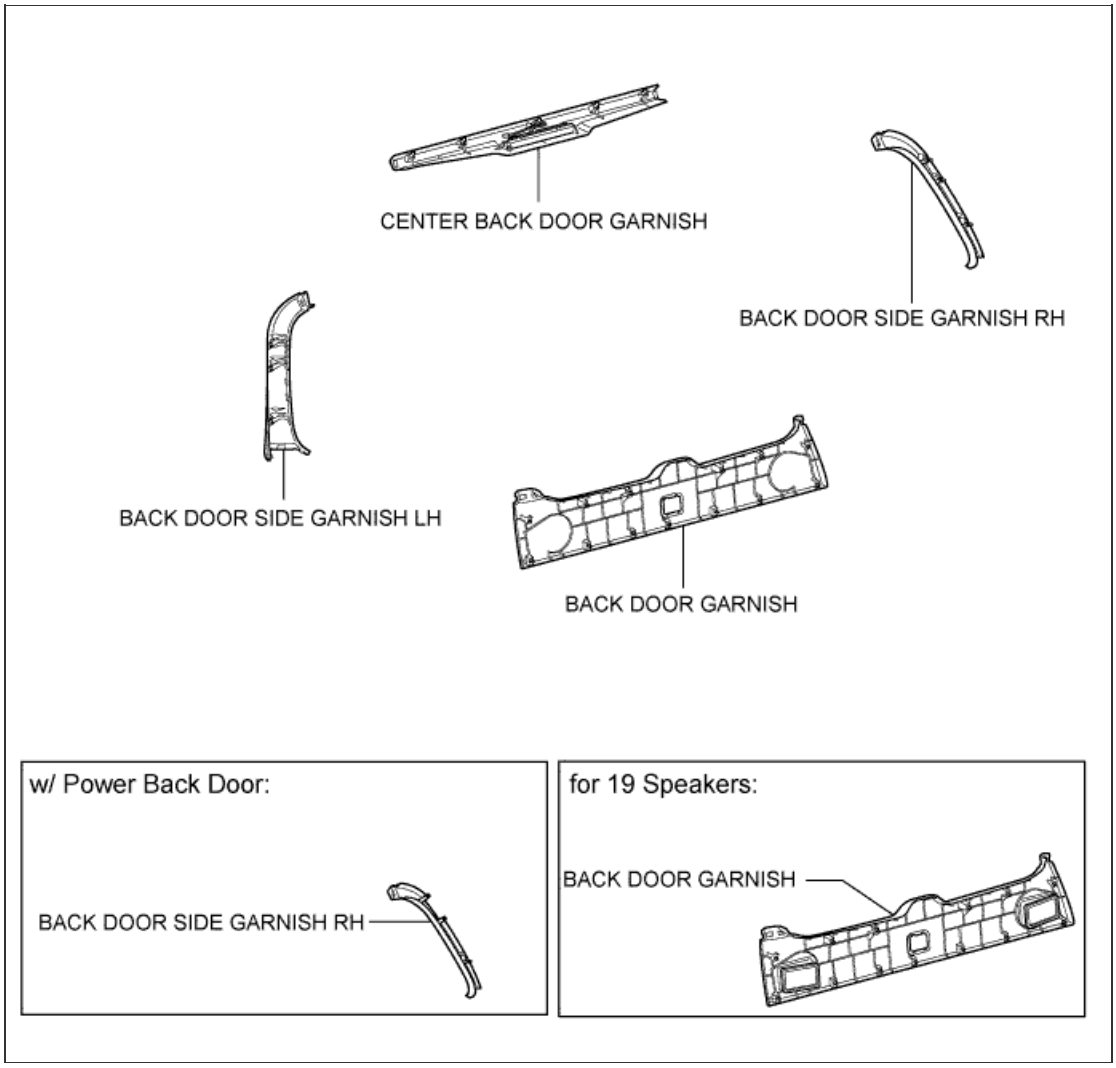
HINT:

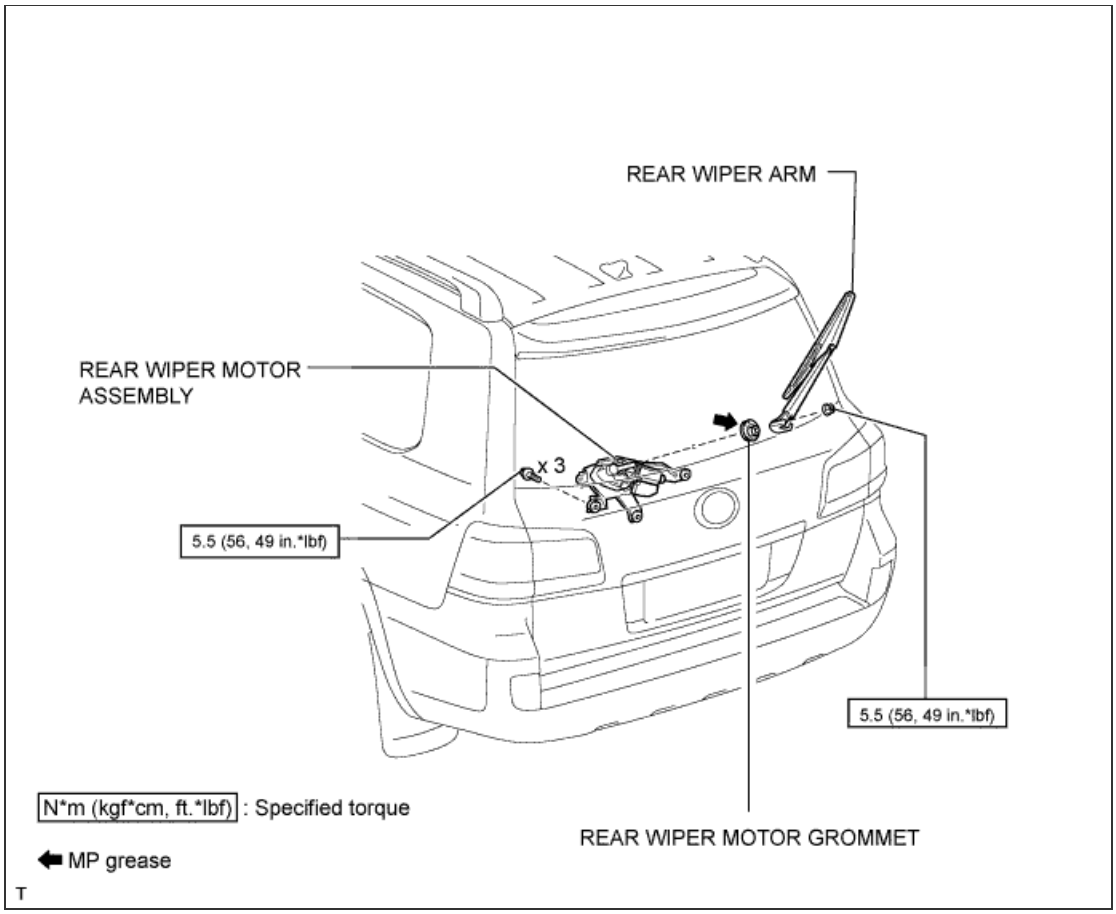
Hold down the wiper arm hinge with your hand while tightening the nut.

d. Operate the front wipers while spraying washer fluid on the windshield glass. Make sure that the front wipers function properly and there is no interference with the vehicle body.



for Preparation Click here

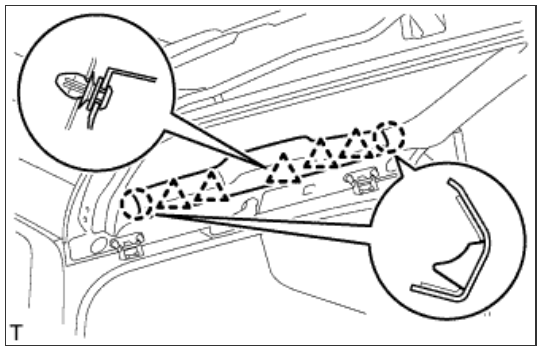



REAR WIPER ARM
REAR WIPER MOTOR ASSEMBLY
x 3
5.5 (56, 49 in.*lbf)
5.5 (56, 49 in.*lbf)
N*m (kgf*cm, ft.*lbf) : Specified torque
MP grease
REAR WIPER MOTOR GROMMET
T

for Preparation Click here

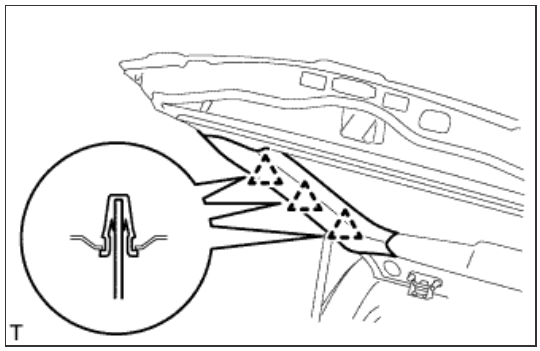
1. REMOVE CENTER BACK DOOR GARNISH

a. Detach the 5 clips and 2 claws, and remove the back door garnish.



2. REMOVE BACK DOOR SIDE GARNISH LH

a. Detach the 3 clips and remove the back door side garnish.



3. REMOVE BACK DOOR SIDE GARNISH RH

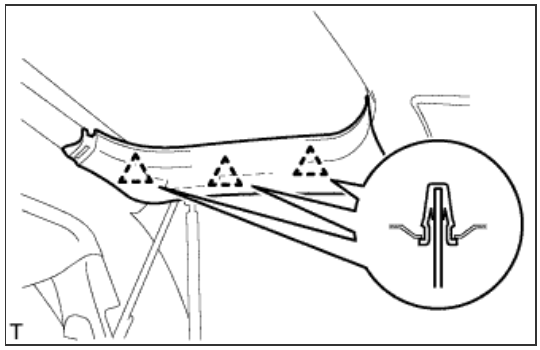
a. w/o Power Back Door:

HINT:

Use the same procedures described for the LH side.

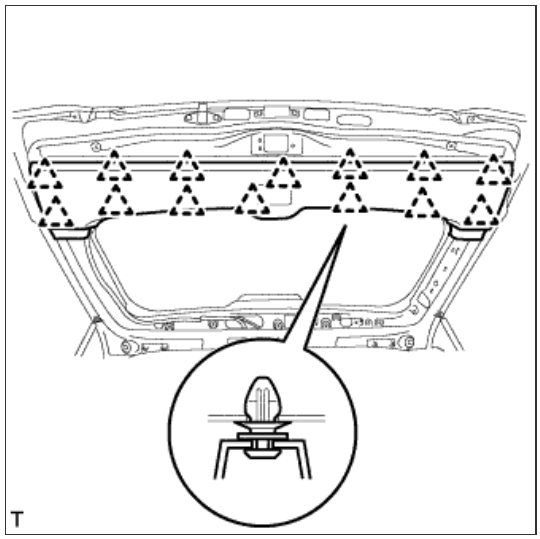
b. w/ Power Back Door:

i. Detach the 3 clips and remove the back door side garnish.



4. REMOVE BACK DOOR GARNISH

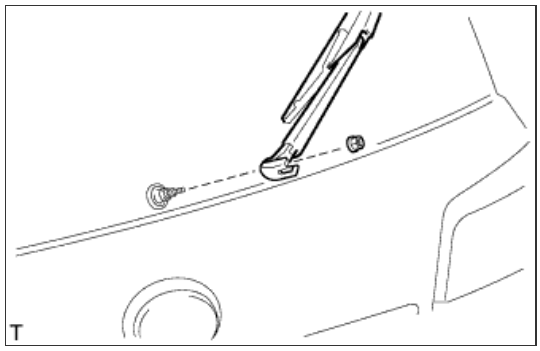
a. Using a screwdriver, detach the 14 clips and remove the back door garnish.



5. REMOVE REAR WIPER ARM

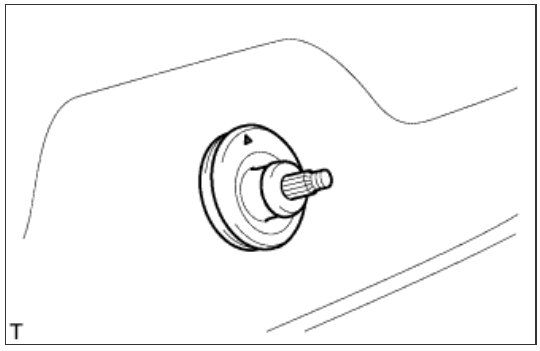
a. Open the cover.

b. Remove the nut and rear wiper arm.



6. REMOVE REAR WIPER MOTOR GROMMET

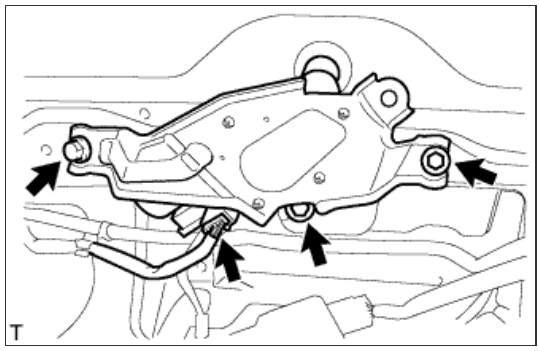
a. Remove the wiper motor grommet.



7. REMOVE REAR WIPER MOTOR ASSEMBLY

a. Disconnect the connector.

b. Remove the 3 bolts and rear wiper motor assembly.


T

for Preparation Click here

1. INSPECT REAR WIPER MOTOR ASSEMBLY

a. Check the wiper operation.

i. Apply battery voltage to the rear wiper motor and check if the rear wiper motor operates.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 3 (+1) Battery negative (-) → Terminal 4 (E)	Motor operates

If the result is not as specified, replace the rear wiper motor assembly.

b. Check the automatic stop position operation.

i. Connect the battery positive (+) lead to terminal 3 (+1), and the negative (-) lead to terminal 1 (S) and terminal 4 (E). With the motor rotating, disconnect the negative (-) lead from terminal 1 (S) to stop the wiper motor operation at any position other than the matchmark.

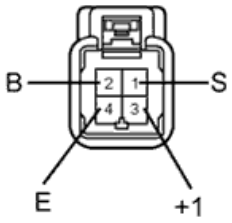
ii. Check that the motor stops automatically at the matchmark.

OK:

Motor stops automatically at the matchmark.

If the result is not as specified, replace the rear wiper motor assembly.

Component without harness connected:
(Rear Wiper Motor Assembly)



for Preparation Click here

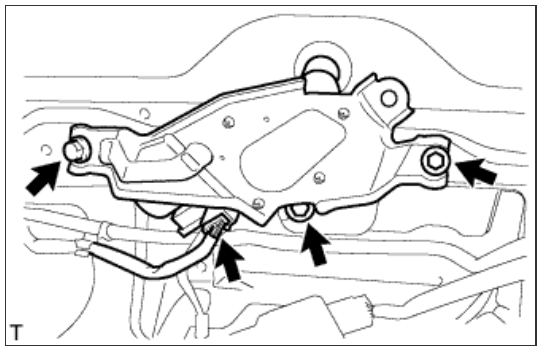
1. INSTALL REAR WIPER MOTOR ASSEMBLY

a. Temporarily install the rear wiper motor assembly with the 3 bolts.

b. Tighten the 3 bolts.

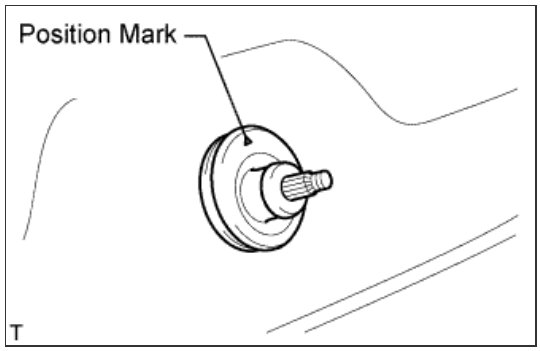
Torque:
5.5 N*m{ 56 kgf*cm , 49 in.*lbf }

c. Connect the connector.



2. INSTALL REAR WIPER MOTOR GROMMET

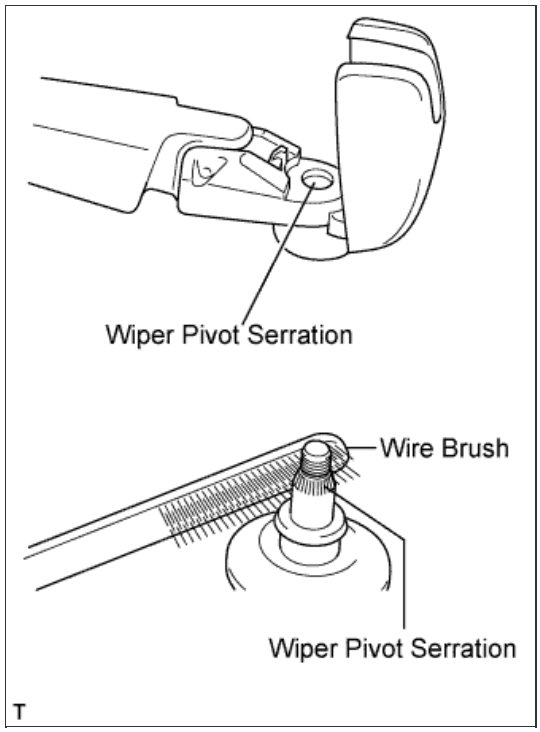
a. Install the rear wiper motor grommet with the position mark facing upward as shown in the illustration.



3. INSTALL REAR WIPER ARM

a. Operate the rear wiper, and stop the rear wiper motor at the automatic stop position.

b. Clean the wiper pivot serration with a wire brush.

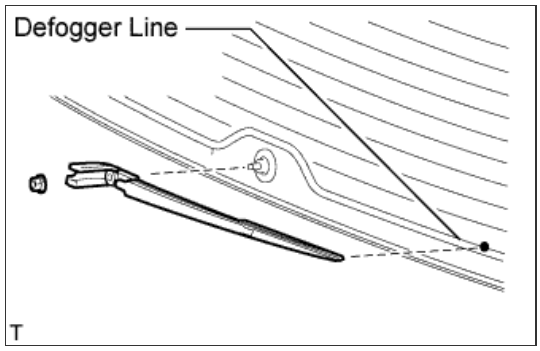


c. Set the head of the blade on the defogger line.

d. Install the rear wiper arm with the nut.

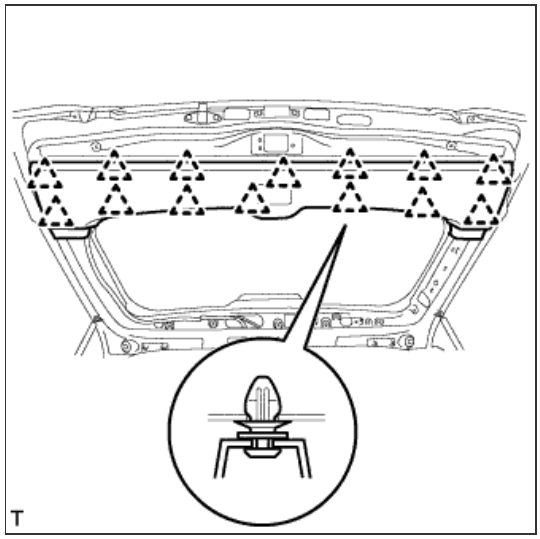
Torque:
5.5 N*m{ 56 kgf*cm , 49 in.*lbf }

e. Close the cover.



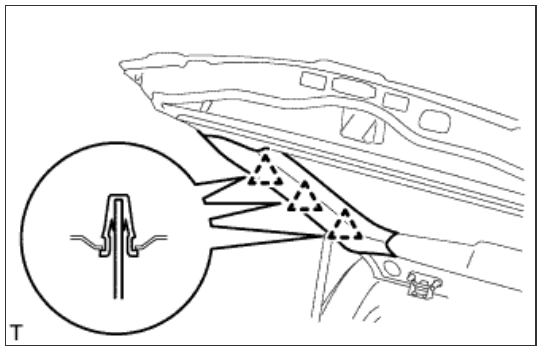
4. INSTALL BACK DOOR GARNISH

a. Attach the 14 clips to install the back door garnish.



5. INSTALL BACK DOOR SIDE GARNISH LH

a. Attach the 3 clips to install the back door side garnish.



6. INSTALL BACK DOOR SIDE GARNISH RH

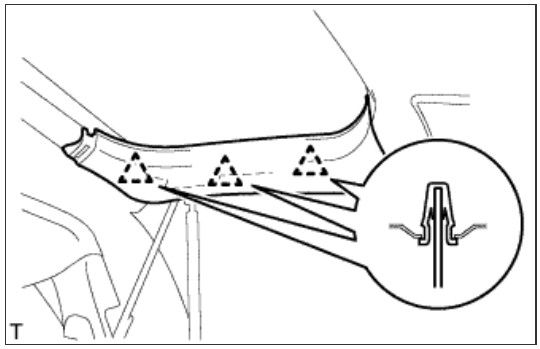
a. w/o Power Back Door:

HINT:

Use the same procedures described for the LH side.

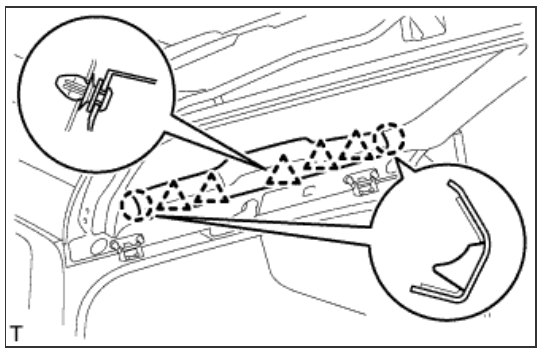
b. w/ Power Back Door:

i. Attach the 3 clips to install the back door side garnish.

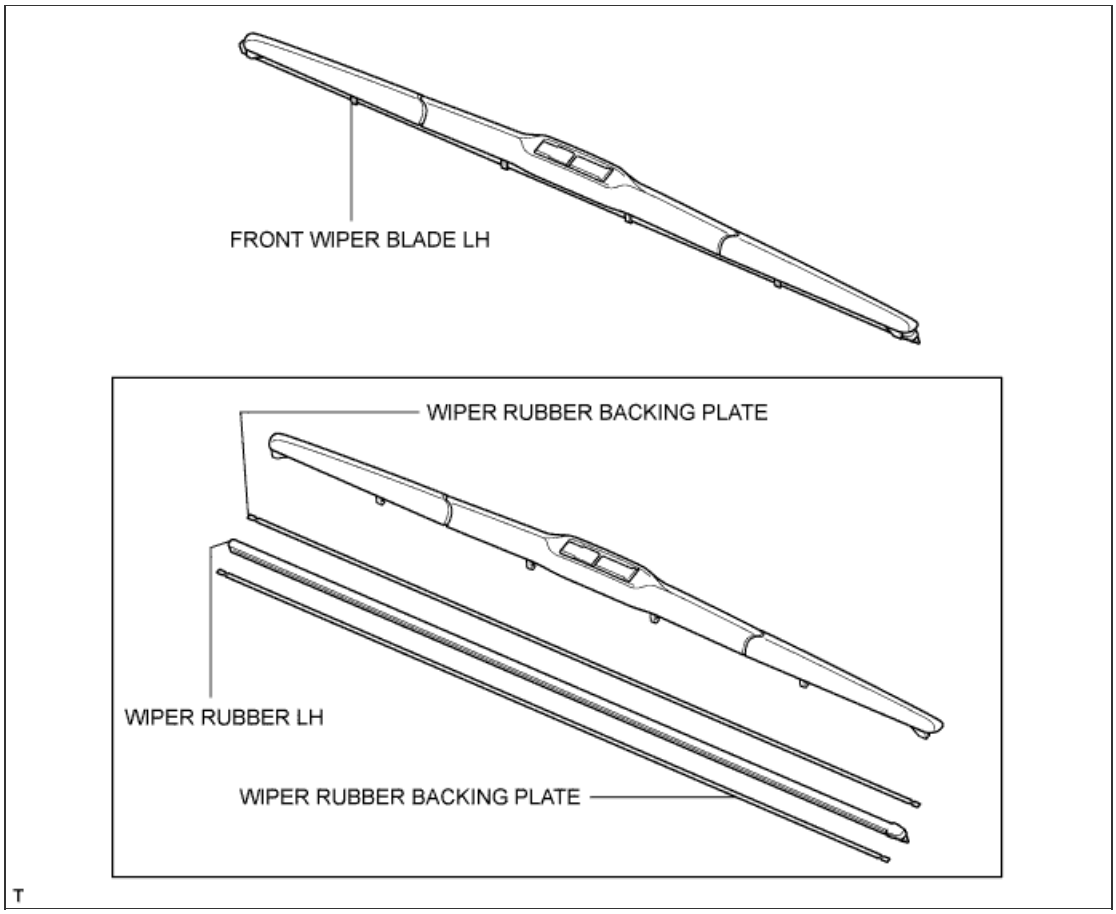


7. INSTALL CENTER BACK DOOR GARNISH

a. Attach the 5 clips and 2 claws to install the back door garnish.



for Preparation Click here



for Preparation Click here

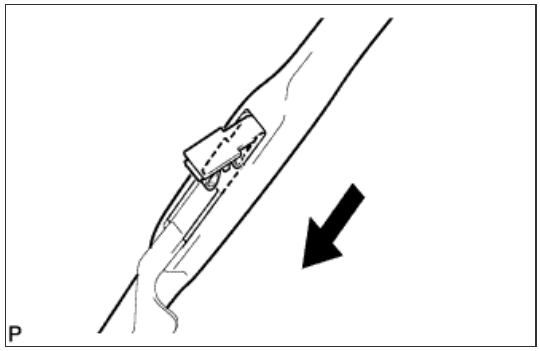
HINT:

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

1. REMOVE FRONT WIPER BLADE LH

a. Remove the wiper blade holder.

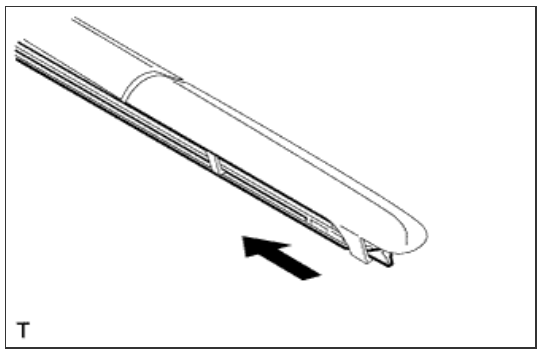
b. Remove the wiper blade as shown in the illustration.



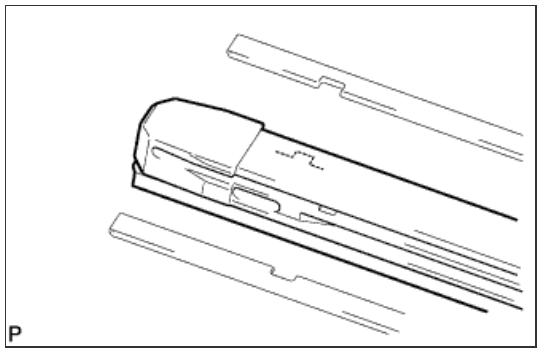
2. REMOVE WIPER RUBBER LH

a. Detach the head part (large side) of the wiper rubber from the wiper blade.

b. Remove the wiper rubber in the direction indicated by the arrow in the illustration.



c. Remove the 2 wiper rubber backing plates from the wiper rubber.



for Preparation Click here

HINT:

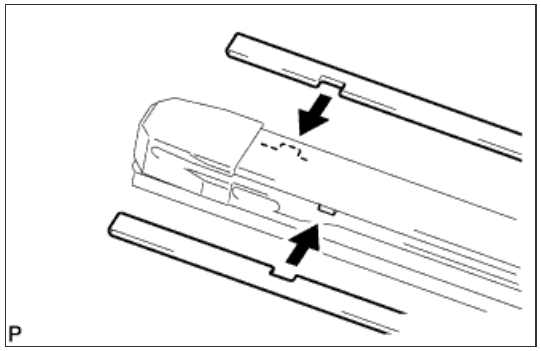
- **Use the same procedures for both the RH and LH side.**
- **The procedures listed below are for the LH side.**

1. INSTALL WIPER RUBBER LH

a. Install the 2 backing plates to the rubber.

NOTICE:

Make sure the backing plates are facing the proper direction.



b. Install the wiper rubber to the claw of the wiper blade in the direction indicated by the arrow in the illustration.

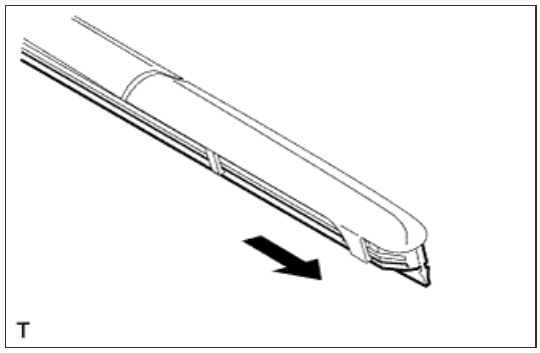
HINT:

Install the wiper rubber so that the head part (large side) of the wiper rubber faces the arm axle side.

c. Attach the head part (large side) of the wiper rubber to the rear end side claw of the wiper blade.

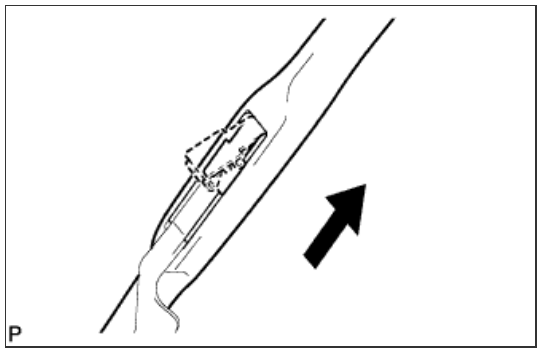
HINT:

Push the wiper blade into the grooves of the wiper rubber to attach it completely.

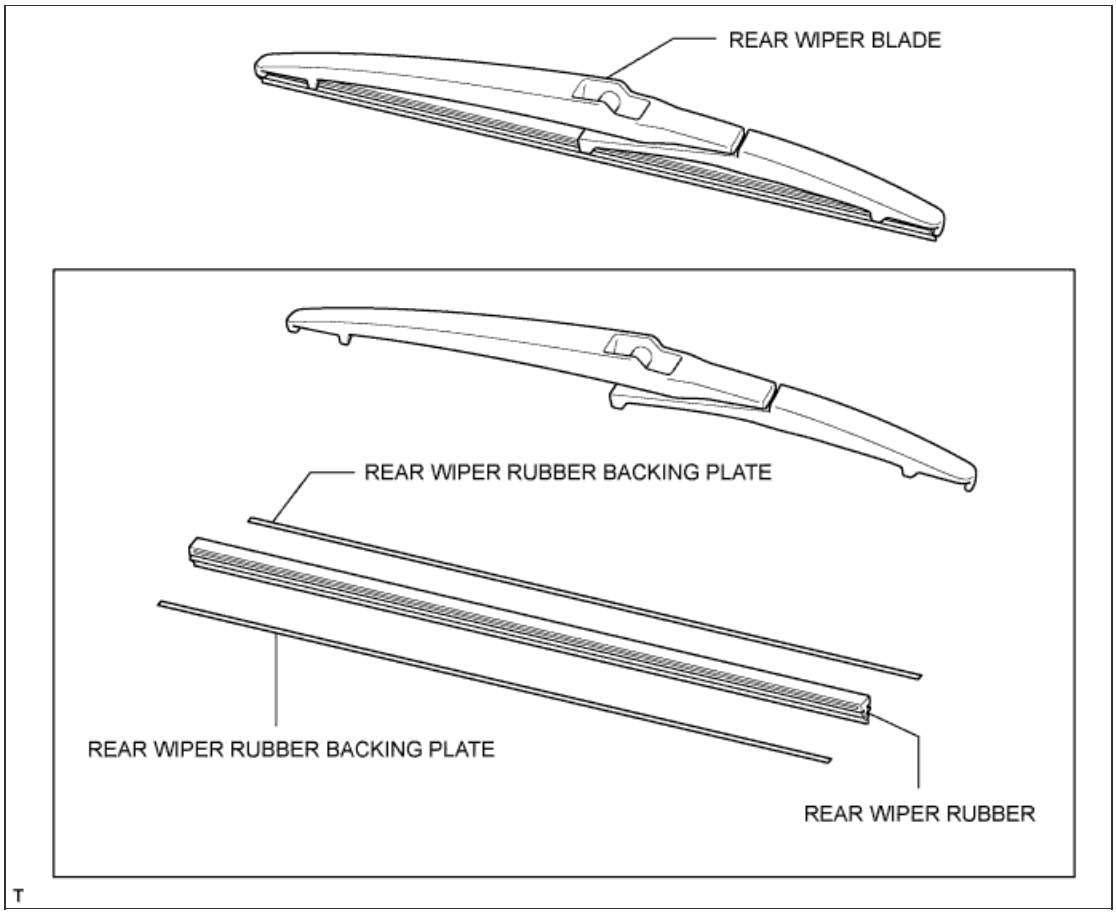


2. INSTALL FRONT WIPER BLADE LH

a. Install the wiper blade as shown in the illustration.



for Preparation Click here



for Preparation Click here

1. REMOVE REAR WIPER BLADE

a. Raise the rear wiper blade to the position shown in the illustration until the meshing of the claw disengages with a clicking sound.

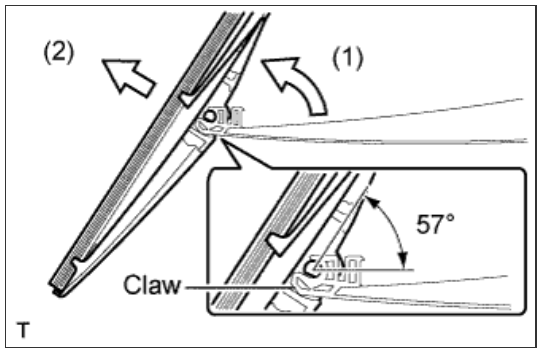
NOTICE:

Be careful not to break the claw.

b. Pull the rear wiper blade straight away from the wiper arm toward the left side of the vehicle.

NOTICE:

Do not bend the rear wiper arm with the rear wiper blade removed, as the arm tip could damage the windshield surface.



2. REMOVE REAR WIPER RUBBER

a. Pull the end of the wiper rubber protruding from the blade stopper as shown in the illustration and remove it.

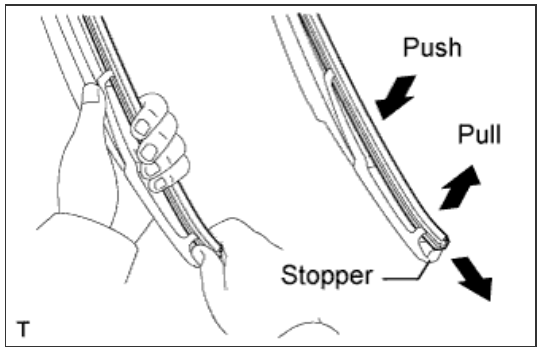
NOTICE:

Do not pull out the wiper rubber forcibly. Otherwise, the backing plates will be deformed or the blade claw will be damaged.

HINT:

Pushing the rubber as shown in the illustration will allow it to be removed more easily.

b. Remove the 2 wiper rubber backing plates from the wiper rubber.



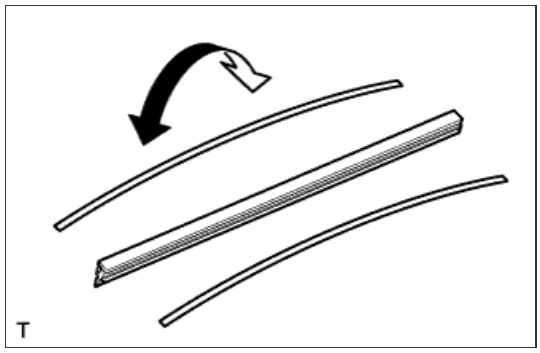
for Preparation [Click here]

1. INSTALL REAR WIPER RUBBER

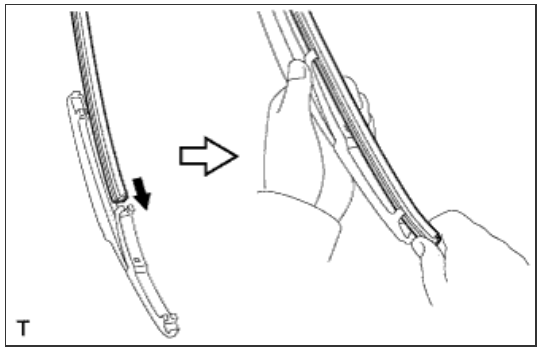
a. Install the 2 rear wiper rubber backing plates to the rear wiper rubber.

NOTICE:

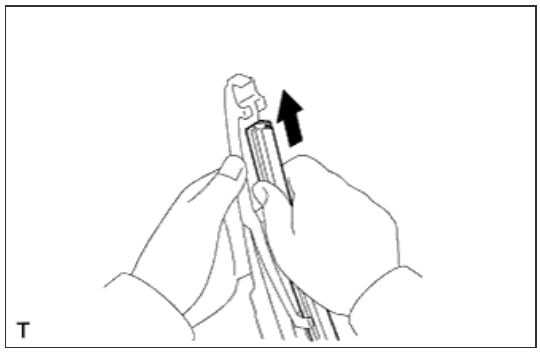
Install the backing plates in the correct direction.



b. Insert the rear wiper rubber from the claw position of the middle of the rear wiper blade to the end.



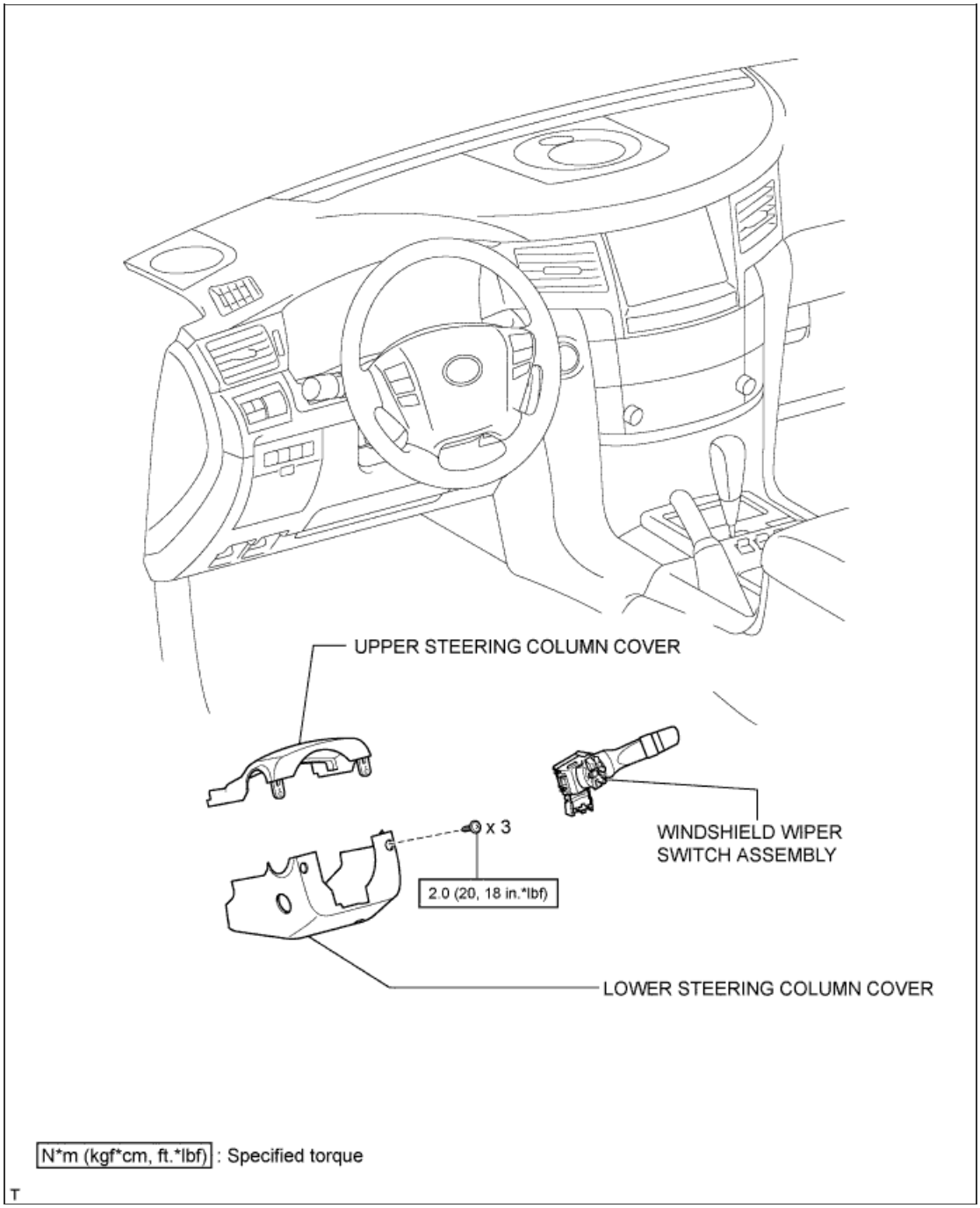
c. After passing the rear wiper rubber through the rear end side claw, allow it to stick out from the rear end stopper and slide it through the front tip side claw.



2. INSTALL REAR WIPER BLADE

a. Hold the wiper blade at the same angle it was removed at and attach the claw to install it.

for Preparation Click here



for Preparation Click here

HINT:

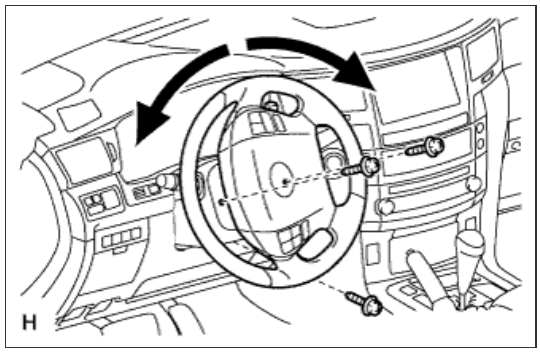
- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. REMOVE LOWER STEERING COLUMN COVER

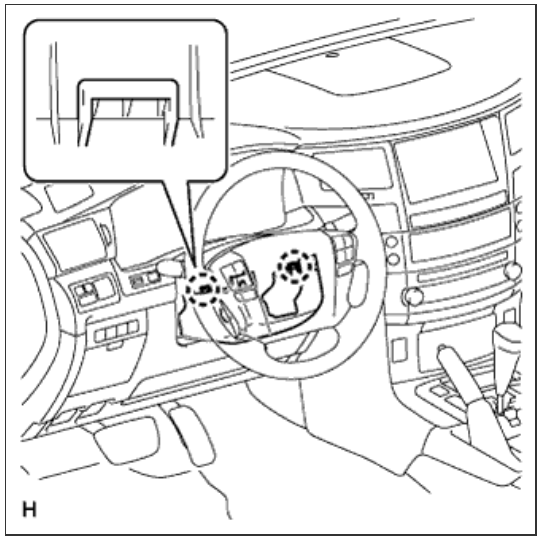
a. Remove the 3 screws.

HINT:

Turn the steering wheel to the right and left as necessary to remove the 2 screws.



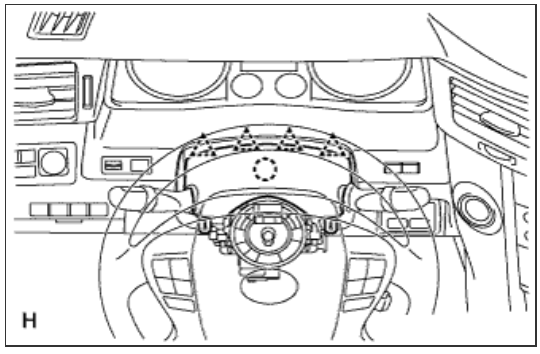
b. Detach the 2 claws to remove the lower steering column cover.



2. REMOVE UPPER STEERING COLUMN COVER

a. Detach the 4 clips.

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



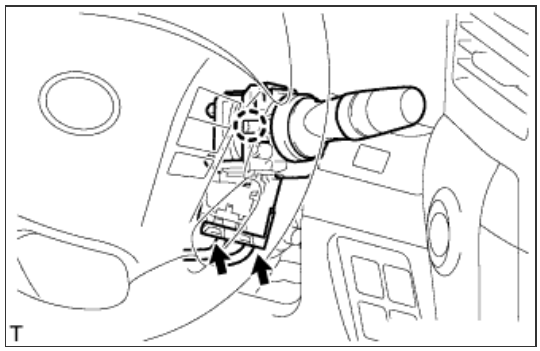
3. REMOVE WINDSHIELD WIPER SWITCH ASSEMBLY

a. Disconnect the 2 connectors.

b. Using a screwdriver wrapped with protective tape, disengage the claw and remove the wiper switch.

NOTICE:

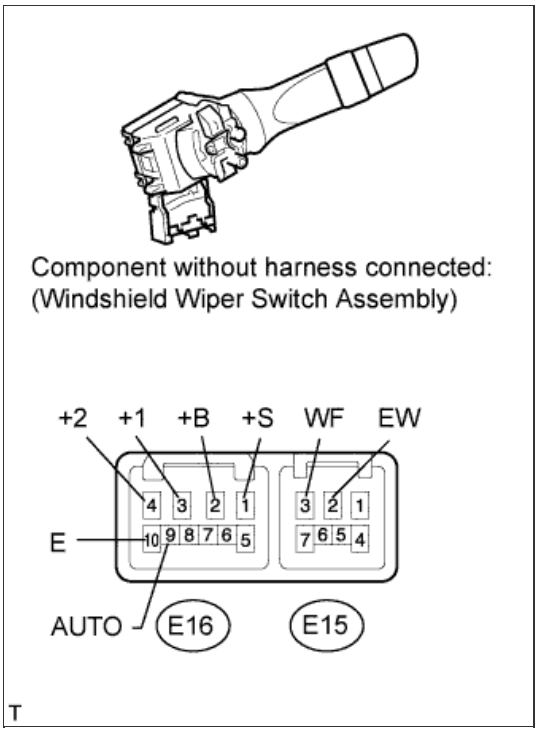
If the claw is pushed with excessive force, it may be broken.



for Preparation Click here

1. INSPECT WINDSHIELD WIPER SWITCH ASSEMBLY (for LHD)

a. Check the front wiper switch.



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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
E16-1 (+S) - E16-3 (+1)	AUTO	Below 1 Ω
E16-10 (E) - E16-9 (AUTO)		
E16-1 (+S) - E16-3 (+1)	Off	
E16-2 (+B) - E16-3 (+1)	MIST	
	LO	
E16-2 (+B) - E16-4 (+2)	HI	

If the result is not as specified, replace the windshield wiper switch assembly.

b. Check the front washer switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
E15-2 (EW) - E15-3 (WF)	On	Below 1 Ω
	Off	10 kΩ or higher

If the result is not as specified, replace the windshield wiper switch assembly.

c. Check the rear wiper switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
E15-2 (EW) - E15-6 (C1R)	LO	Below 1 Ω
E15-2 (EW) - E15-7 (+1R)	HI	
E15-2 (EW) - E15-6 (C1R)	Off	10 kΩ or higher
E15-2 (EW) - E15-7 (+1R)		

If the result is not as specified, replace the windshield wiper switch assembly.

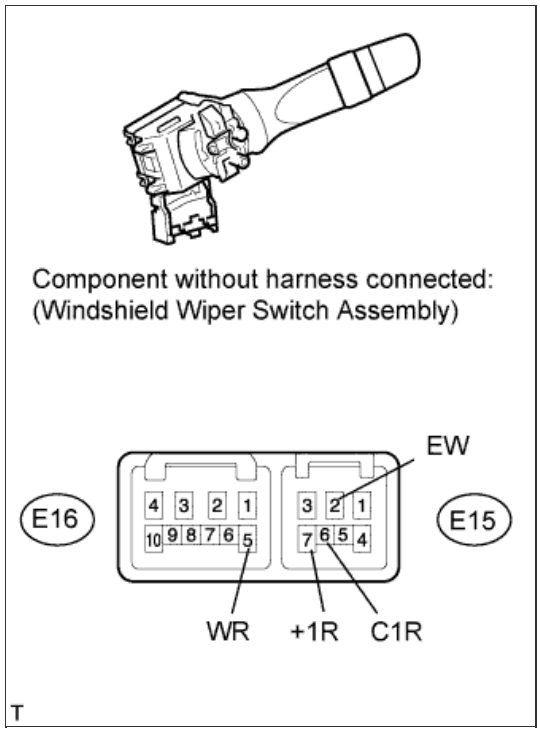
d. Check the rear washer switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
E15-2 (EW) - E16-5 (WR)	On	Below 1 Ω
	Off	10 kΩ or higher

If the result is not as specified, replace the windshield wiper switch assembly.



2. INSPECT WINDSHIELD WIPER SWITCH ASSEMBLY (for RHD)

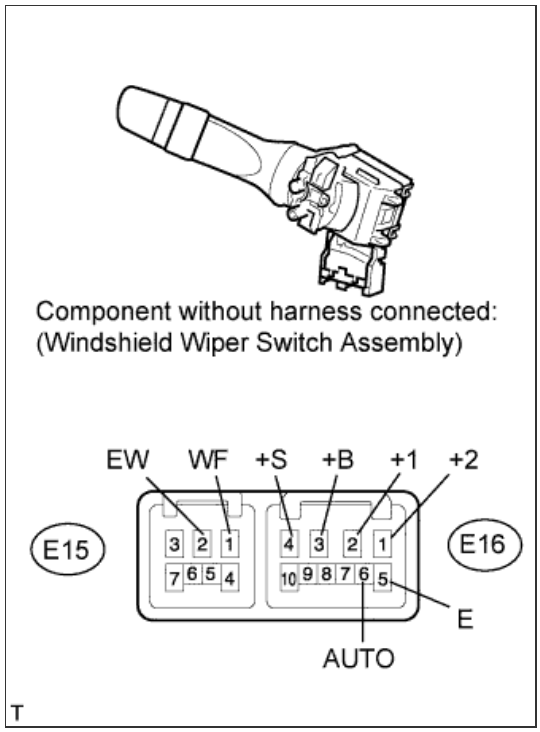
a. Check the front wiper switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
E16-4 (+S) - E16-2 (+1)	AUTO	Below 1 Ω
E16-5 (E) - E16-6 (AUTO)		
E16-4 (+S) - E16-2 (+1)	Off	
E16-3 (+B) - E16-2 (+1)	MIST	
	LO	
E16-3 (+B) - E16-1 (+2)	HI	

If the result is not as specified, replace the windshield wiper switch assembly.



b. Check the front washer switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
E15-2 (EW) - E15-1 (WF)	On	Below 1 Ω
	Off	10 kΩ or higher

If the result is not as specified, replace the windshield wiper switch assembly.

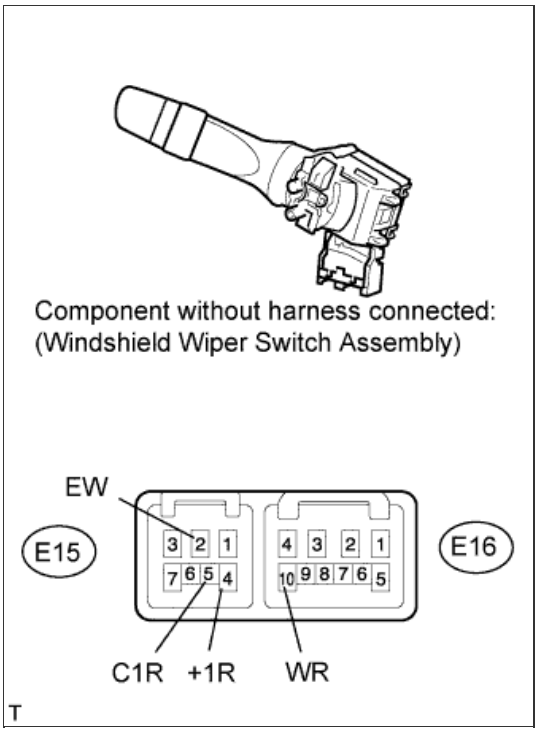
c. Check the rear wiper switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
E15-2 (EW) - E15-5 (C1R)	LO	Below 1 Ω
E15-2 (EW) - E15-4 (+1R)	HI	
E15-2 (EW) - E15-5 (C1R)	Off	10 kΩ or higher
E15-2 (EW) - E15-4 (+1R)		

If the result is not as specified, replace the windshield wiper switch assembly.



d. Check the rear washer switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
E15-2 (EW) - E16-10 (WR)	On	Below 1 Ω
	Off	10 kΩ or higher

If the result is not as specified, replace the windshield wiper switch assembly.

for Preparation Click here

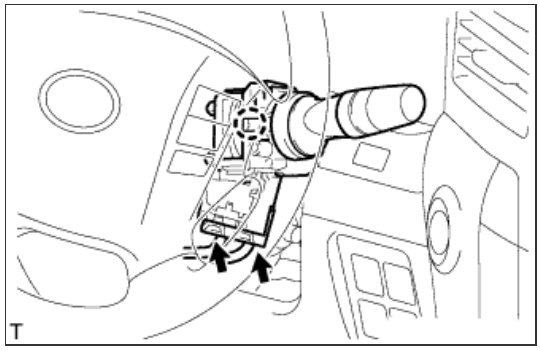
HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. INSTALL WINDSHIELD WIPER SWITCH ASSEMBLY

a. Attach the claw to install the windshield wiper switch assembly.

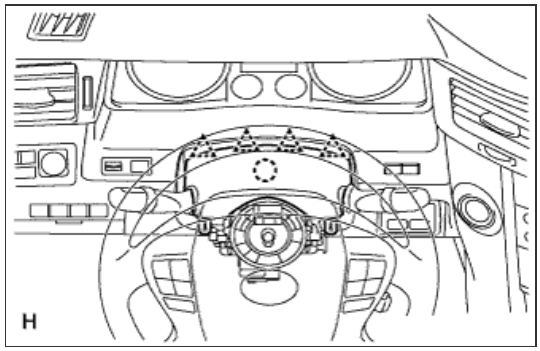
b. Connect the 2 connectors.



2. INSTALL UPPER STEERING COLUMN COVER

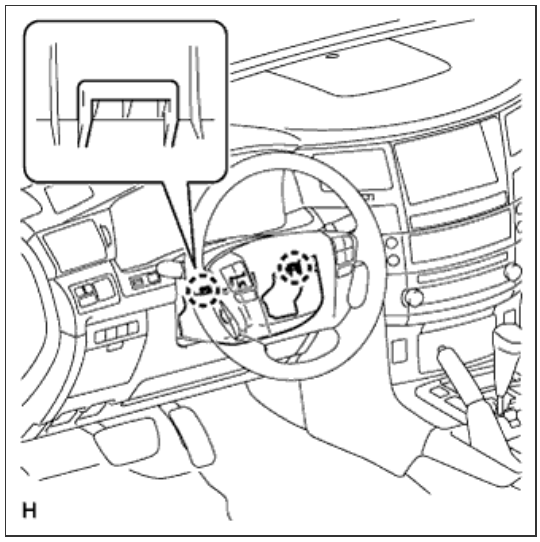
a. Attach the claw to install the upper steering column cover.

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



3. INSTALL LOWER STEERING COLUMN COVER

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

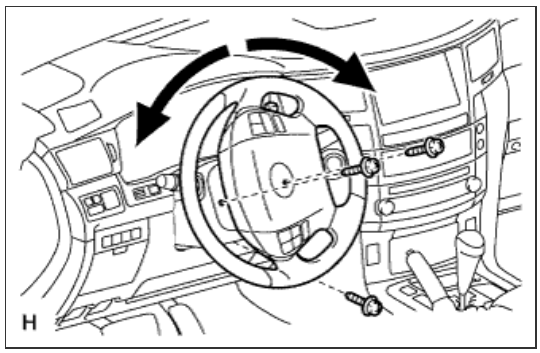


b. Install the 3 screws.

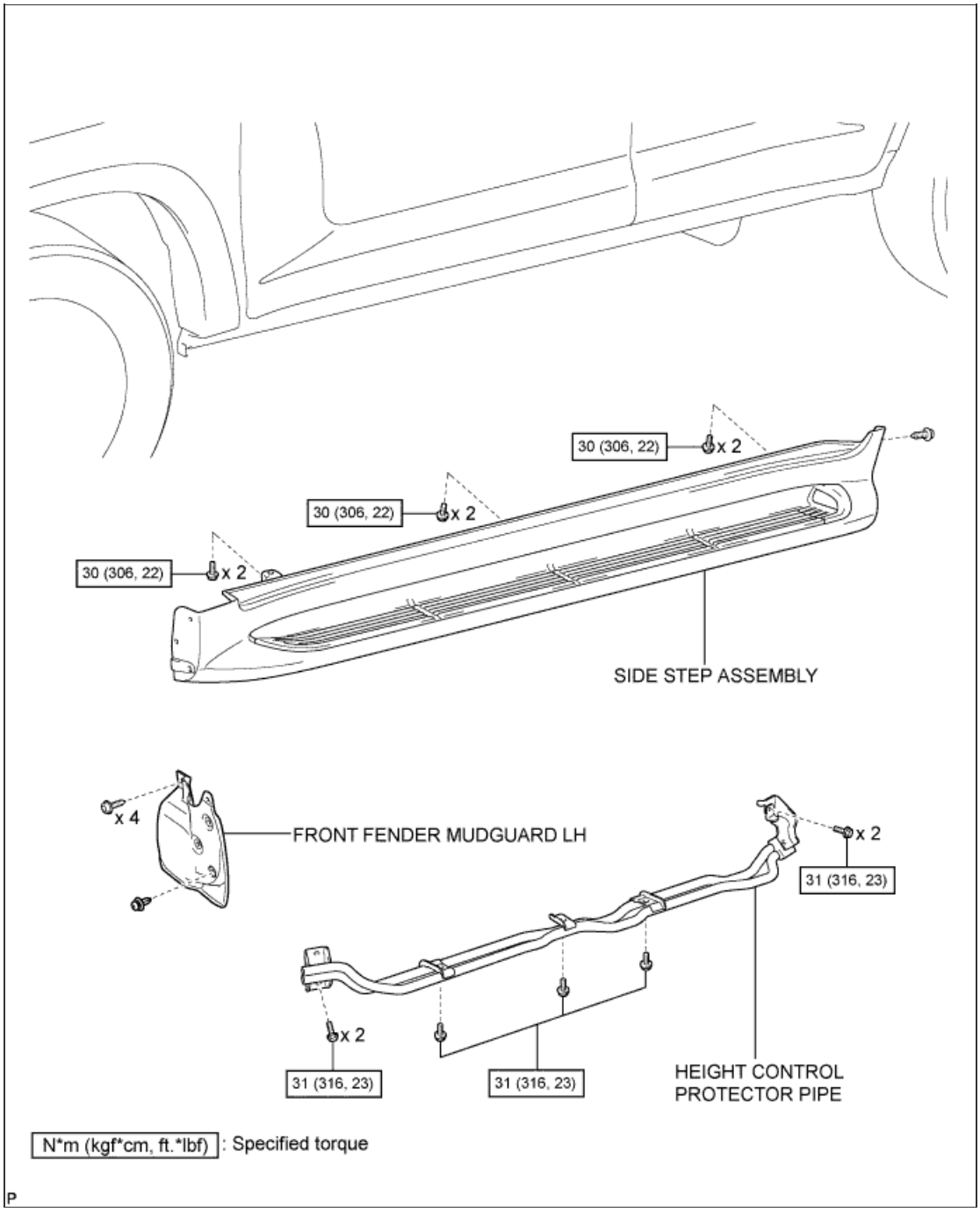
Torque:
2.0 N*m{ 20 kgf*cm , 18 in.*lbf }

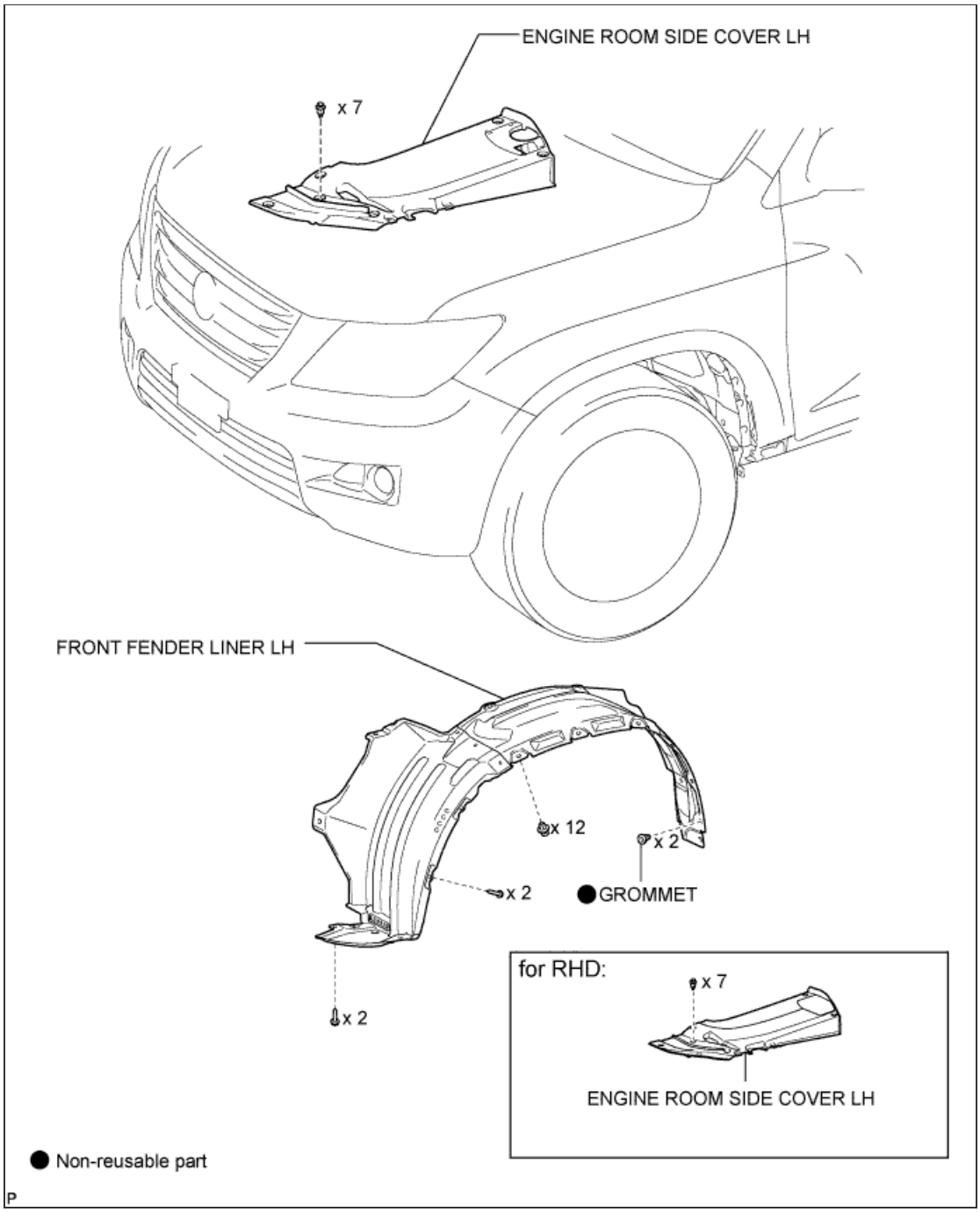
HINT:

Turn the steering wheel to the right and left as necessary to install the 2 screws.

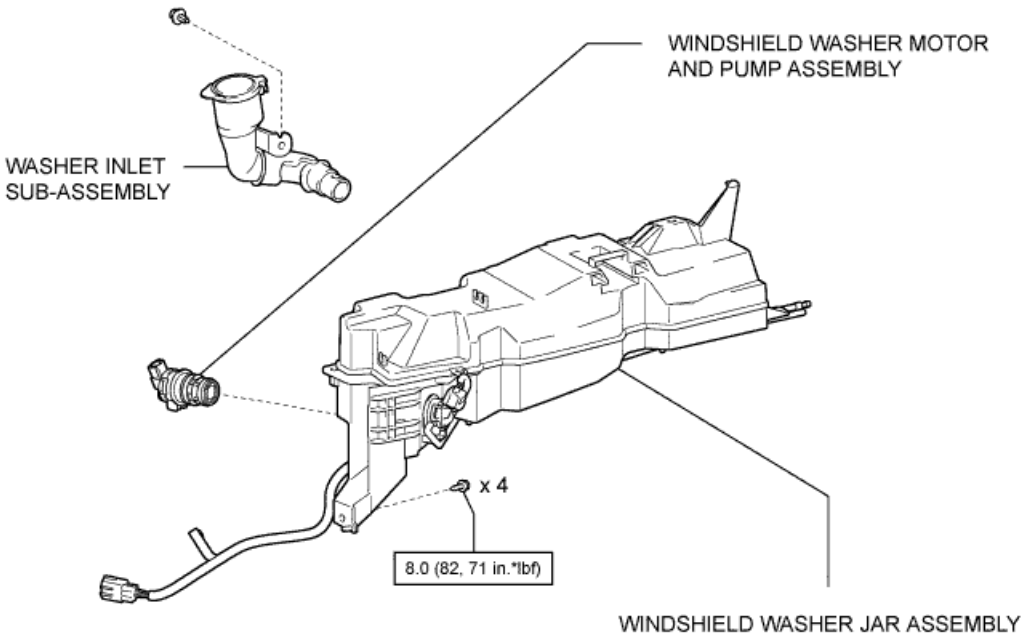


for Preparation Click here




ENGINE ROOM SIDE COVER LH
x 7
FRONT FENDER LINER LH
x 12
x 2
x 2
GROMMET
x 2
for RHD:
x 7
ENGINE ROOM SIDE COVER LH
Non-reusable part
P

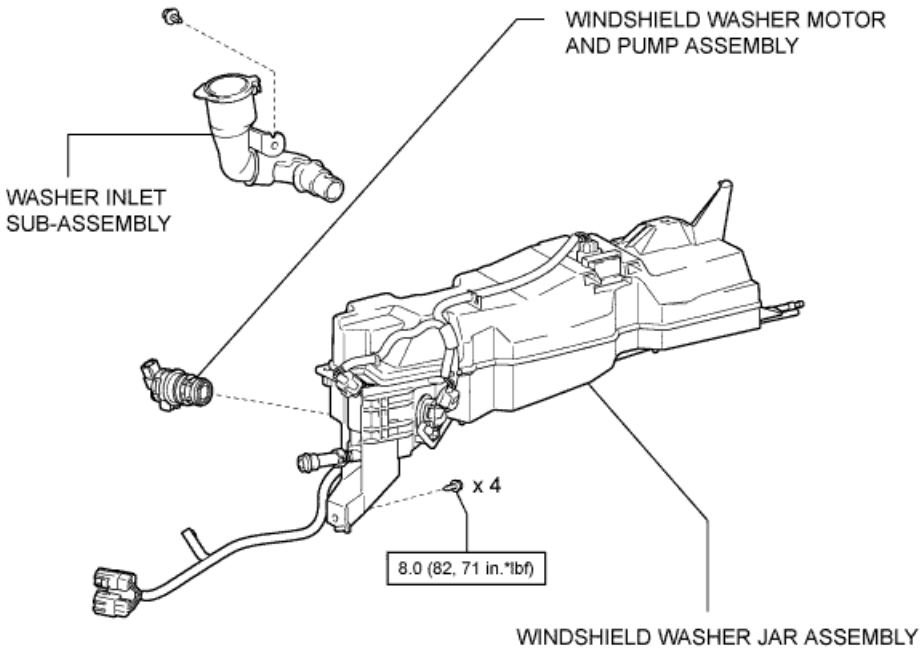
w/o Headlight Cleaner System:



N*m (kgf*cm, ft.*lbf) : Specified torque

P

w/ Headlight Cleaner System:



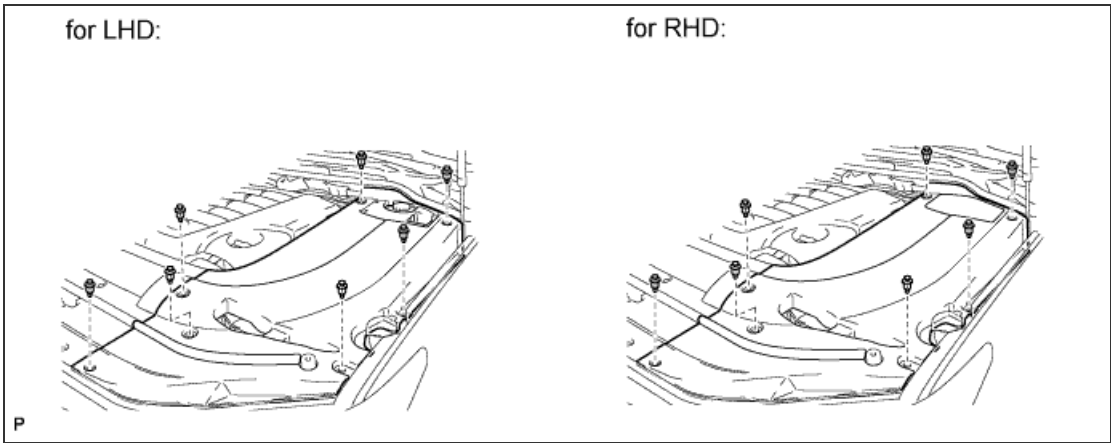
N*m (kgf*cm, ft.*lbf) : Specified torque

P

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

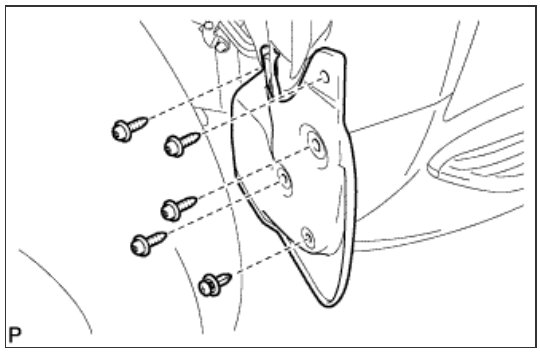
a. Remove the 7 clips and engine room side cover.



2. REMOVE FRONT FENDER MUDGUARD LH

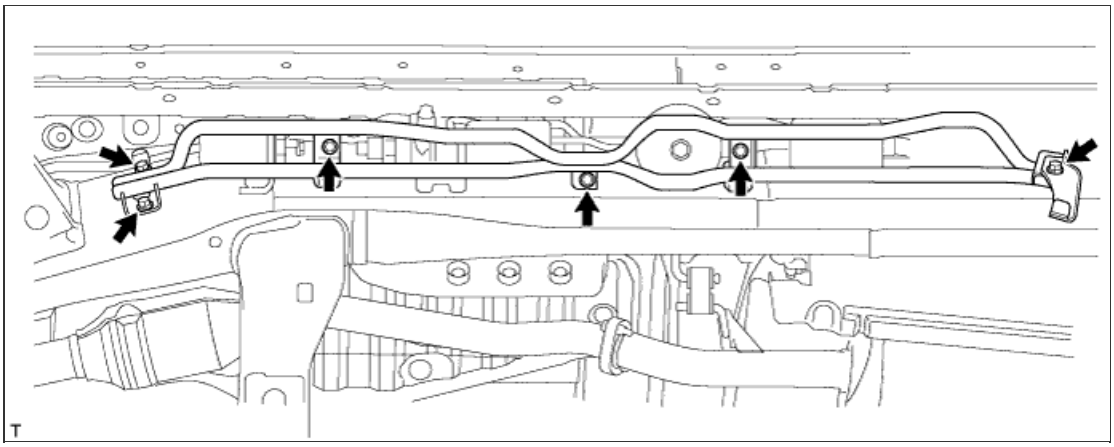
a. Remove the clip.

b. Using a T30 "TORX" socket, remove the 4 screws and mudguard.



3. REMOVE HEIGHT CONTROL PROTECTOR PIPE

a. Remove the 6 bolts and protector pipe.

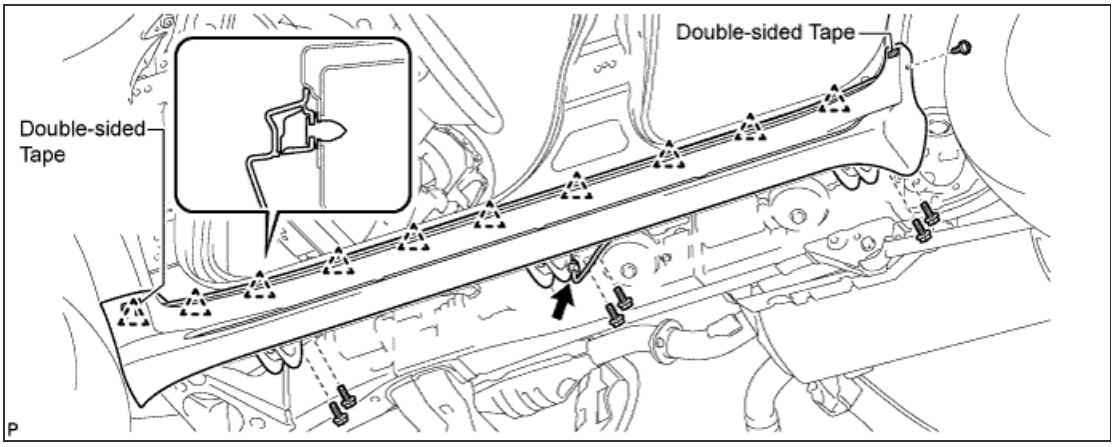


4. REMOVE SIDE STEP ASSEMBLY

a. Remove the screw and 6 bolts.

b. Disconnect the connector.

c. Detach the 10 clips and remove the double-sided tape to remove the side step.

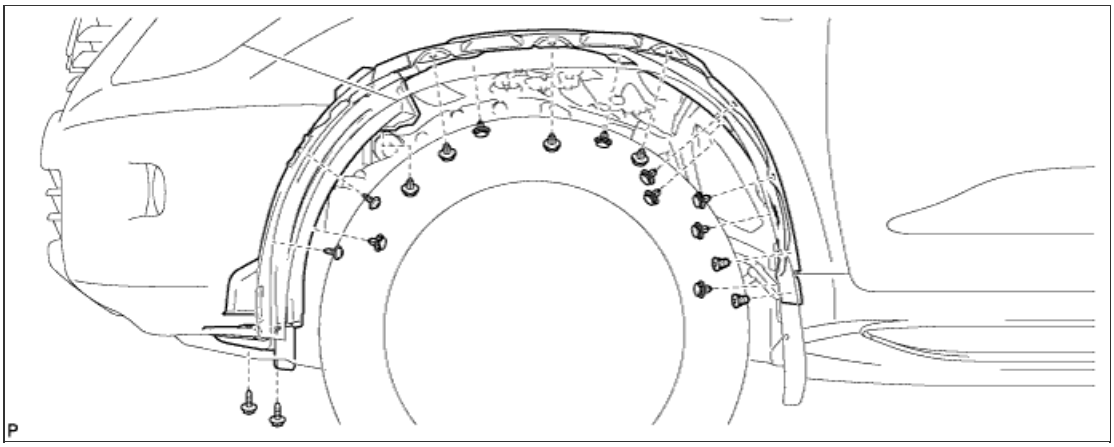


5. REMOVE FRONT FENDER LINER LH

a. Remove the 2 screws.

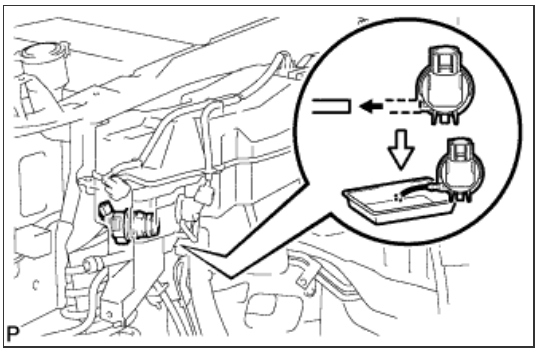
b. Using a T30 "TORX" socket, remove the 2 screws.

c. Using a clip remover, remove the 2 grommets, 12 clips and fender liner.



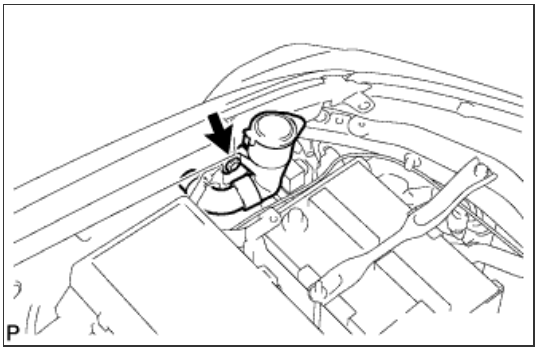
6. DRAIN WASHER FLUID

a. Remove the washer hose from the windshield washer motor and pump, and drain the washer fluid.



7. REMOVE WASHER INLET SUB-ASSEMBLY

a. Using a clip remover, remove the clip and washer inlet.



8. REMOVE WINDSHIELD WASHER JAR ASSEMBLY

a. w/ Headlight Cleaner System:

i. Detach the clamp.

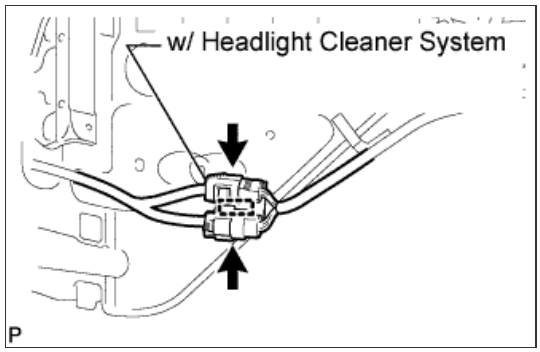
ii. Disconnect the 2 connectors.

iii. Disconnect the headlight cleaner hose.

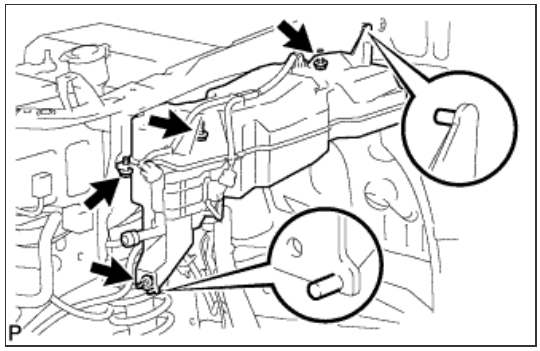
b. w/o Headlight Cleaner System:

i. Detach the clamp.

ii. Disconnect the connector.



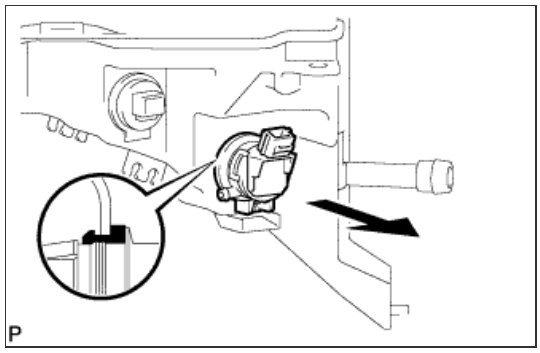
c. Remove the 4 bolts. Then remove the windshield washer jar.



9. REMOVE WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY

a. Remove the windshield washer motor and pump assembly together with the gasket in the direction shown in the illustration.

b. Disconnect the connector.



for Preparation Click here

1. INSPECT WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY

HINT:

This inspection should be performed with the windshield washer motor and pump installed to the washer jar.

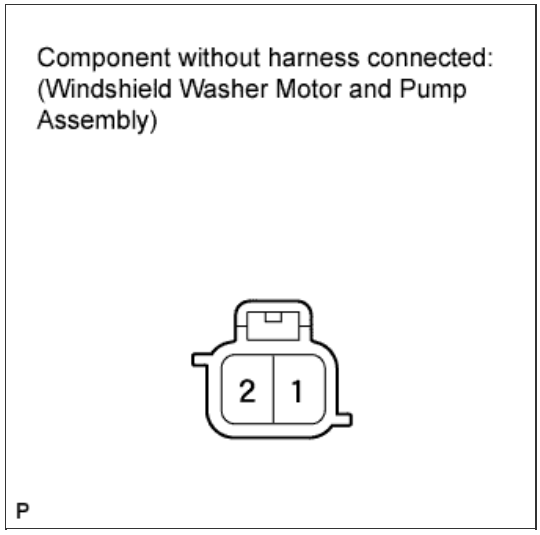
a. Fill the washer jar with washer fluid.

b. Apply battery voltage to the washer motor and check the operation of the washer motor.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 2	Windshield washer motor operation is normal

If the result is not as specified, replace the windshield washer motor and pump assembly.



for Preparation Click here

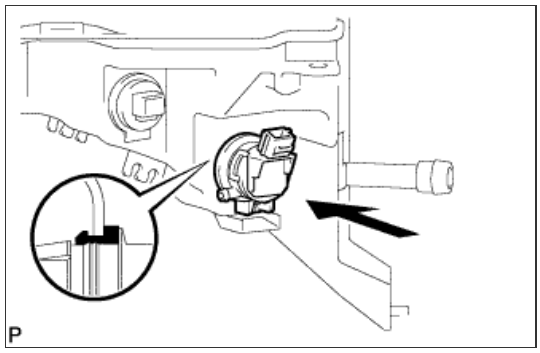
1. INSTALL WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY

a. Install the washer motor together with the gasket in the direction shown in the illustration.

HINT:

Make sure the gasket is positioned as shown in the illustration.

b. Connect the connector.

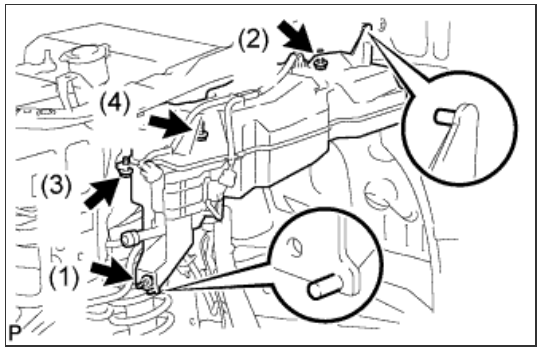


2. INSTALL WINDSHIELD WASHER JAR ASSEMBLY

a. Temporarily install the windshield washer jar with the 4 bolts.

b. Tighten the 4 bolts in the order shown in the illustration to install the windshield washer jar.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }



c. w/ Headlight Cleaner System:

i. Connect the 2 connectors.

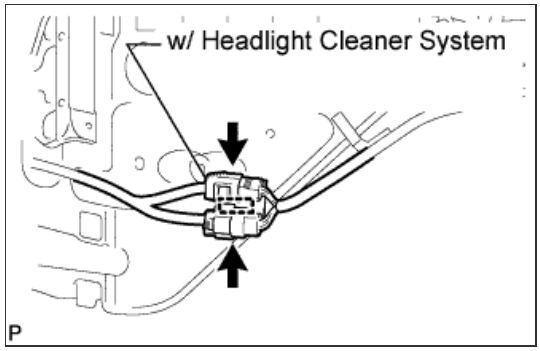
ii. Attach the clamp.

iii. Connect the headlight cleaner hose to the headlight cleaner motor and pump.

d. w/o Headlight Cleaner System:

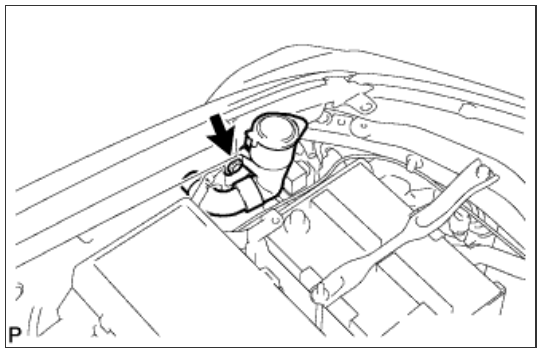
i. Connect the connector.

ii. Attach the clamp.



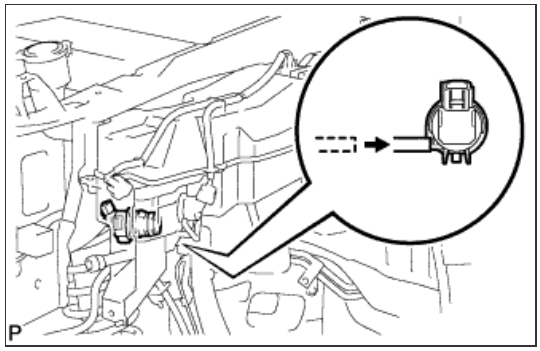
3. INSTALL WASHER INLET SUB-ASSEMBLY

a. Install the washer inlet with the clip.



4. FILL WINDSHIELD WASHER JAR AND PUMP ASSEMBLY WITH WASHER FLUID

a. Connect the washer hose to the windshield washer motor and pump, and fill the washer jar with washer fluid.

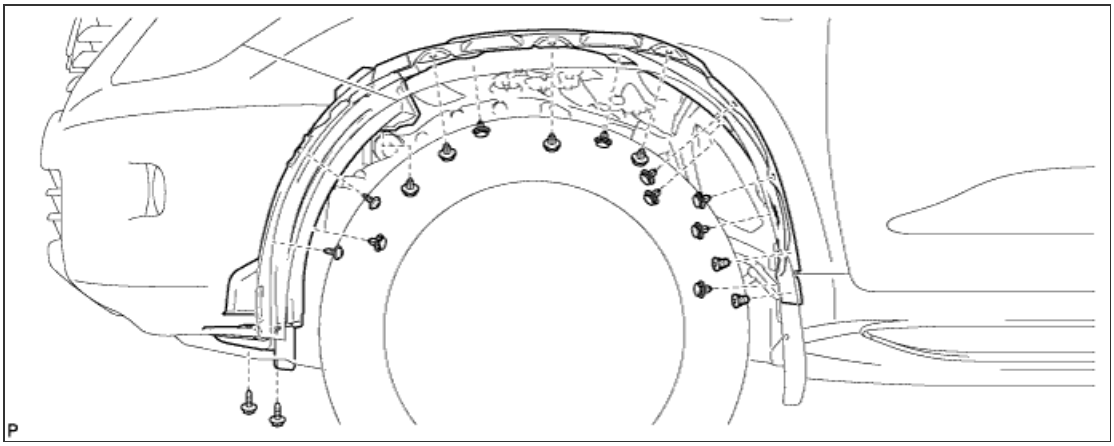


5. INSTALL FRONT FENDER LINER LH

a. Install the fender liner with the 12 clips and 2 new grommets.

b. Using a T30 "TORX" socket, install the 2 screws.

c. Install the 2 screws.



6. INSTALL SIDE STEP ASSEMBLY

a. Clean the vehicle body 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.

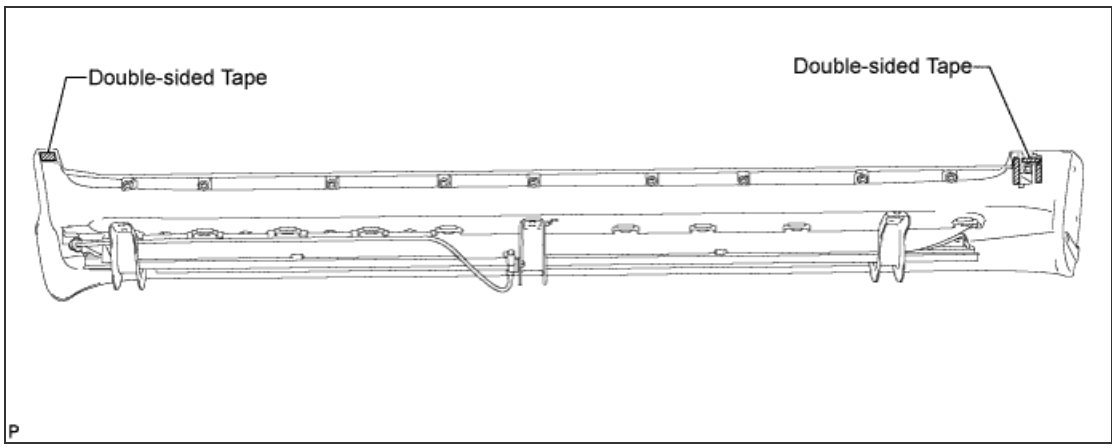
b. If reusing the side step:
Clean the side step.

i. Using a heat light, heat the side step.

ii. Remove the double-sided tape from the side step.

iii. Wipe off any tape adhesive residue with cleaner.

iv. Apply new double-sided tape to the side step, as shown in the illustration.



c. Install the side step.

i. Using a heat light, heat the vehicle body and side step.

ii. Remove the peeling paper from the face of the side step.

HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

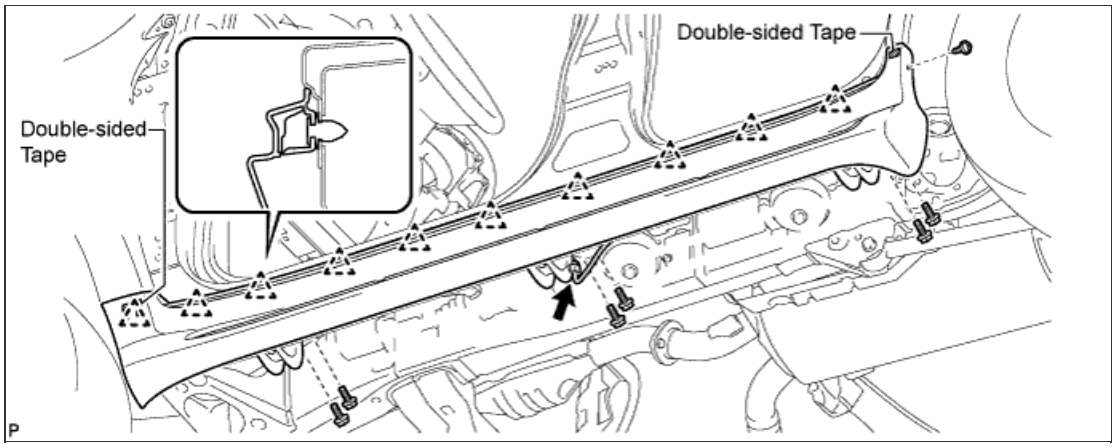
iii. Attach the 10 clips to install the side step.

iv. Install the 6 bolts.

Torque:
30 N*m{ 306 kgf*cm , 22 ft.*lbf }

v. Install the screw.

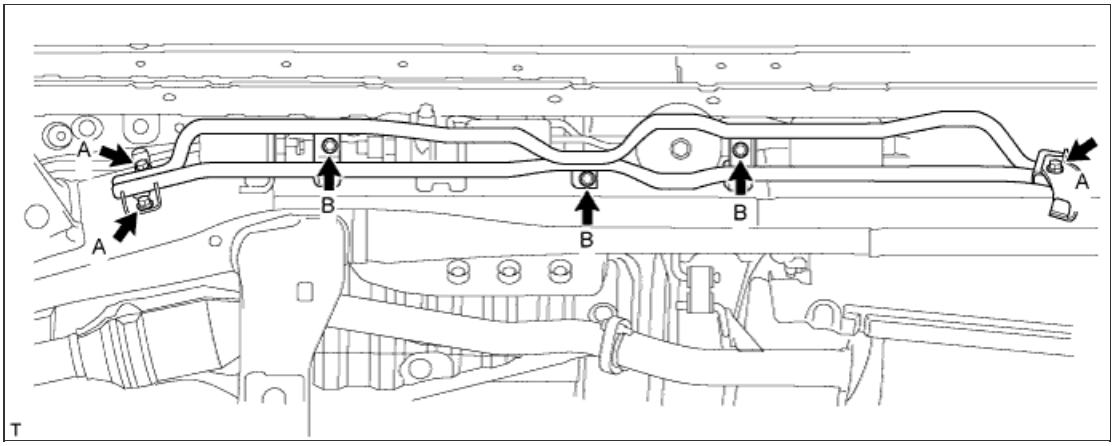
vi. Connect the connector.



7. INSTALL HEIGHT CONTROL PROTECTOR PIPE

a. Install the protector pipe with the 6 bolts.

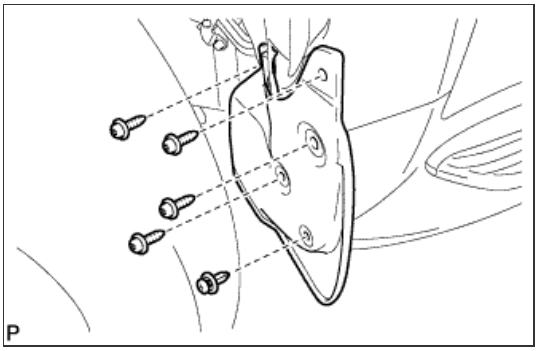
Torque:
for bolt A:
31 N*m{ 316 kgf*cm , 23 ft.*lbf }
for bolt B:
16 N*m{ 163 kgf*cm , 12 ft.*lbf }



8. INSTALL FRONT FENDER MUDGUARD LH

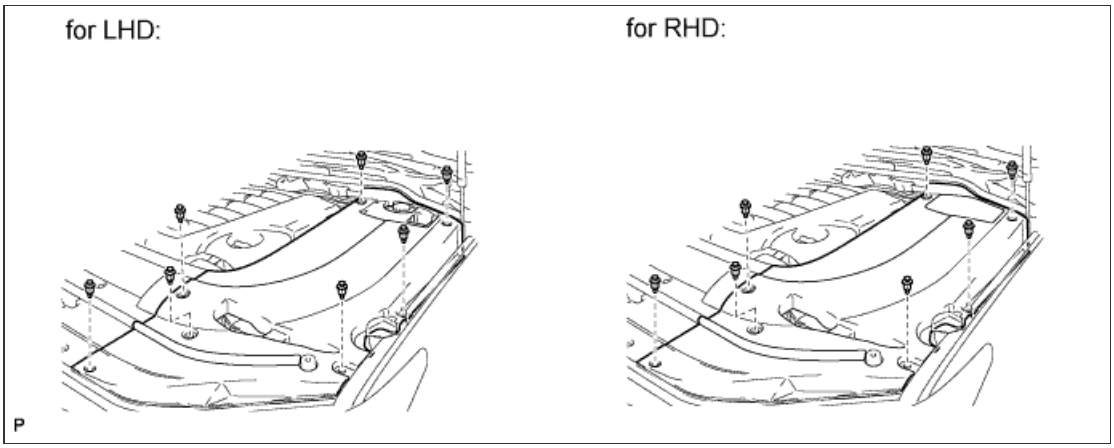
a. Install the mudguard with the clip.

b. Using a T30 "TORX" socket, install the 4 screws.

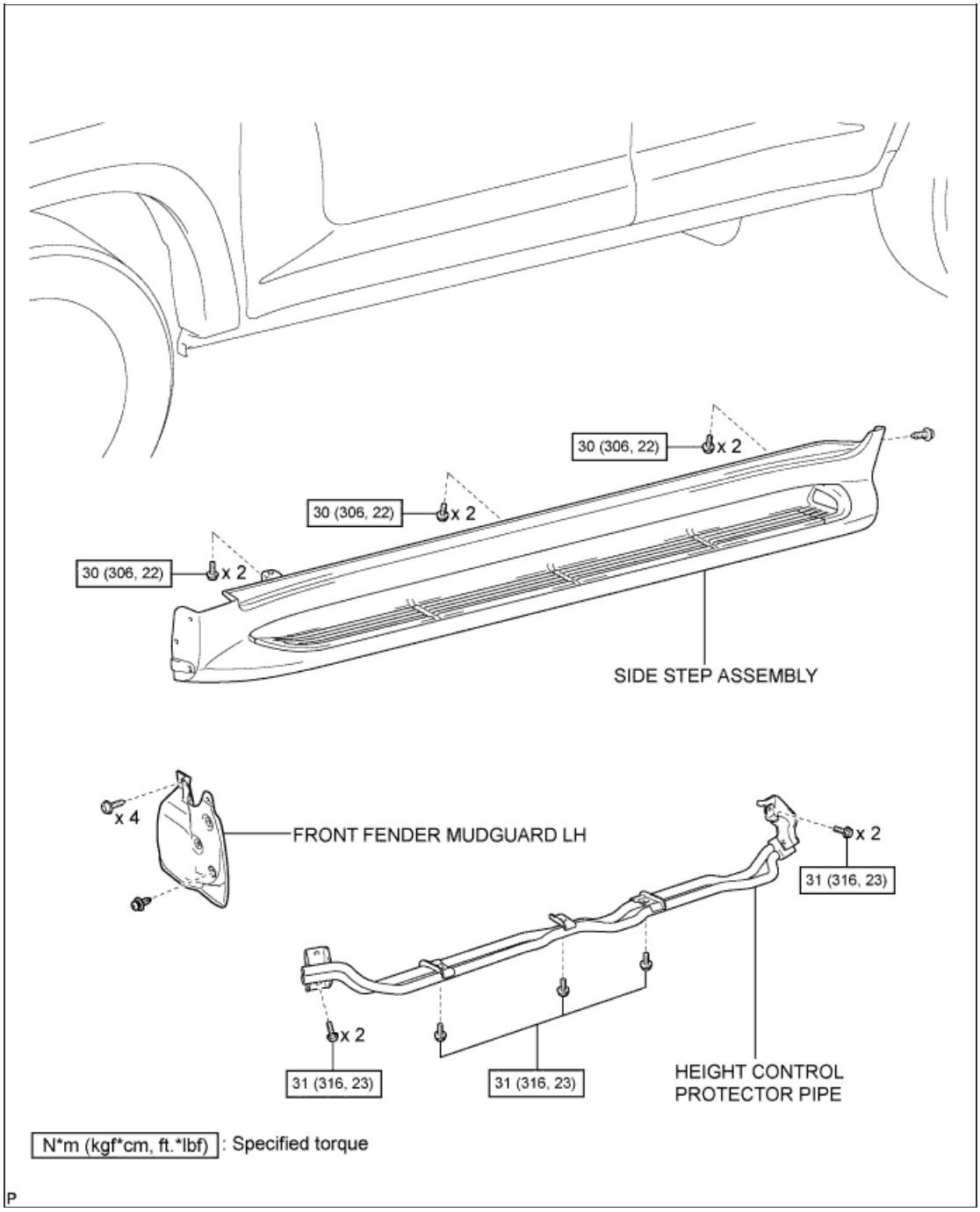


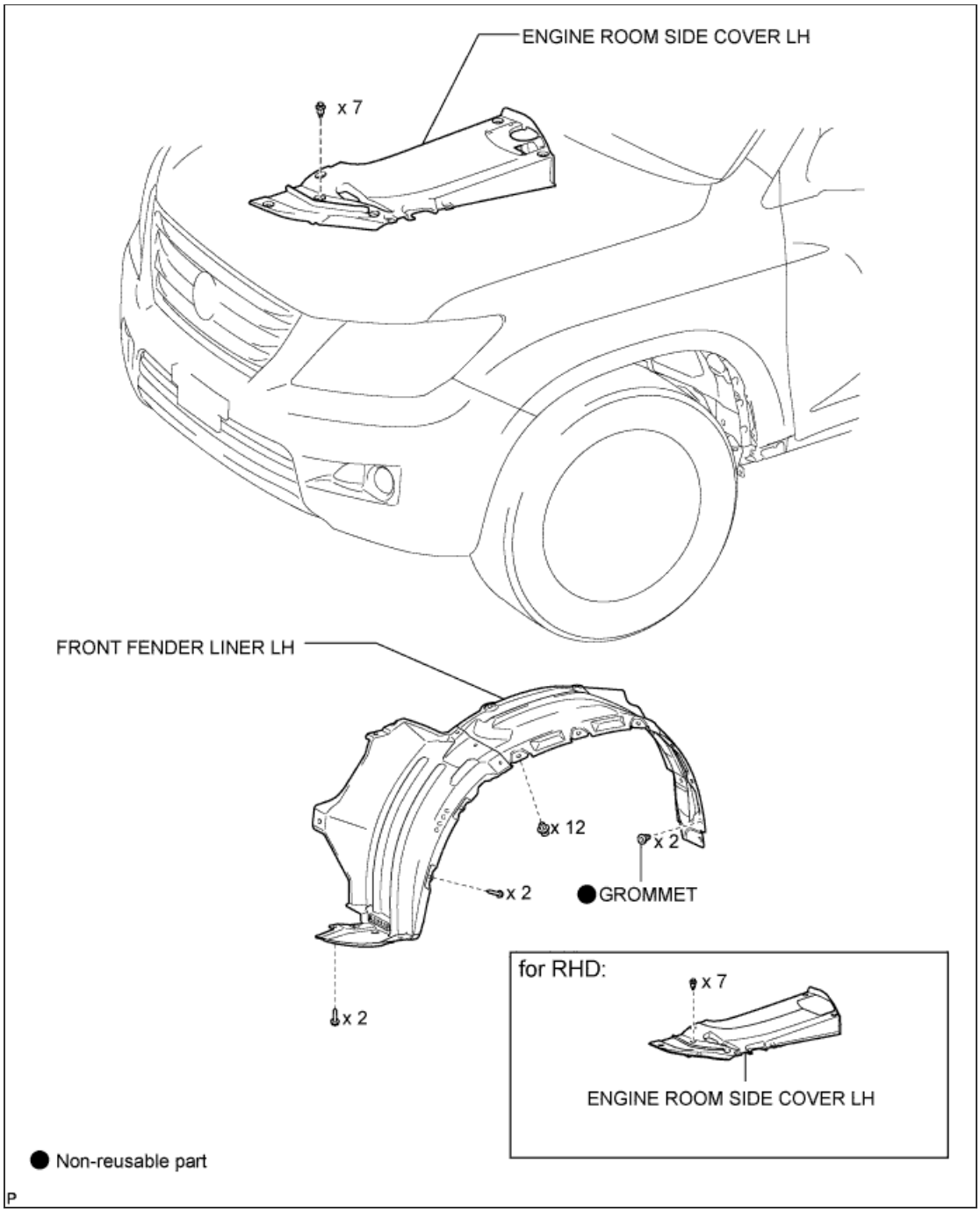
9. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

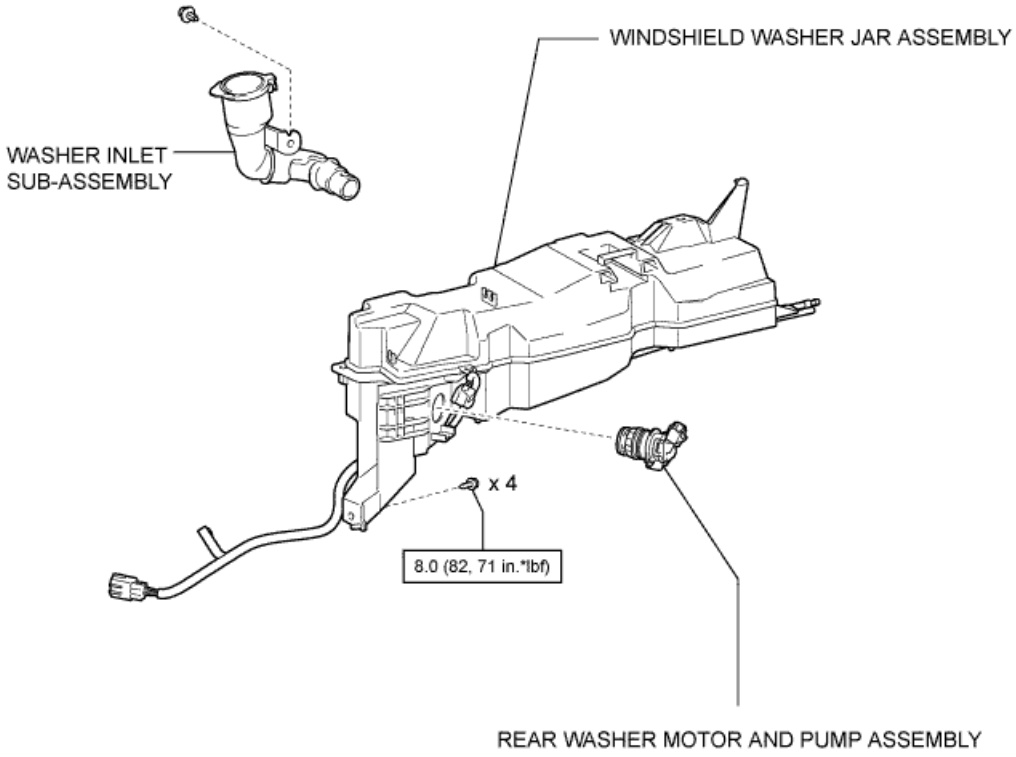


for Preparation Click here




ENGINE ROOM SIDE COVER LH
x 7
FRONT FENDER LINER LH
x 12
x 2
x 2
GROMMET
x 2
for RHD:
x 7
ENGINE ROOM SIDE COVER LH
Non-reusable part
P

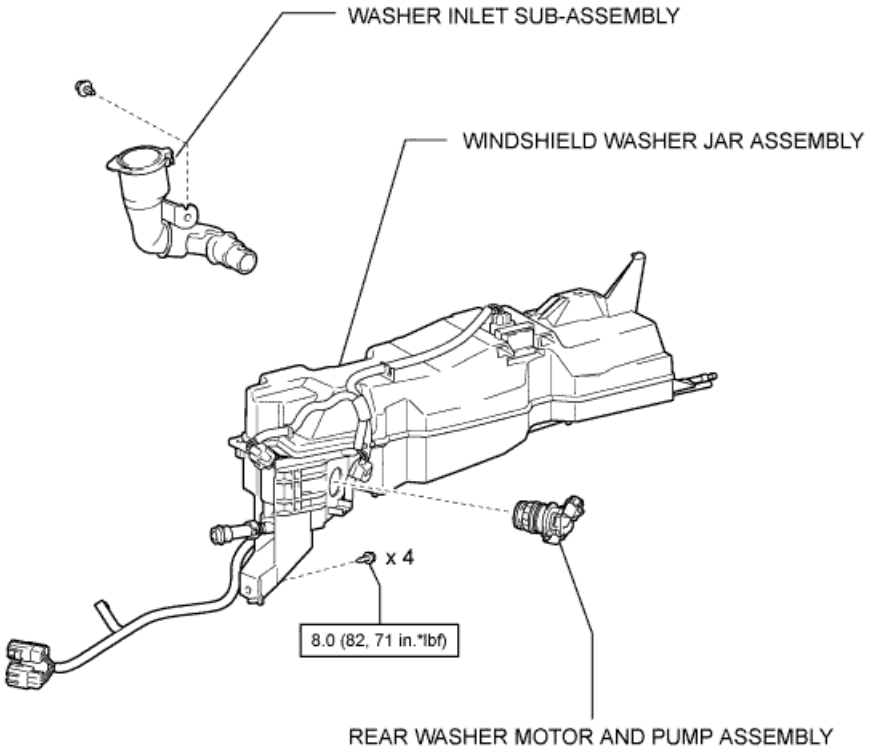
w/o Headlight Cleaner System:



N*m (kgf*cm, ft.*lbf) : Specified torque

P

w/ Headlight Cleaner System:



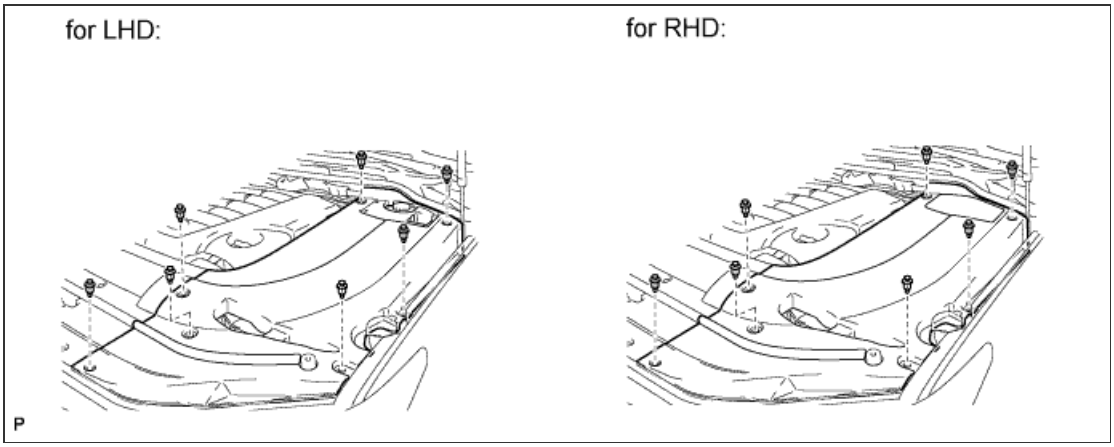
N*m (kgf*cm, ft.*lbf) : Specified torque

P

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

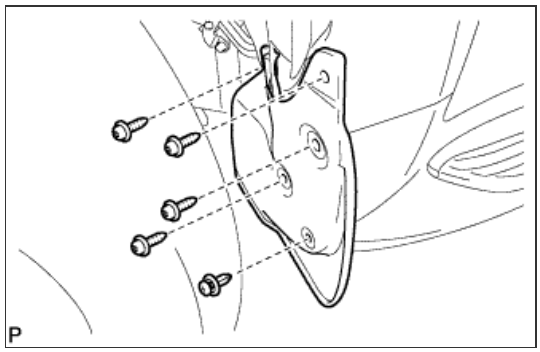
a. Remove the 7 clips and engine room side cover.



2. REMOVE FRONT FENDER MUDGUARD LH

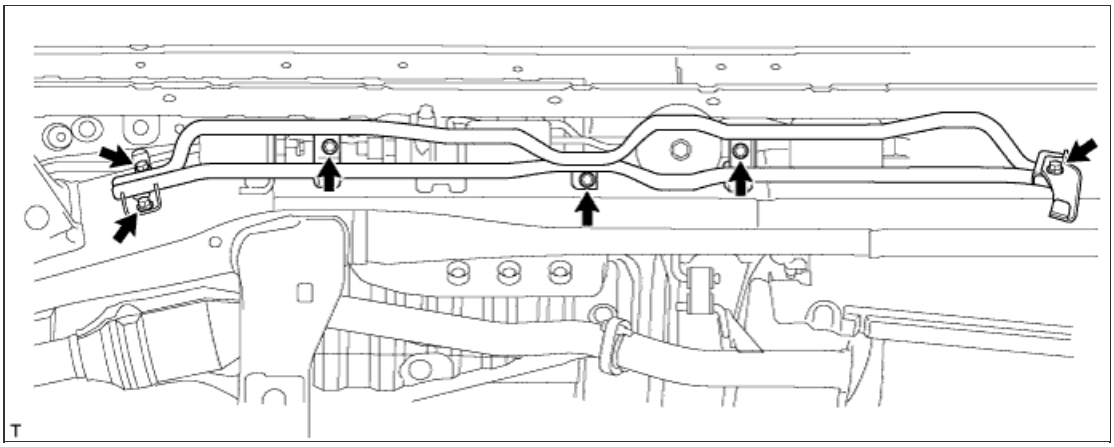
a. Remove the clip.

b. Using a T30 "TORX" socket, remove the 4 screws and mudguard.



3. REMOVE HEIGHT CONTROL PROTECTOR PIPE

a. Remove the 6 bolts and protector pipe.

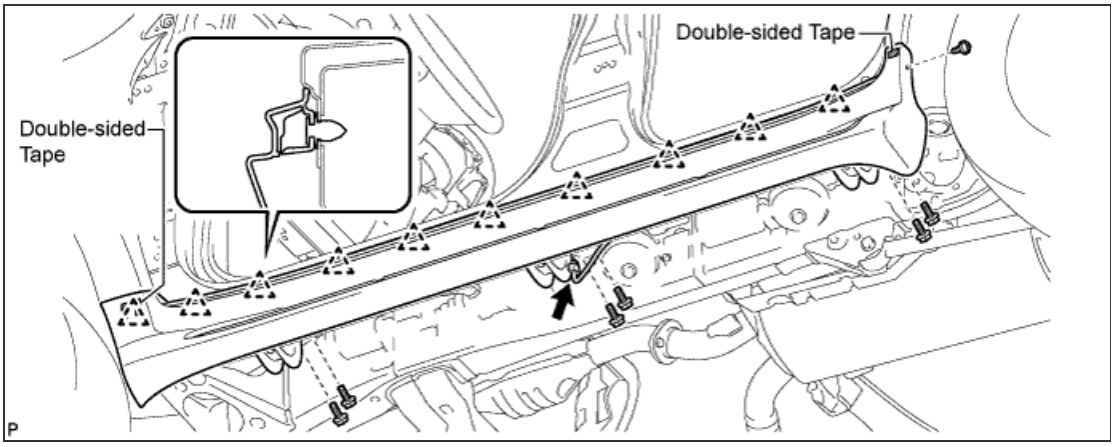


4. REMOVE SIDE STEP ASSEMBLY

a. Remove the screw and 6 bolts.

b. Disconnect the connector.

c. Detach the 10 clips and remove the double-sided tape to remove the side step.

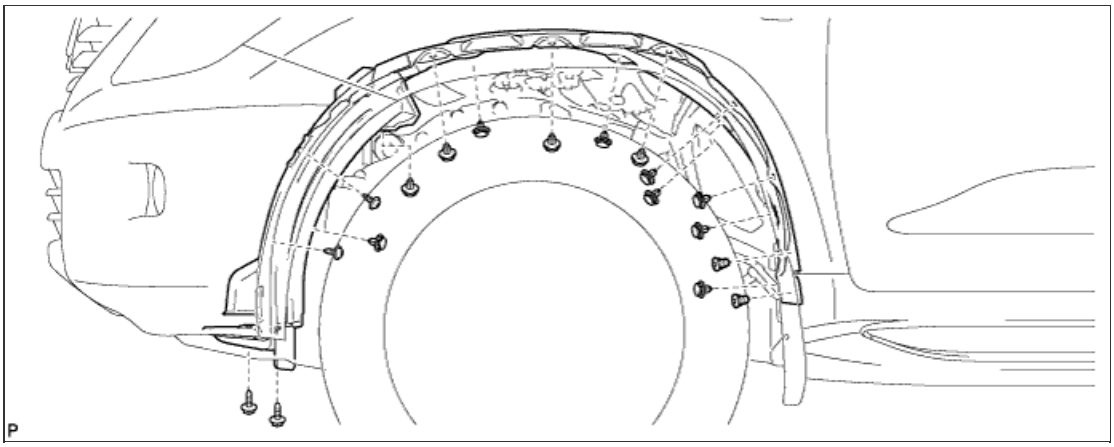


5. REMOVE FRONT FENDER LINER LH

a. Remove the 2 screws.

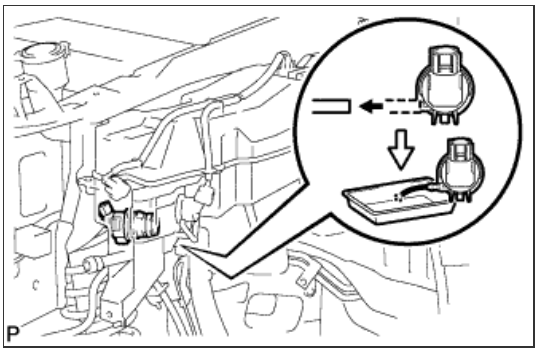
b. Using a T30 "TORX" socket, remove the 2 screws.

c. Using a clip remover, remove the 2 grommets, 12 clips and fender liner.



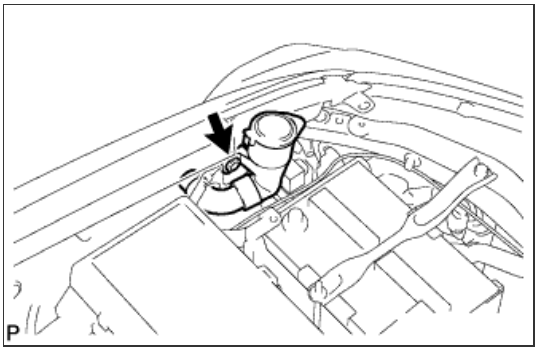
6. DRAIN WASHER FLUID

a. Remove the washer hose from the windshield washer motor and pump, and drain the washer fluid.



7. REMOVE WASHER INLET SUB-ASSEMBLY

a. Using a clip remover, remove the clip and washer inlet.



8. REMOVE WINDSHIELD WASHER JAR ASSEMBLY

a. w/ Headlight Cleaner System:

i. Detach the clamp.

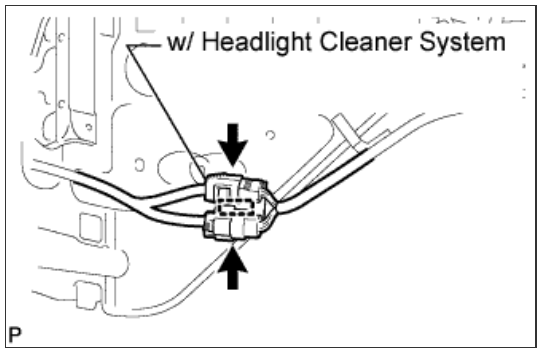
ii. Disconnect the 2 connectors.

iii. Disconnect the headlight cleaner hose.

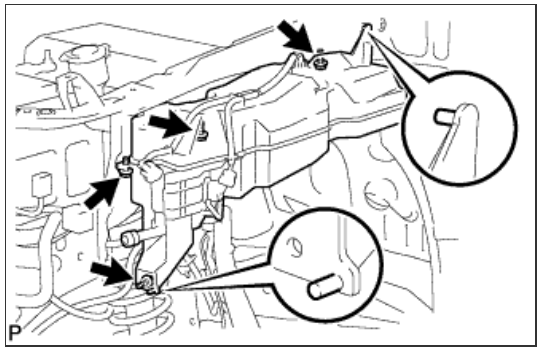
b. w/o Headlight Cleaner System:

i. Detach the clamp.

ii. Disconnect the connector.



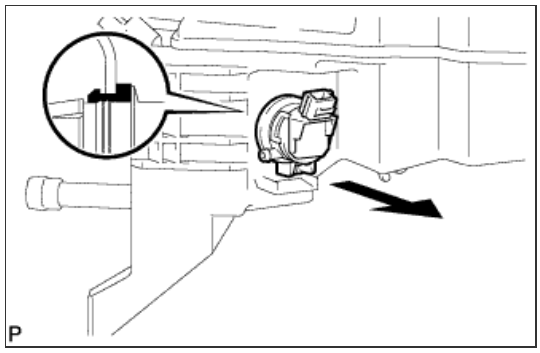
c. Remove the 4 bolts. Then remove the windshield washer jar.



9. REMOVE REAR WASHER MOTOR AND PUMP ASSEMBLY

a. Remove the washer motor together with the gasket in the direction shown in the illustration.

b. Disconnect the connector.



for Preparation Click here

1. INSPECT REAR WASHER MOTOR AND PUMP ASSEMBLY

HINT:

This inspection should be performed with the rear washer motor and pump assembly installed to the washer jar.

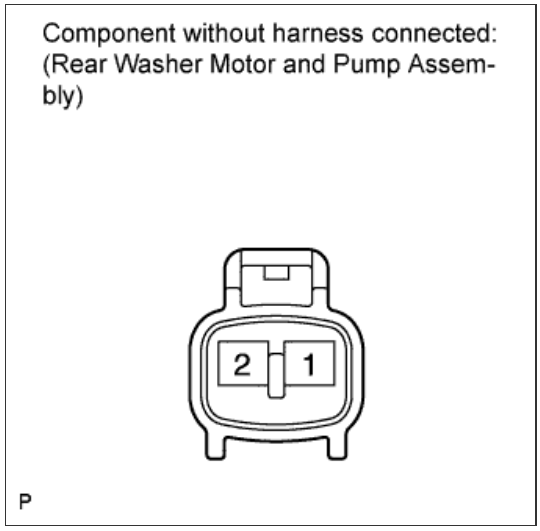
a. Fill the washer jar with washer fluid.

b. Apply battery voltage to the washer motor and check the operation of the washer motor and pump assembly.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 2	Washer motor and pump operation is normal

If the result is not as specified, replace the rear washer motor and pump assembly.



for Preparation Click here

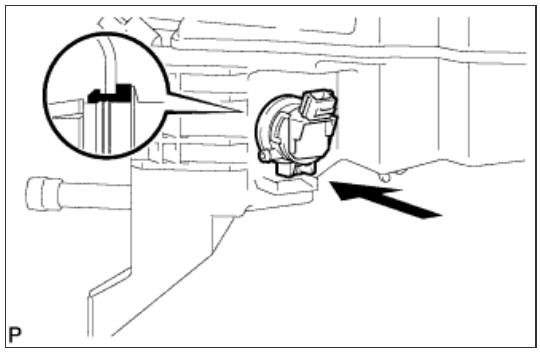
1. INSTALL REAR WASHER MOTOR AND PUMP ASSEMBLY

a. Install the washer motor together with the gasket in the direction shown in the illustration.

HINT:

Make sure the gasket is positioned as shown in the illustration.

b. Connect the connector.

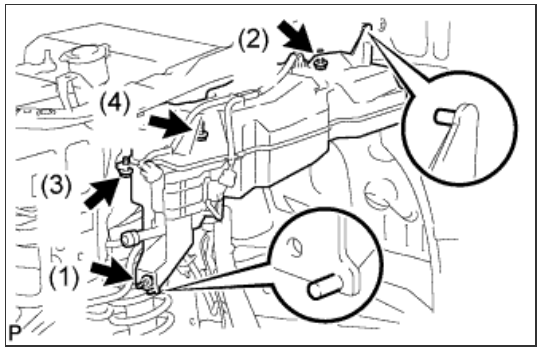


2. INSTALL WINDSHIELD WASHER JAR ASSEMBLY

a. Temporarily install the windshield washer jar with the 4 bolts.

b. Tighten the 4 bolts in the order shown in the illustration to install the windshield washer jar.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }



c. w/ Headlight Cleaner System:

i. Connect the 2 connectors.

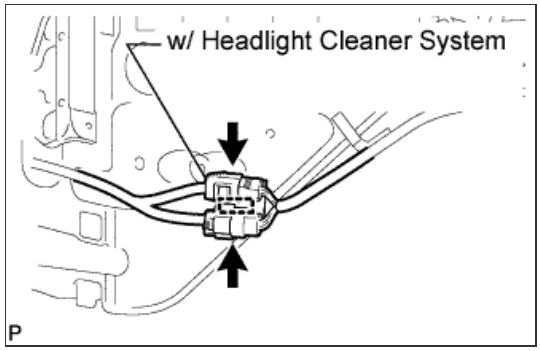
ii. Attach the clamp.

iii. Connect the headlight cleaner hose to the headlight cleaner motor and pump.

d. w/o Headlight Cleaner System:

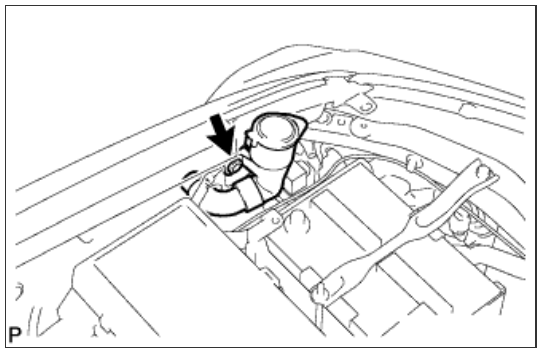
i. Connect the connector.

ii. Attach the clamp.



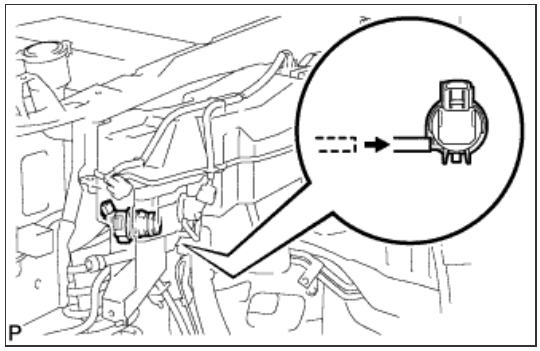
3. INSTALL WASHER INLET SUB-ASSEMBLY

a. Install the washer inlet with the clip.



4. FILL WINDSHIELD WASHER JAR AND PUMP ASSEMBLY WITH WASHER FLUID

a. Connect the washer hose to the windshield washer motor and pump, and fill the washer jar with washer fluid.

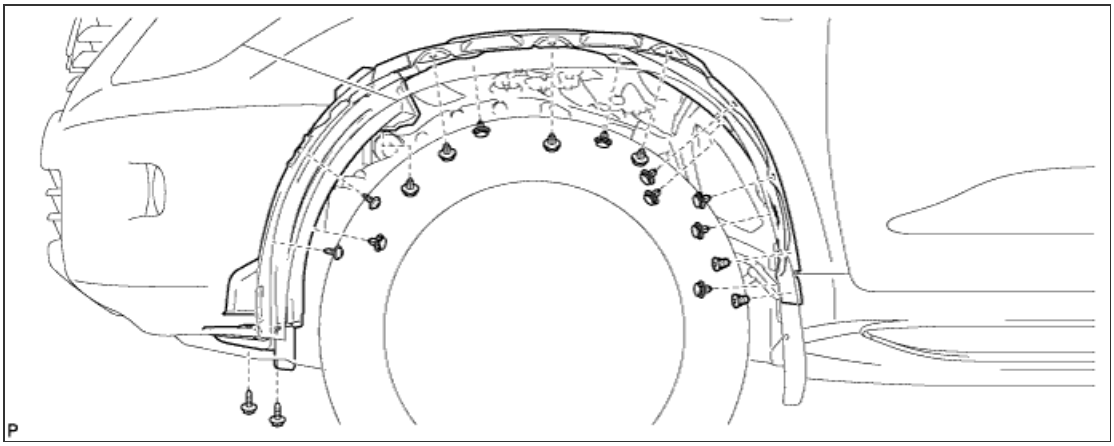


5. INSTALL FRONT FENDER LINER LH

a. Install the fender liner with the 12 clips and 2 new grommets.

b. Using a T30 "TORX" socket, install the 2 screws.

c. Install the 2 screws.



6. INSTALL SIDE STEP ASSEMBLY

a. Clean the vehicle body 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.

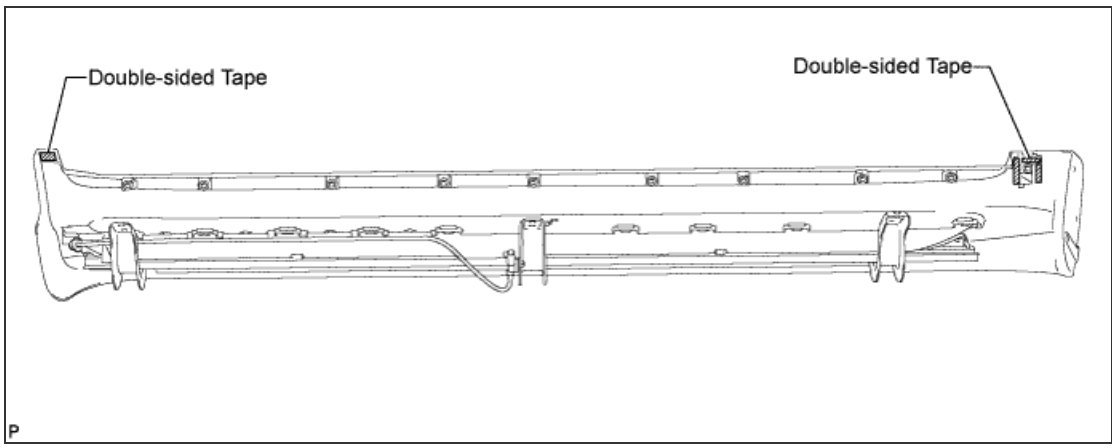
b. If reusing the side step:
Clean the side step.

i. Using a heat light, heat the side step.

ii. Remove the double-sided tape from the side step.

iii. Wipe off any tape adhesive residue with cleaner.

iv. Apply new double-sided tape to the side step, as shown in the illustration.



c. Install the side step.

i. Using a heat light, heat the vehicle body and side step.

ii. Remove the peeling paper from the face of the side step.

HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

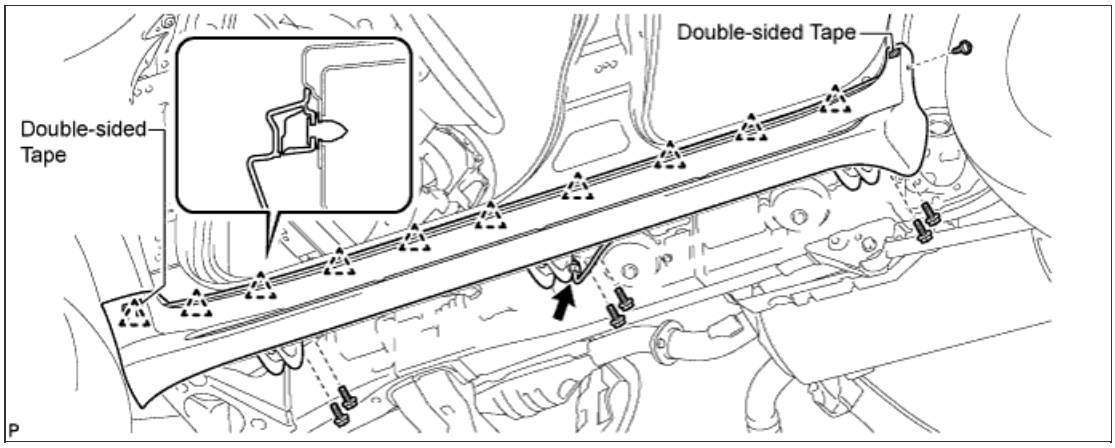
iii. Attach the 10 clips to install the side step.

iv. Install the 6 bolts.

Torque:
30 N*m{ 306 kgf*cm , 22 ft.*lbf }

v. Install the screw.

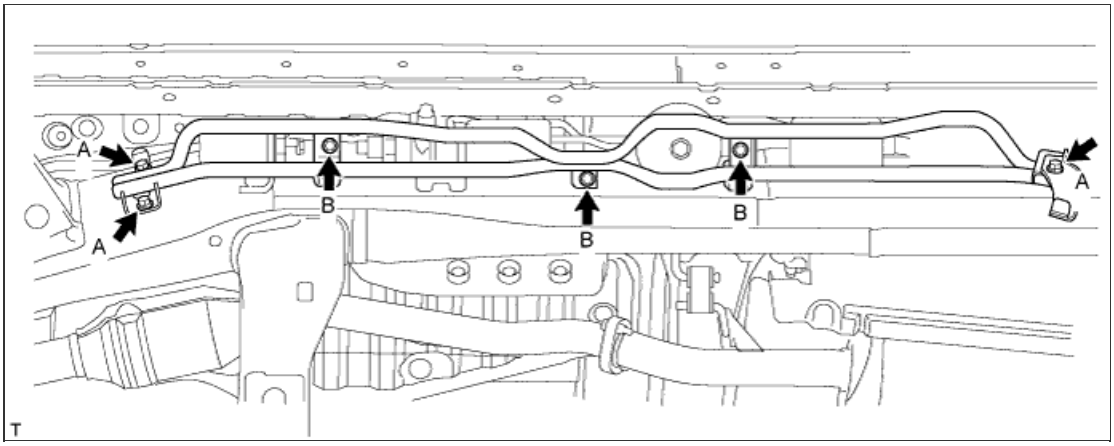
vi. Connect the connector.



7. INSTALL HEIGHT CONTROL PROTECTOR PIPE

a. Install the protector pipe with the 6 bolts.

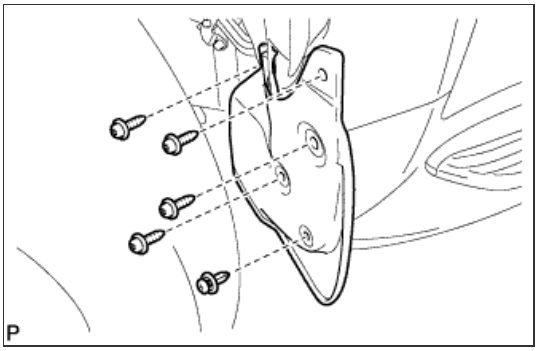
Torque:
for bolt A:
31 N*m{ 316 kgf*cm , 23 ft.*lbf }
for bolt B:
16 N*m{ 163 kgf*cm , 12 ft.*lbf }



8. INSTALL FRONT FENDER MUDGUARD LH

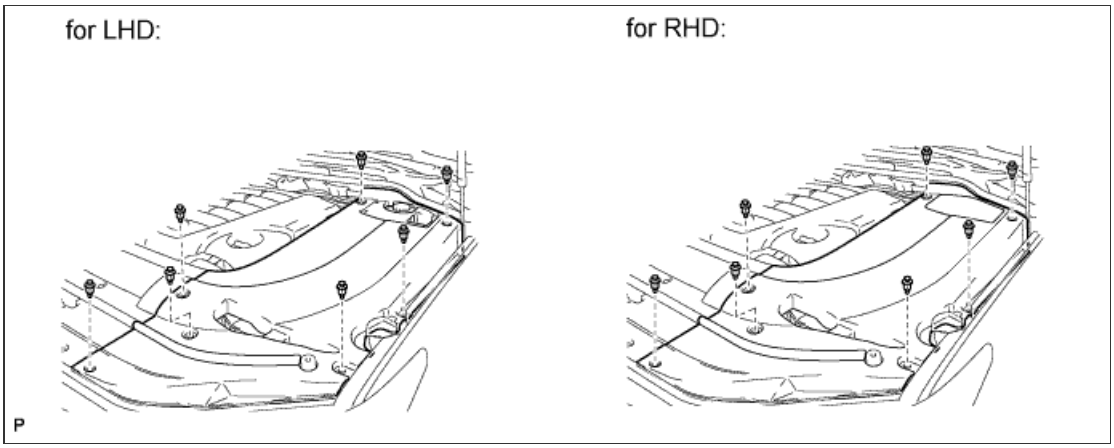
a. Install the mudguard with the clip.

b. Using a T30 "TORX" socket, install the 4 screws.

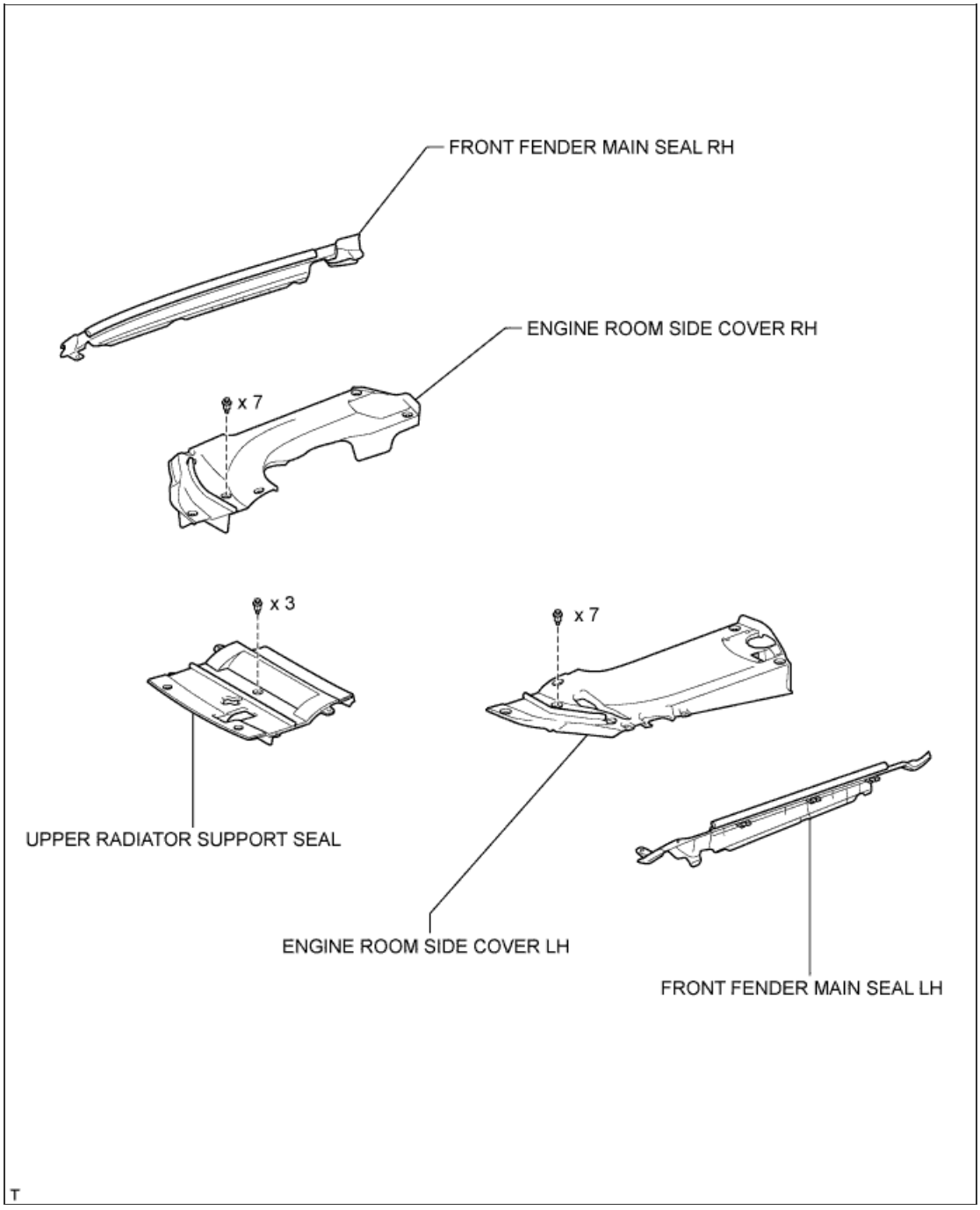


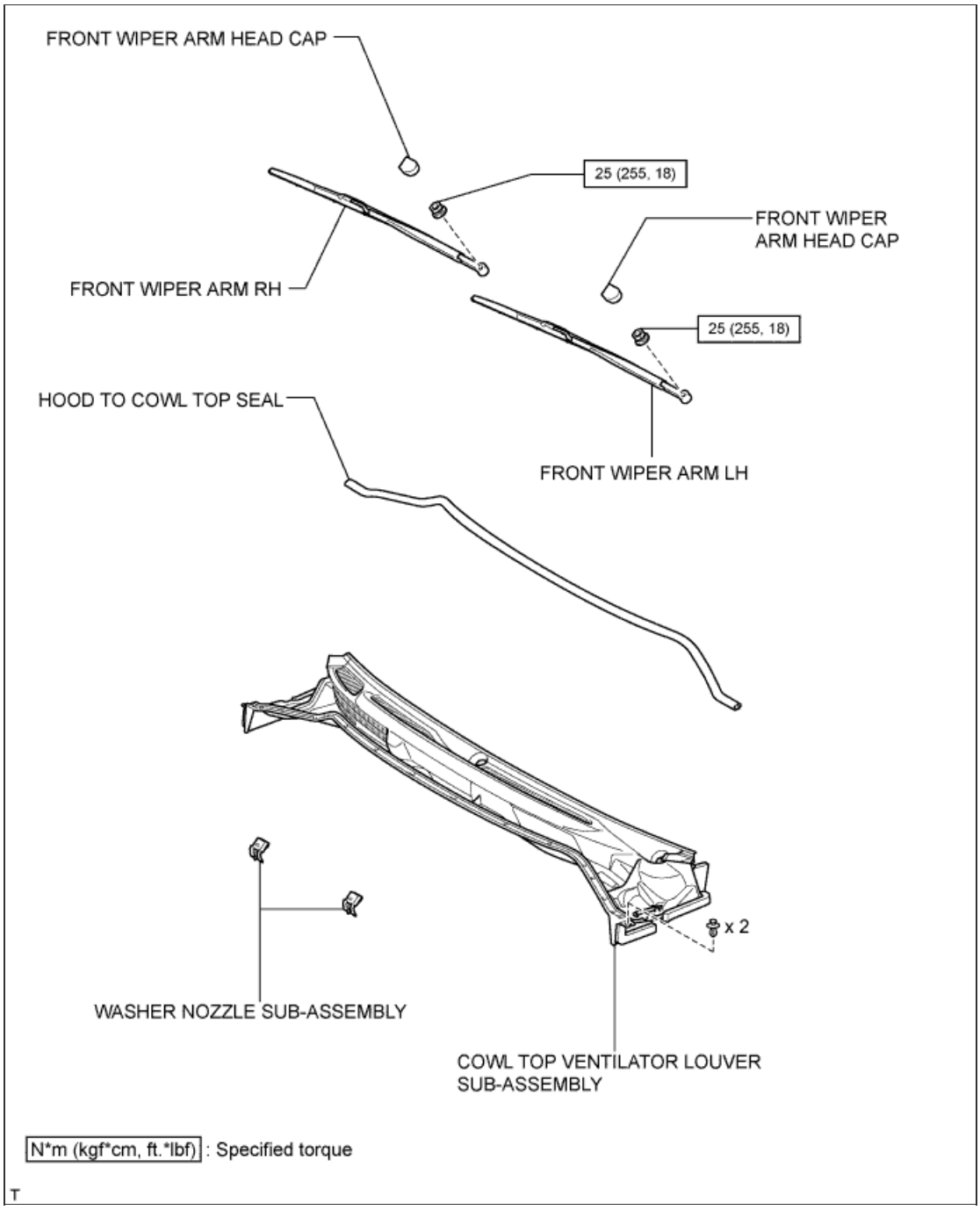
9. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



for Preparation [Click here]




FRONT WIPER ARM HEAD CAP
25 (255, 18)
FRONT WIPER ARM HEAD CAP
FRONT WIPER ARM RH
25 (255, 18)
HOOD TO COWL TOP SEAL
FRONT WIPER ARM LH
x 2
WASHER NOZZLE SUB-ASSEMBLY
COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
T

for Preparation Click here

HINT:

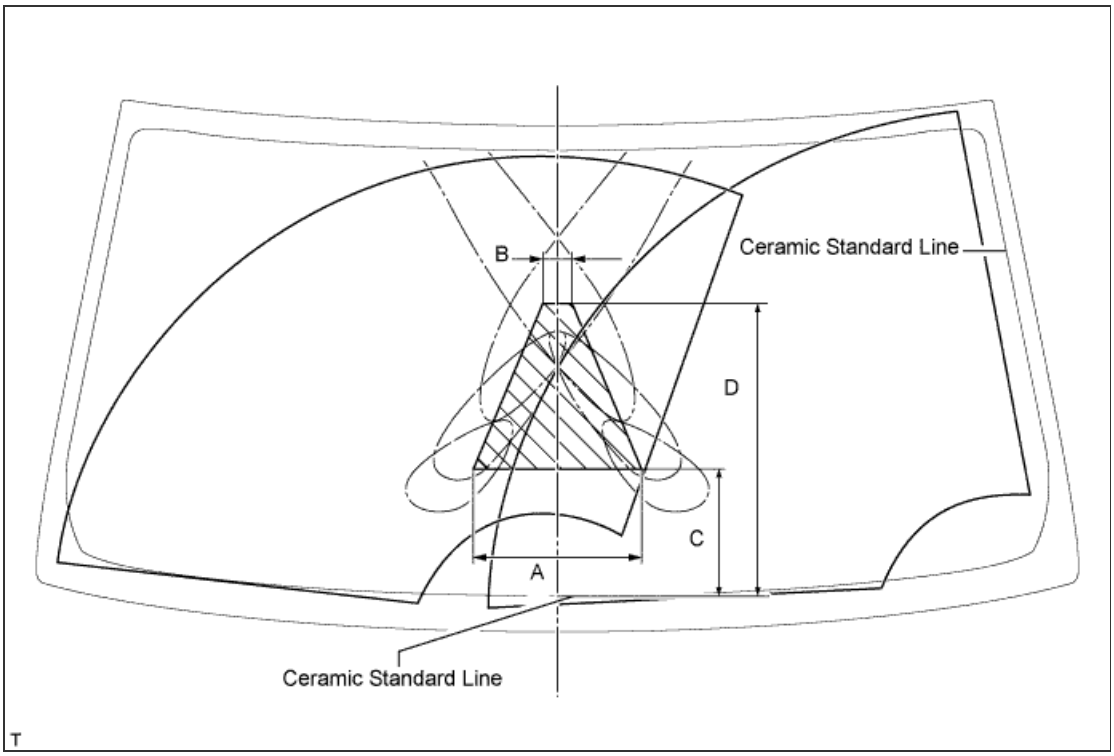
- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. INSPECT WASHER NOZZLE SUB-ASSEMBLY

a. With the engine running, check that the center stream of washer fluid sprays on the windshield within the hatched area shown in the illustration.

OK:
Washer fluid hits the windshield in the area shown in the illustration.

If the result is not as specified, replace the washer nozzle.



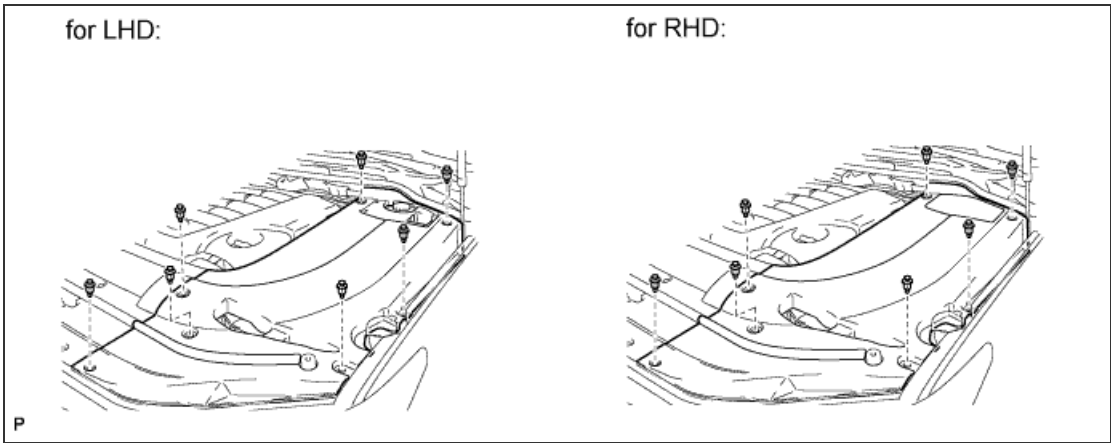
Standard:

Area	Specified Condition
A	253.2 mm (9.97 in.)
B	41.4 mm (1.63 in.)
C	192.9 mm (7.59 in.)
D	444.0 mm (17.48 in.)

for Preparation Click here

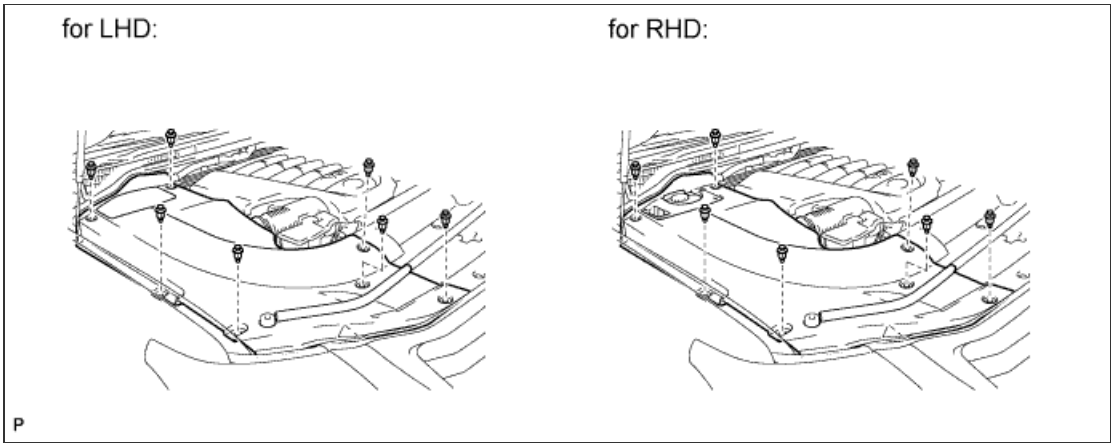
1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



2. REMOVE ENGINE ROOM SIDE COVER RH

a. Remove the 7 clips and engine room side cover.



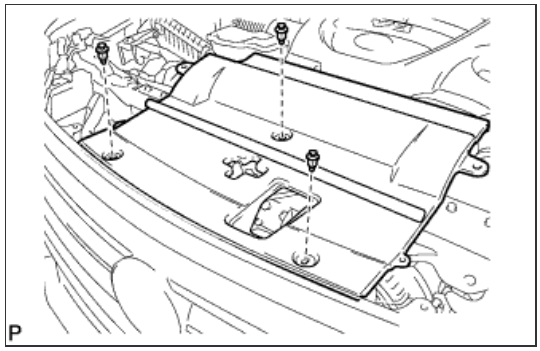
3. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

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

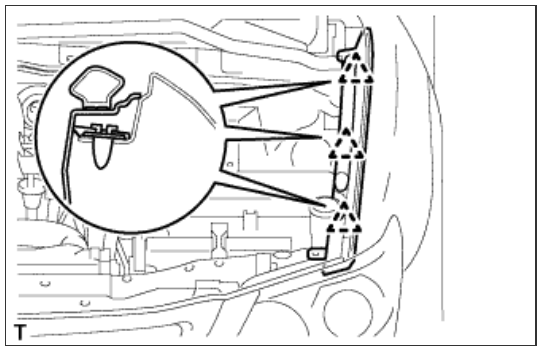
4. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 3 clips and upper radiator support seal.



5. REMOVE FRONT FENDER MAIN SEAL LH

a. Using a clip remover, detach the 3 clips and remove the fender main seal.



6. REMOVE FRONT FENDER MAIN SEAL RH

HINT:

Use the same procedures described for the LH side.

7. REMOVE FRONT WIPER ARM LH

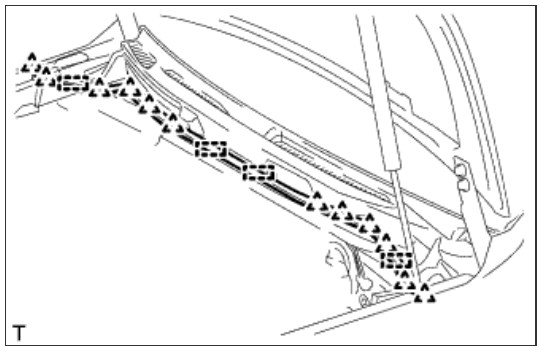
a. Remove the nut, wiper arm and blade.

8. REMOVE FRONT WIPER ARM RH

a. Remove the nut, wiper arm and blade.

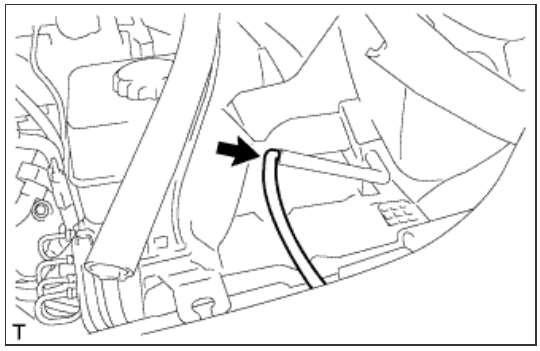
9. REMOVE HOOD TO COWL TOP SEAL

a. Using a clip remover, detach the 12 clips and 4 clamps, and remove the hood to cowl top seal.



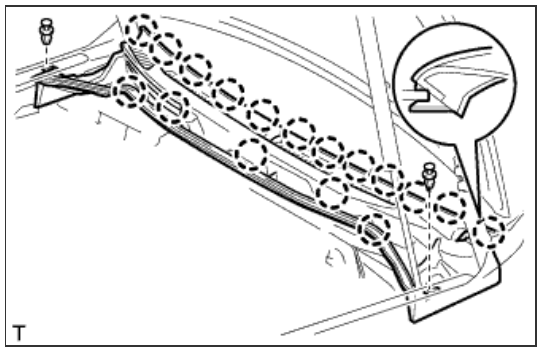
10. REMOVE COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY

a. Disconnect the washer hose.



b. Remove the 2 clips.

c. Detach the 17 claws and remove the cowl top ventilator louver sub-assembly.



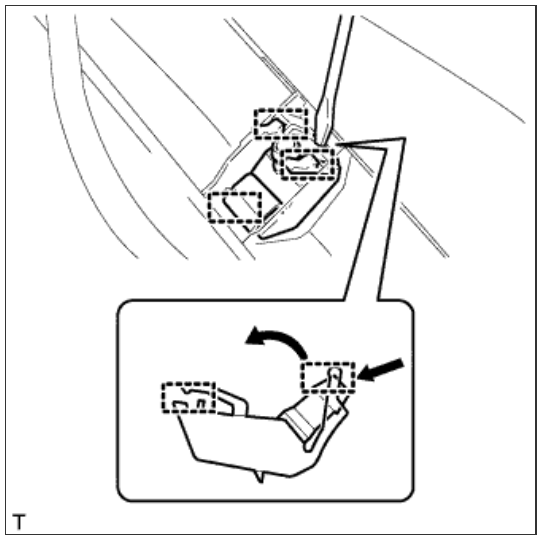
11. REMOVE WASHER NOZZLE SUB-ASSEMBLY

HINT:

Use the same procedures to remove the other washer nozzle.

a. Detach the 3 claws and remove the washer nozzle.

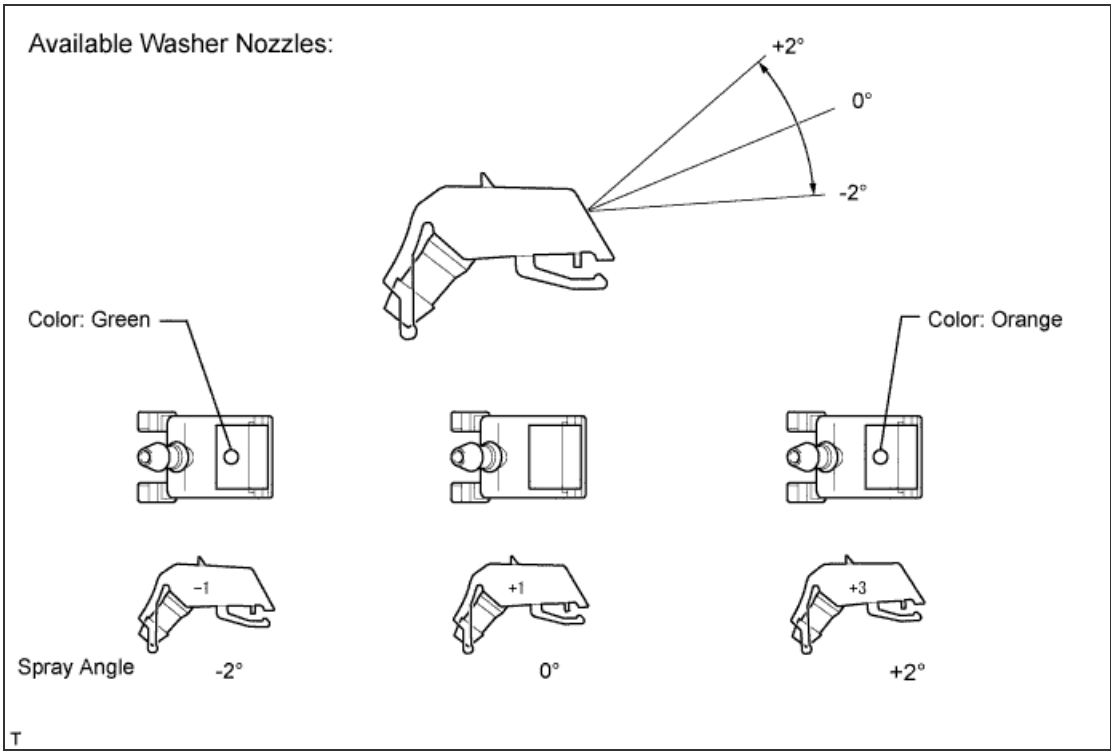
b. Disconnect the hose.


T

for Preparation Click here

1. ADJUST WASHER NOZZLE SUB-ASSEMBLY

a. Select a washer nozzle so that the contact area is within the standard area. Replace the washer nozzle with the selected one.



for Preparation Click here

HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

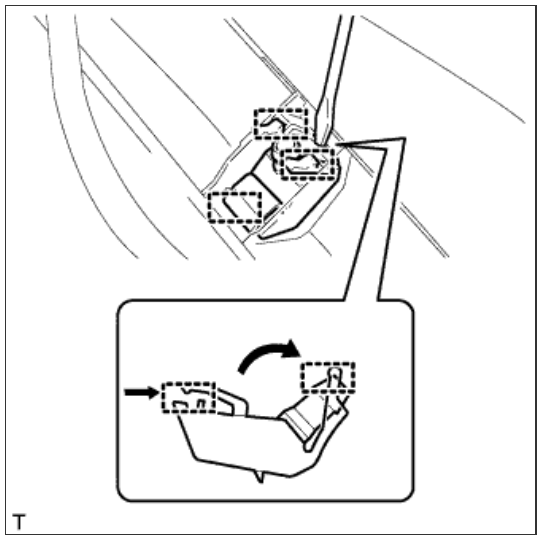
1. INSTALL WASHER NOZZLE SUB-ASSEMBLY

HINT:

Use the same procedures to install the other washer nozzle

a. Attach the 3 clamps to install the washer nozzle.

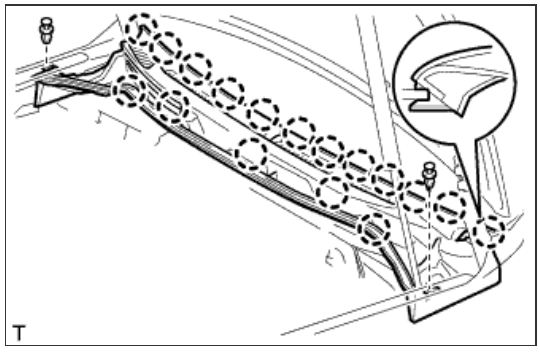
b. Connect the hose.



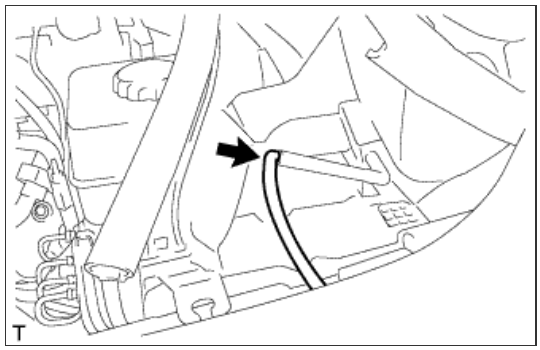
2. INSTALL COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY

a. Push in the ventilator louver to attach the 17 claws and install the ventilator louver.

b. Install the 2 clips.

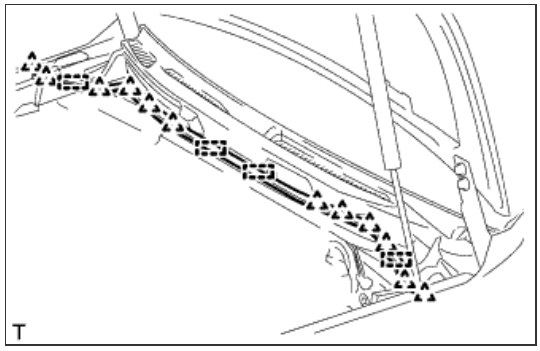


c. Connect the washer hose.



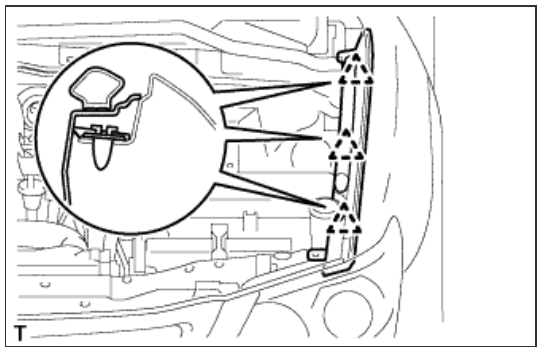
3. INSTALL HOOD TO COWL TOP SEAL

a. Attach the 12 clips and 4 clamps to install the hood to cowl top seal.



4. INSTALL FRONT FENDER MAIN SEAL LH

a. Attach the 3 clips to install the fender main seal.



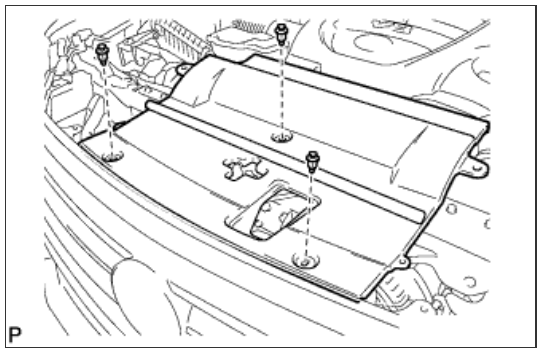
5. INSTALL FRONT FENDER MAIN SEAL RH

HINT:

Use the same procedures described for the LH side.

6. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the upper radiator support seal with the 3 clips.



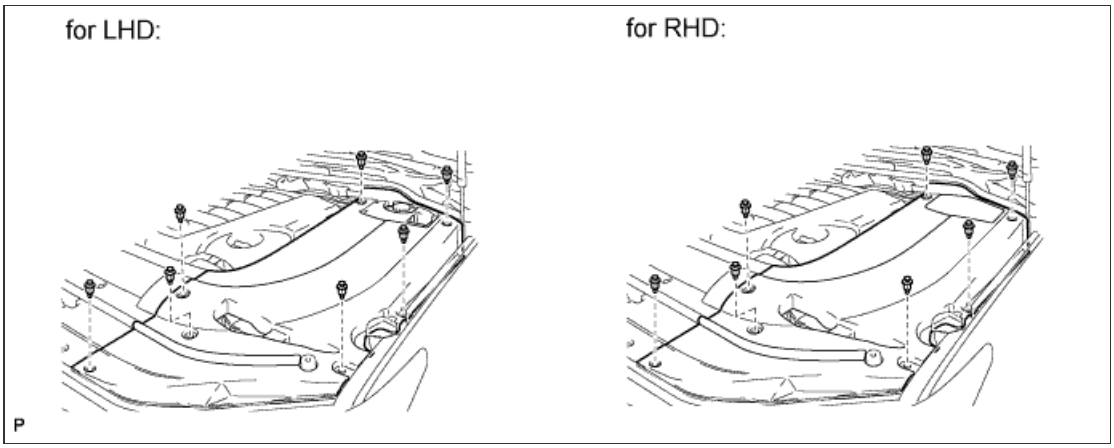
7. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

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

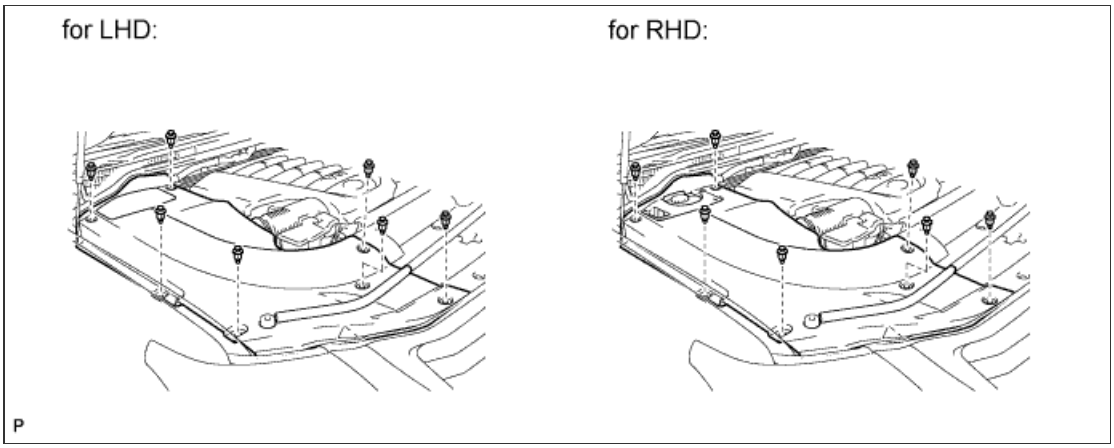
8. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



9. INSTALL ENGINE ROOM SIDE COVER RH

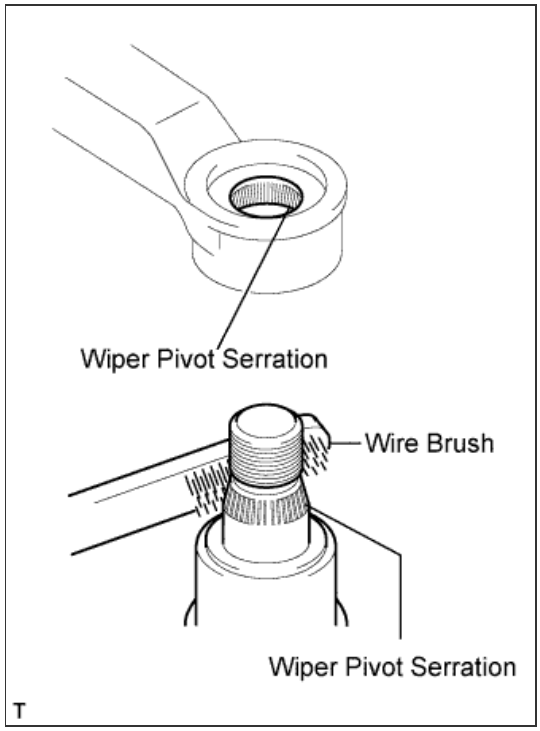
a. Install the engine room side cover with the 7 clips.



10. INSTALL FRONT WIPER ARM LH

a. Stop the wiper motor at the automatic stop position.

b. Clean the wiper pivot serrations with a wire brush.



c. Install the wiper arm and blade with the nut. Make sure that the wiper arm and blade come to the position shown in the illustration.

Standard:

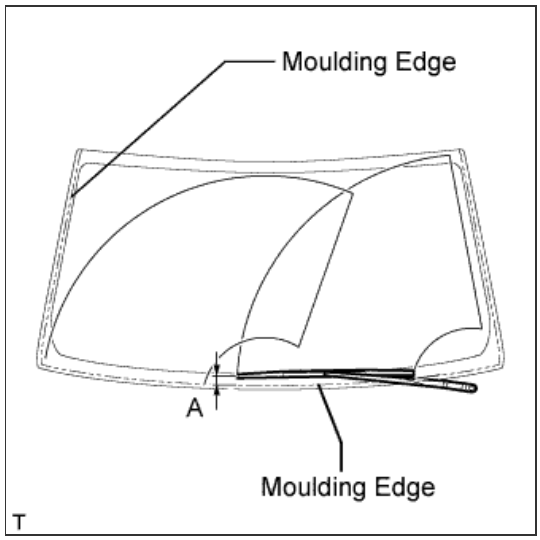
Position	Specified Condition
A	16.8 to 36.8 mm (0.661 to 1.45 in.)

Torque:

25 N*m{ 255 kgf*cm , 18 ft.*lbf }

HINT:

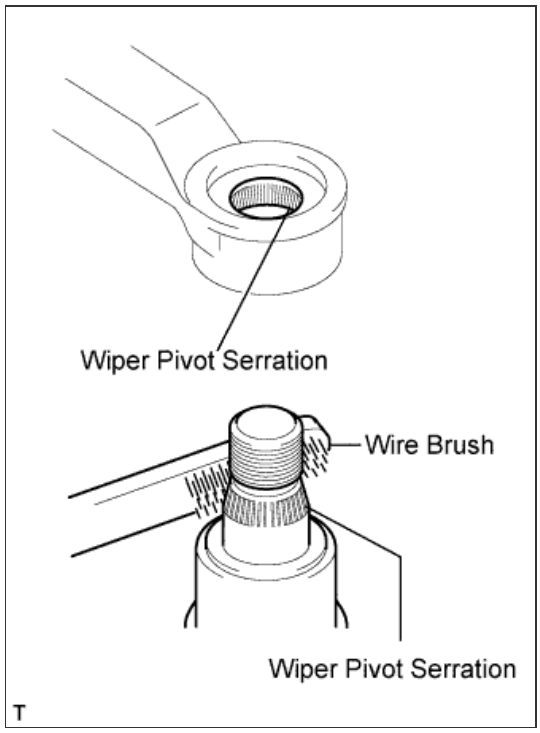
Hold down the wiper arm hinge with your hand while tightening the nut.



11. INSTALL FRONT WIPER ARM RH

a. Stop the wiper motor at the automatic stop position.

b. Clean the wiper pivot serrations with a wire brush.



c. Install the wiper arm and blade with the nut. Make sure that the wiper arm and blade come to the position shown in the illustration.

Standard:

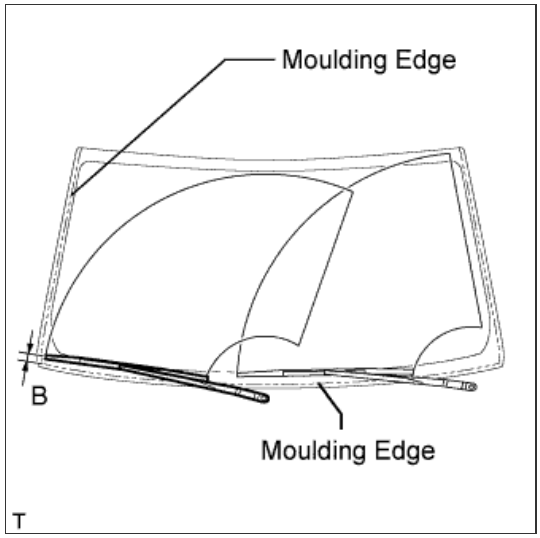
Position	Specified Condition
B	20.0 to 40.0 mm (0.787 to 1.57 in.)

Torque:

25 N*m{ 255 kgf*cm , 18 ft.*lbf }

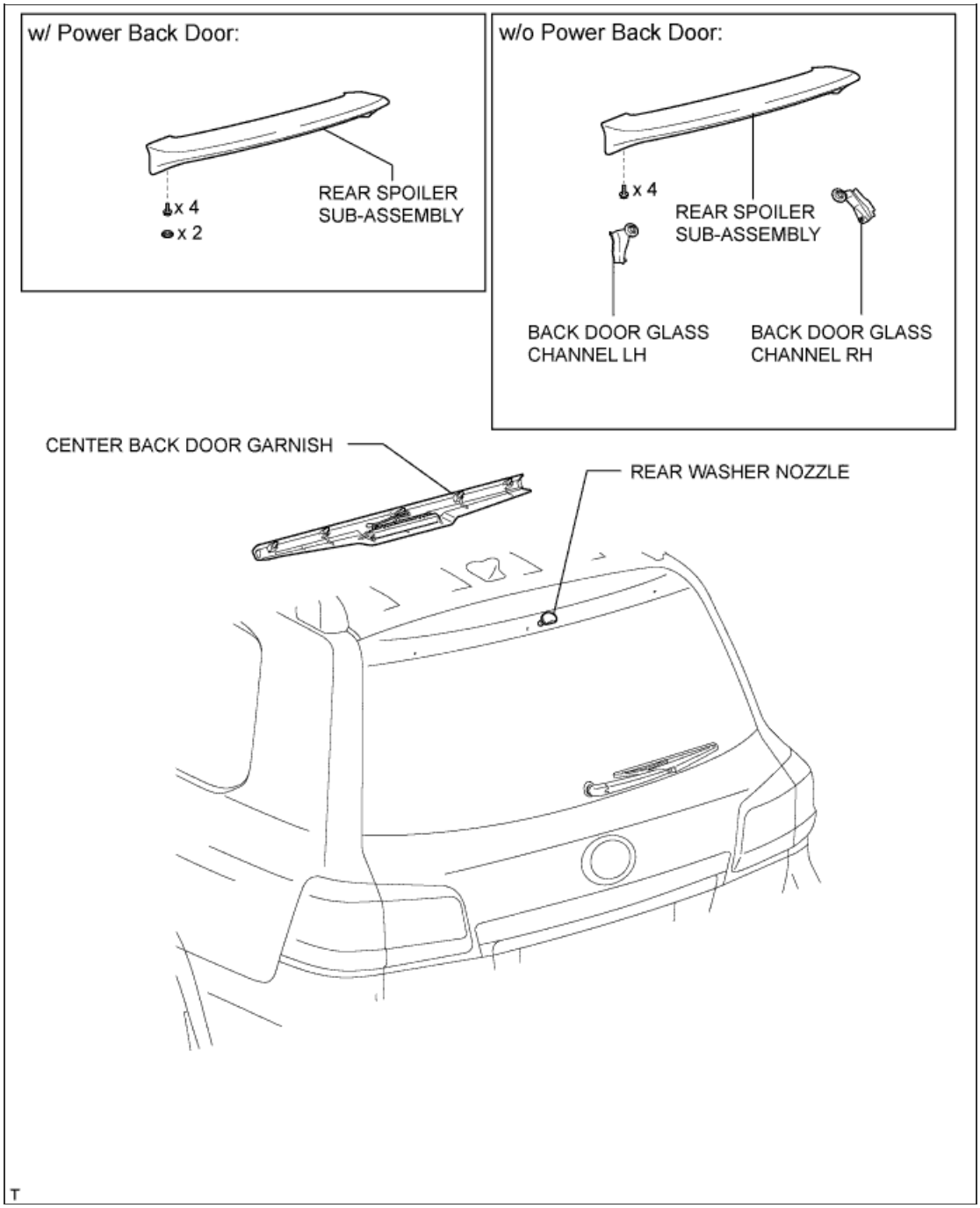
HINT:

Hold down the wiper arm hinge with your hand while tightening the nut.



d. Operate the front wipers while spraying washer fluid on the windshield glass. Make sure that the front wipers function properly and there is no interference with the vehicle body.

for Preparation Click here



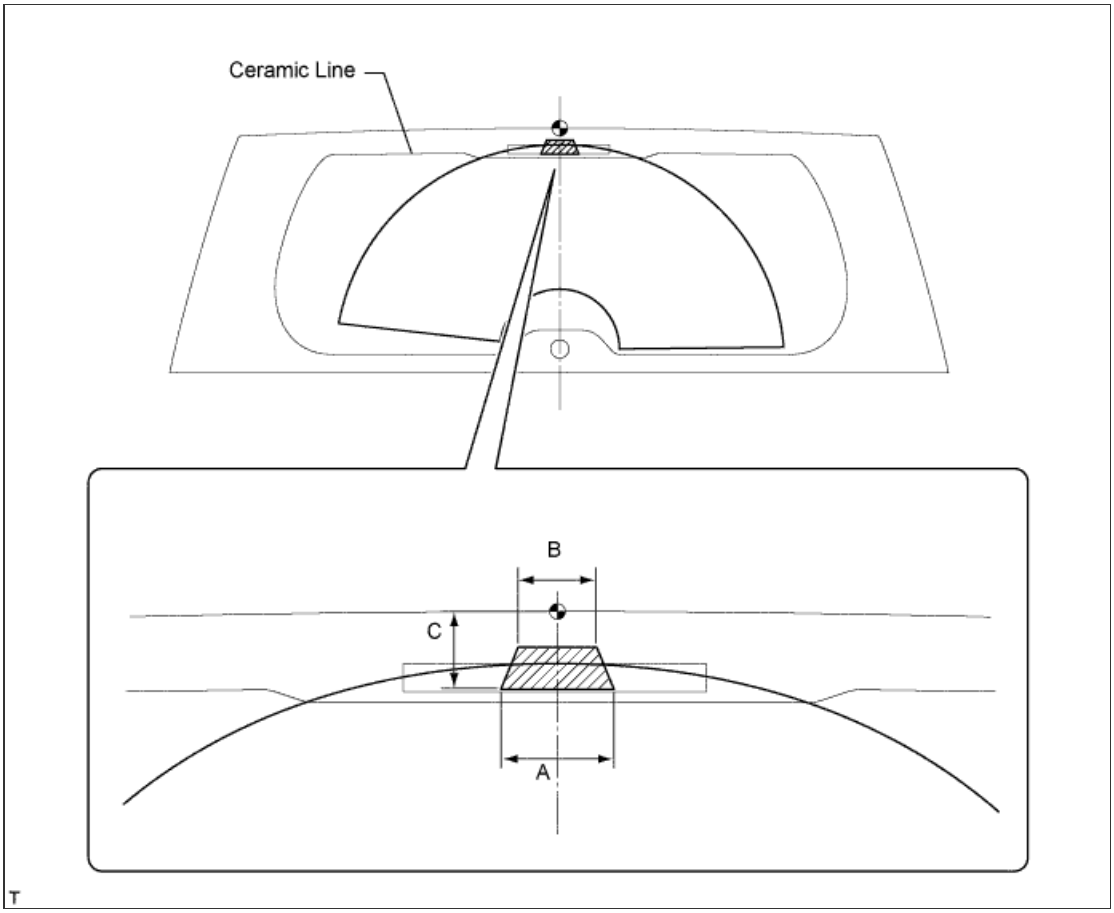
for Preparation Click here

1. INSPECT REAR WASHER NOZZLE

a. With the engine running, check that the center stream of washer fluid sprays on the windshield within the hatched area shown in the illustration.

Standard:
Washer fluid hits the windshield in the area shown in the illustration.

If the result is not as specified, replace the washer nozzle.



Standard:

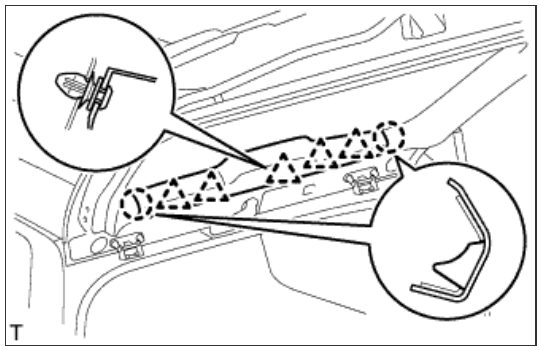
Area	Specified Condition
A	65.8 mm (2.59 in.)
B	40.5 mm (1.59 in.)
C	44.9 mm (1.77 in.)

If the result is not as specified, replace the rear washer nozzle.

for Preparation Click here

1. REMOVE CENTER BACK DOOR GARNISH

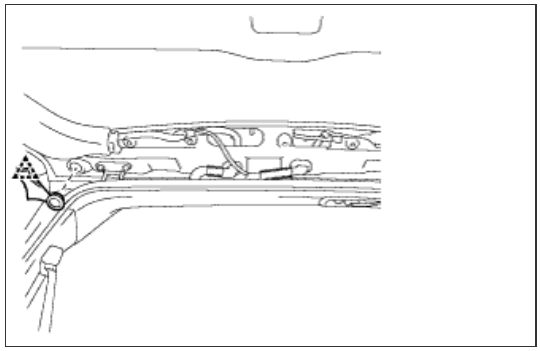
a. Detach the 5 clips and 2 claws, and remove the back door garnish.



2. REMOVE BACK DOOR GLASS CHANNEL LH (w/o Power Back Door)

a. Using a clip remover, remove the clip.

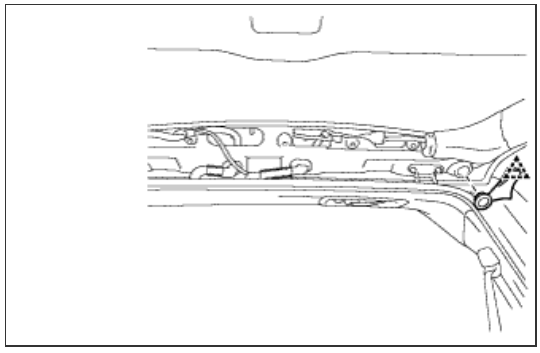
b. Remove the back door glass channel LH.



3. REMOVE BACK DOOR GLASS CHANNEL RH (w/o Power Back Door)

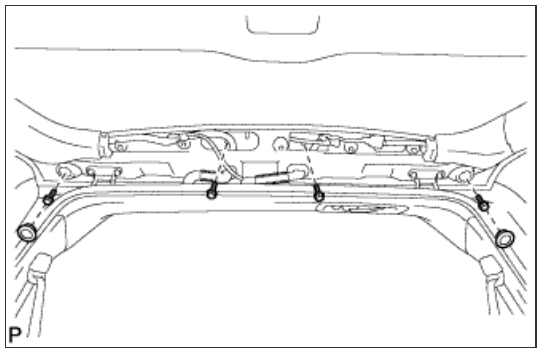
a. Using a clip remover, remove the clip.

b. Remove the back door glass channel RH.

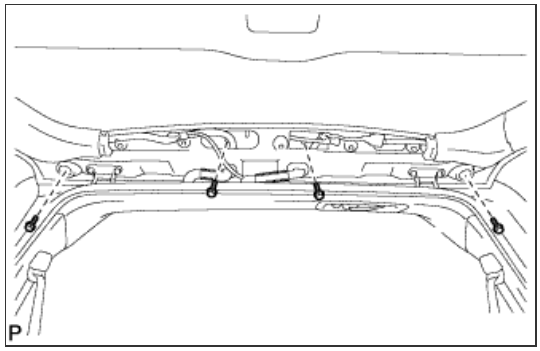


4. REMOVE REAR SPOILER SUB-ASSEMBLY

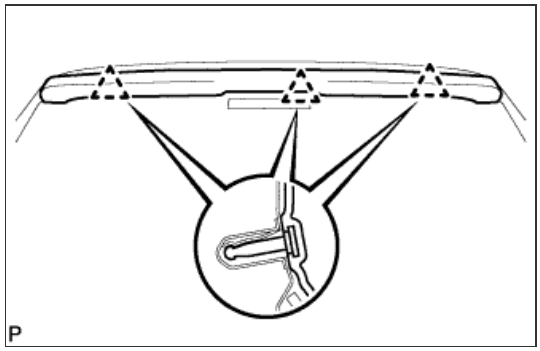
a. w/ Power Back Door:
Remove the 2 hole plugs and 4 bolts.



b. w/o Power Back Door:
Remove the 4 bolts.

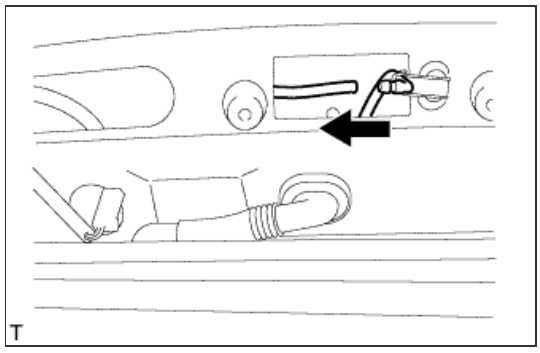


c. Detach the 3 clips and remove the rear spoiler.

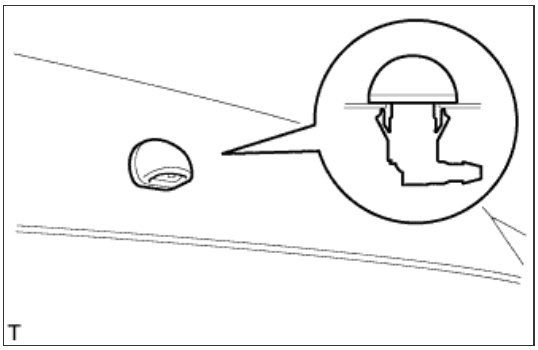


5. REMOVE REAR WASHER NOZZLE

a. Disconnect the washer hose.



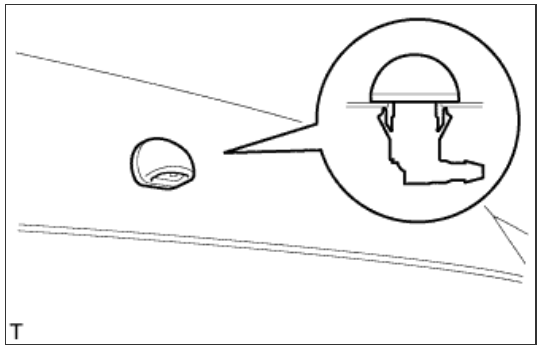
b. Detach the 2 claws and remove the rear washer nozzle.


T

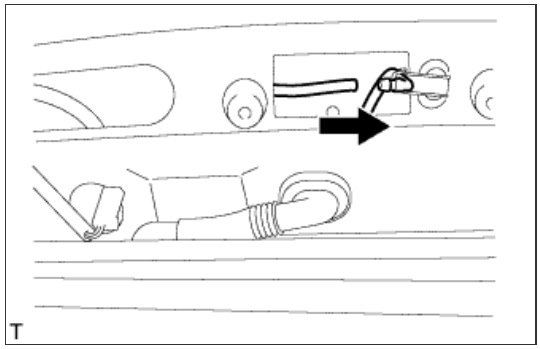
for Preparation Click here

1. INSTALL REAR WASHER NOZZLE

a. Attach the 2 claws to install the rear washer nozzle.

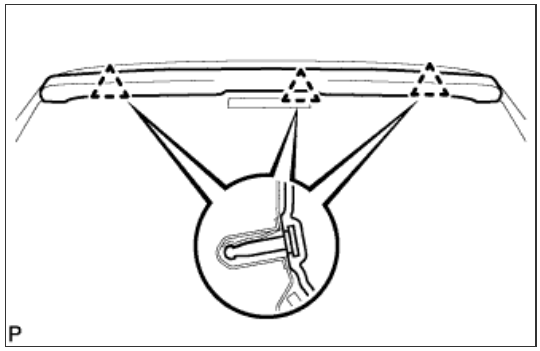


b. Connect the washer hose.

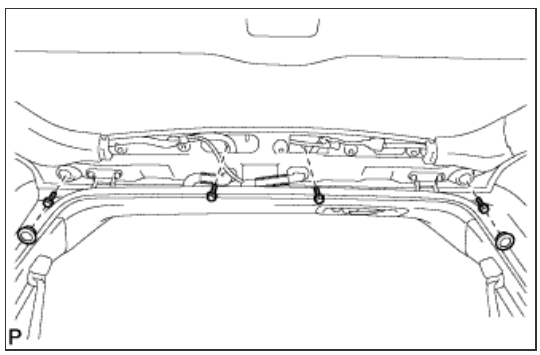


2. INSTALL REAR SPOILER SUB-ASSEMBLY

a. Attach the 3 clips to install the rear spoiler.

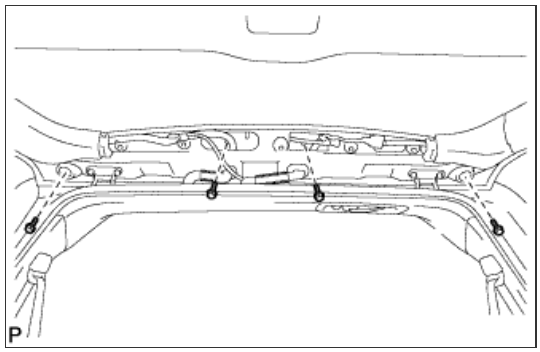


b. w/ Power Back Door:
Install the 4 bolts and 2 hole plugs.



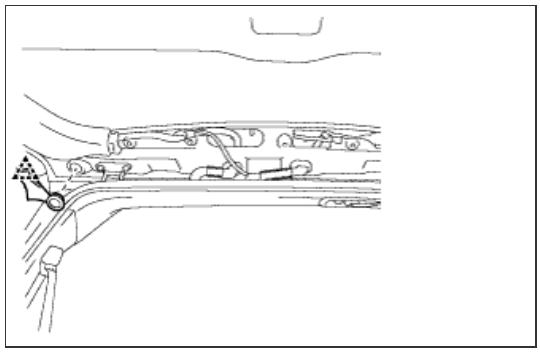
c. w/o Power Back Door:

c. w/o Power Back Door:
Install the 4 bolts.



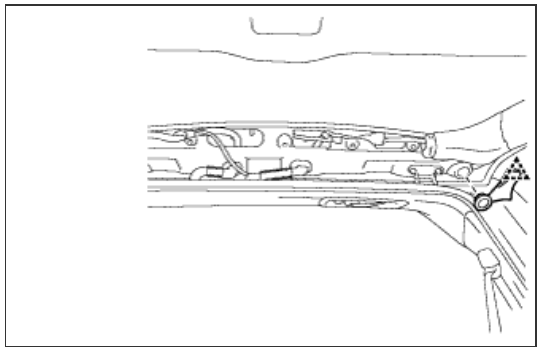
3. INSTALL BACK DOOR GLASS CHANNEL LH (w/o Power Back Door)

a. Attach the clip and install the back door glass channel.



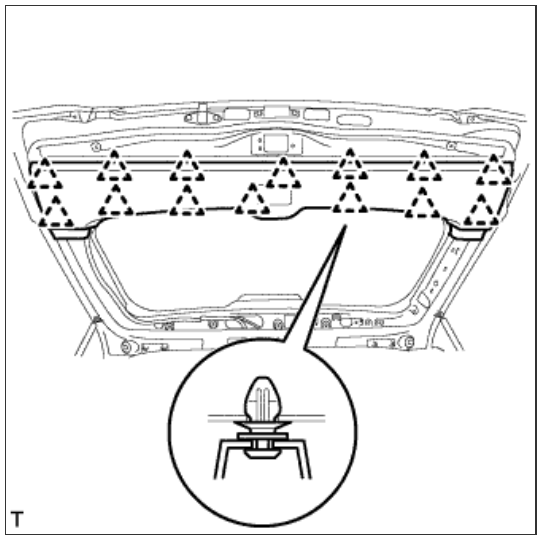
4. INSTALL BACK DOOR GLASS CHANNEL RH (w/o Power Back Door)

a. Attach the clip and install the back door glass channel.

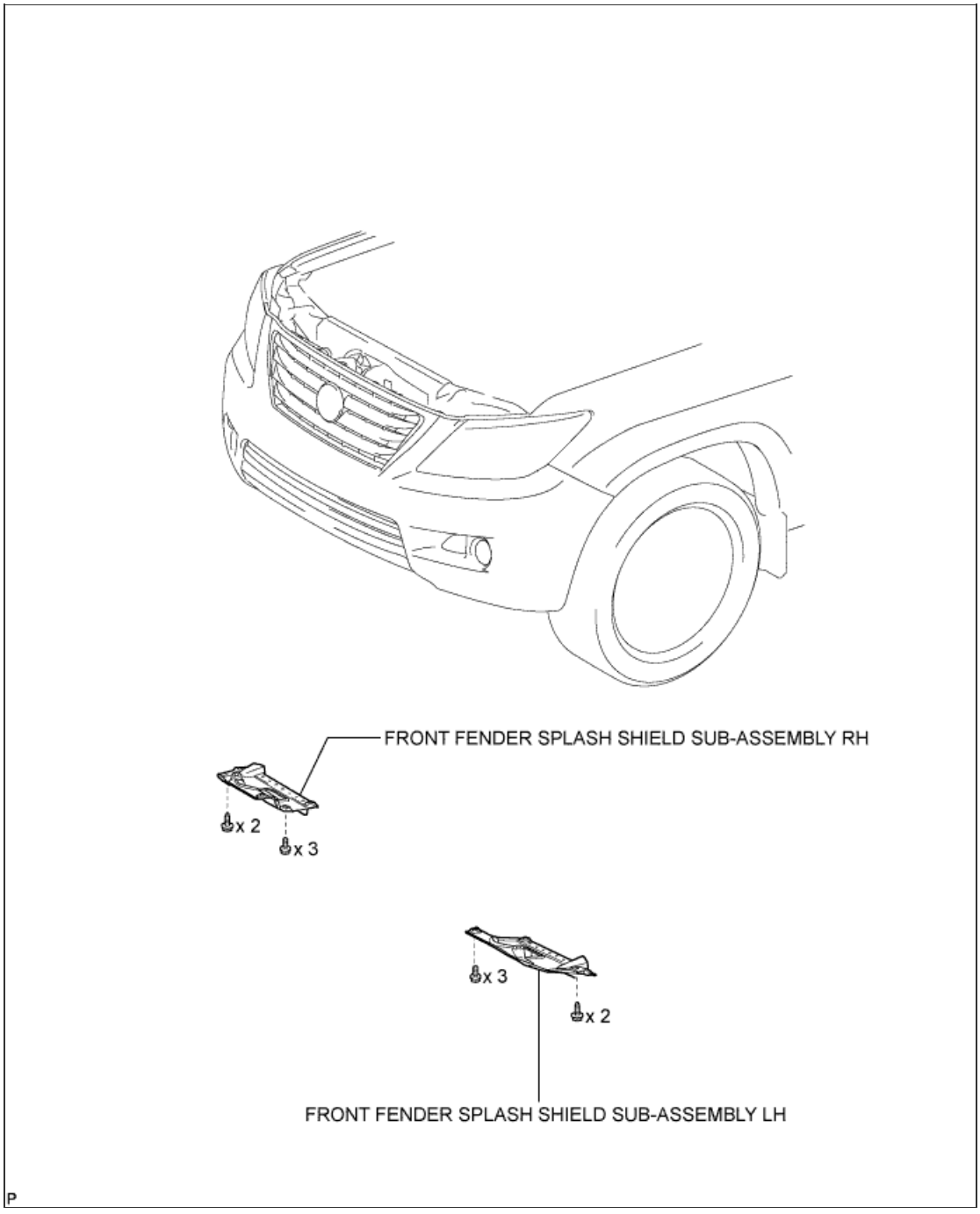


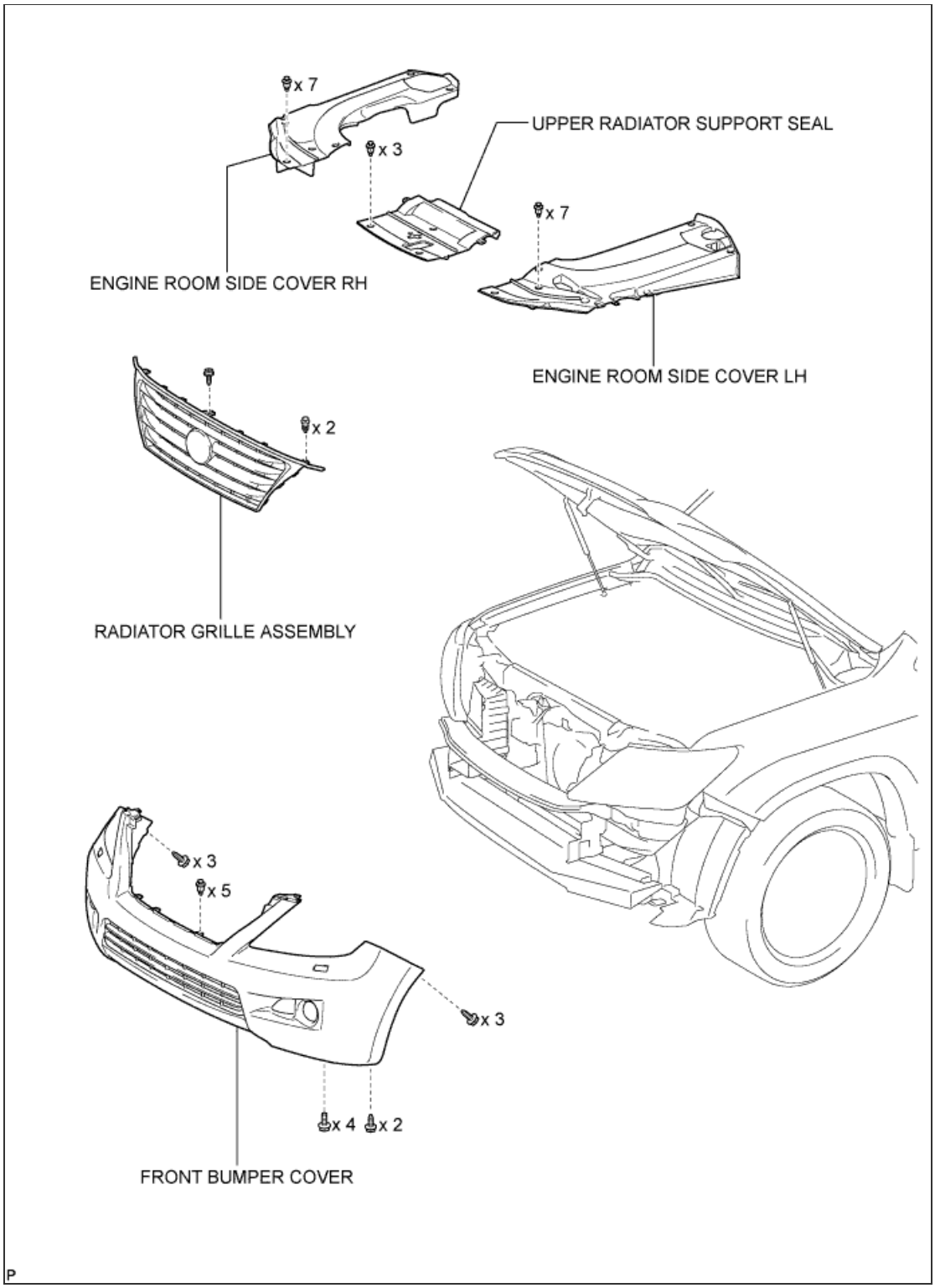
5. INSTALL CENTER BACK DOOR GARNISH

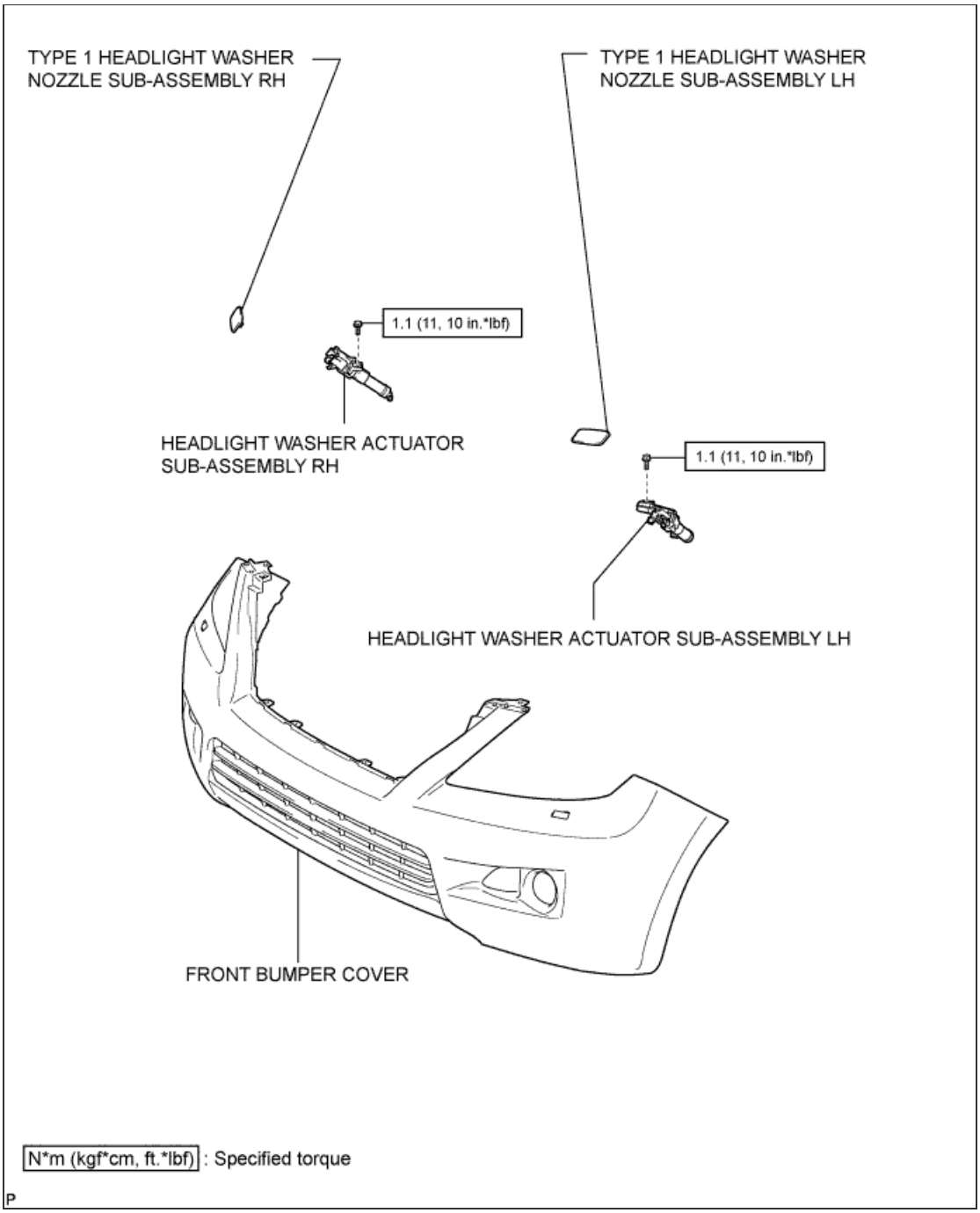
a. Attach the 14 clips to install the back door garnish.


T

for Preparation Click here




x 7
x 3
UPPER RADIATOR SUPPORT SEAL
ENGINE ROOM SIDE COVER RH
x 7
ENGINE ROOM SIDE COVER LH
x 2
RADIATOR GRILLE ASSEMBLY
x 3
x 5
x 3
x 4
x 2
FRONT BUMPER COVER
P


TYPE 1 HEADLIGHT WASHER NOZZLE SUB-ASSEMBLY RH
TYPE 1 HEADLIGHT WASHER NOZZLE SUB-ASSEMBLY LH
1.1 (11, 10 in.*lbf)
HEADLIGHT WASHER ACTUATOR SUB-ASSEMBLY RH
1.1 (11, 10 in.*lbf)
HEADLIGHT WASHER ACTUATOR SUB-ASSEMBLY LH
FRONT BUMPER COVER
N*m (kgf*cm, ft.*lbf) : Specified torque

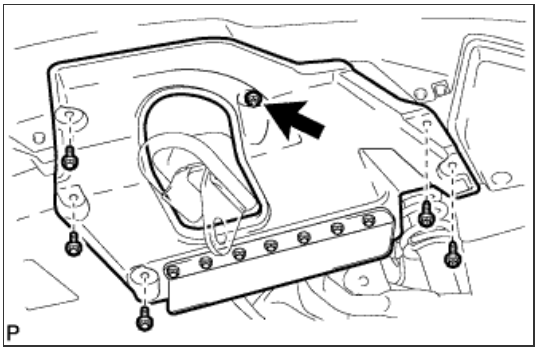
P

for Preparation Click here

1. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. Remove the 3 bolts and 2 screws.

b. Turn the clip indicated by the arrow in the illustration to remove the fender splash shield.



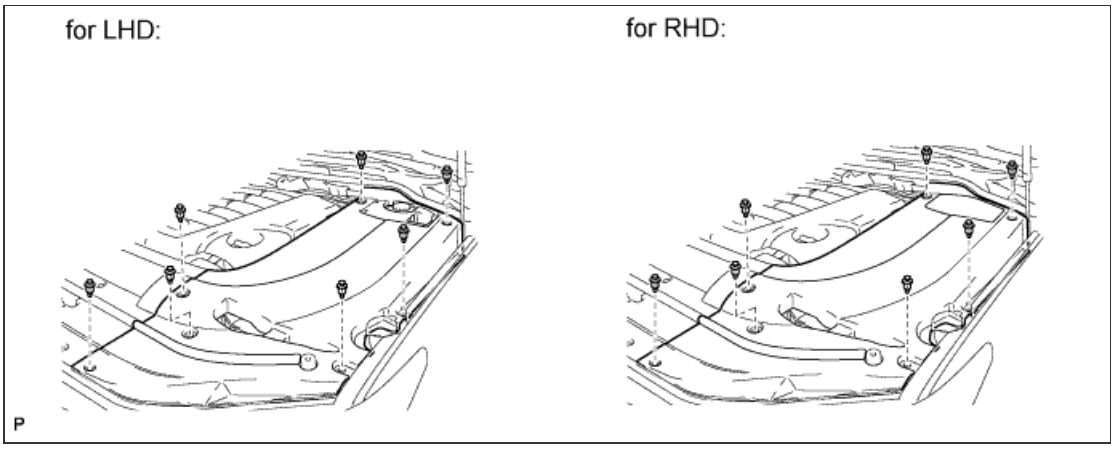
2. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

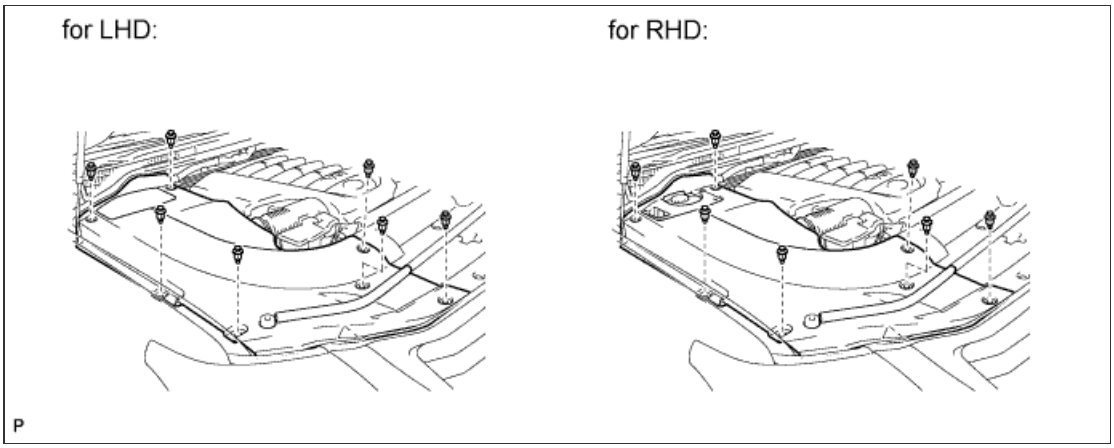
3. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



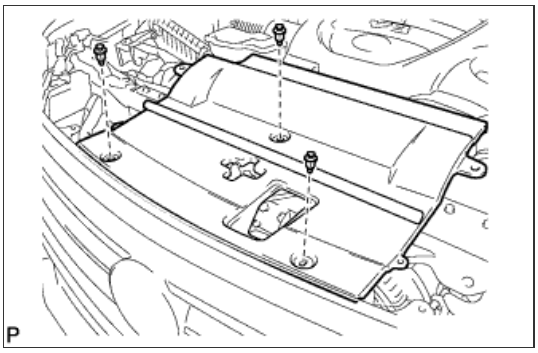
4. REMOVE ENGINE ROOM SIDE COVER RH

a. Remove the 7 clips and engine room side cover.



5. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 3 clips and upper radiator support seal.



6. REMOVE RADIATOR GRILLE

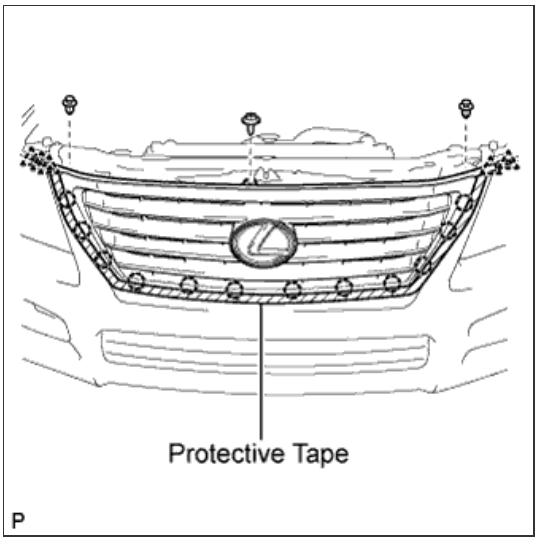
a. Put protective tape around the radiator grille.

b. Remove the screw and 2 clips.

c. Detach the 5 clips and partially remove the upper radiator seal.

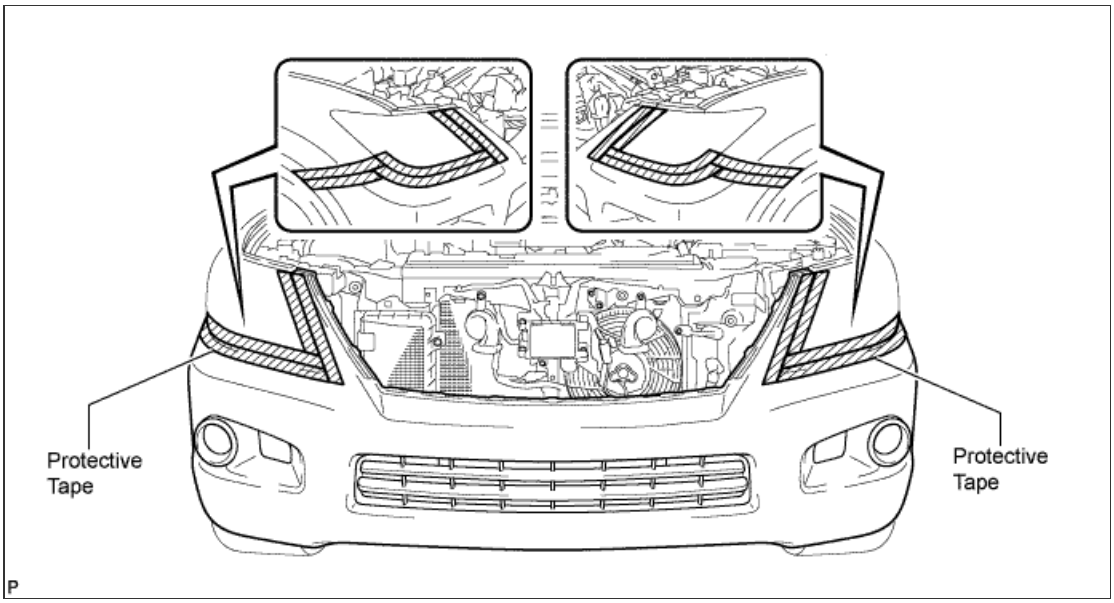
d. w/o Wide View Front Monitor System:
Detach the 12 claws and remove the radiator grille.

e. w/ Wide View Front Monitor System:
Detach the 12 claws, disconnect the connector and remove the radiator grille.

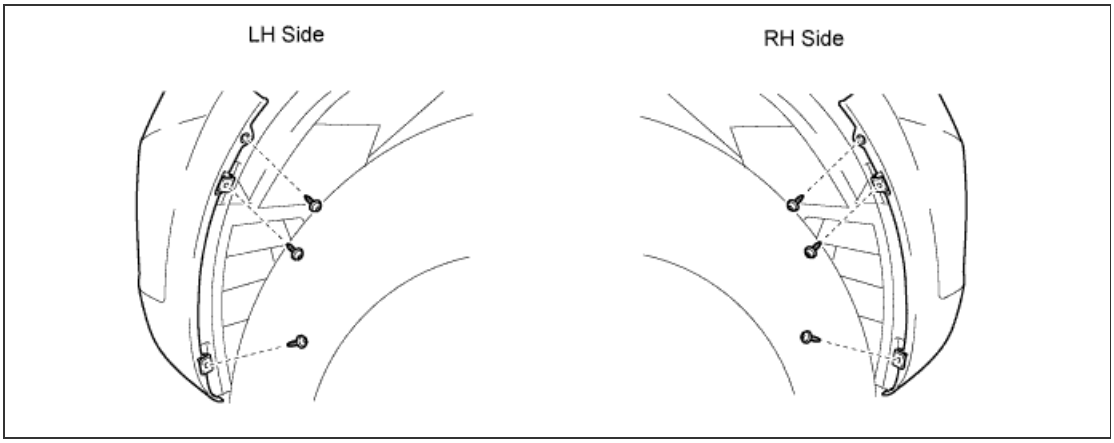


7. REMOVE FRONT BUMPER COVER

a. Put protective tape around the bumper cover.

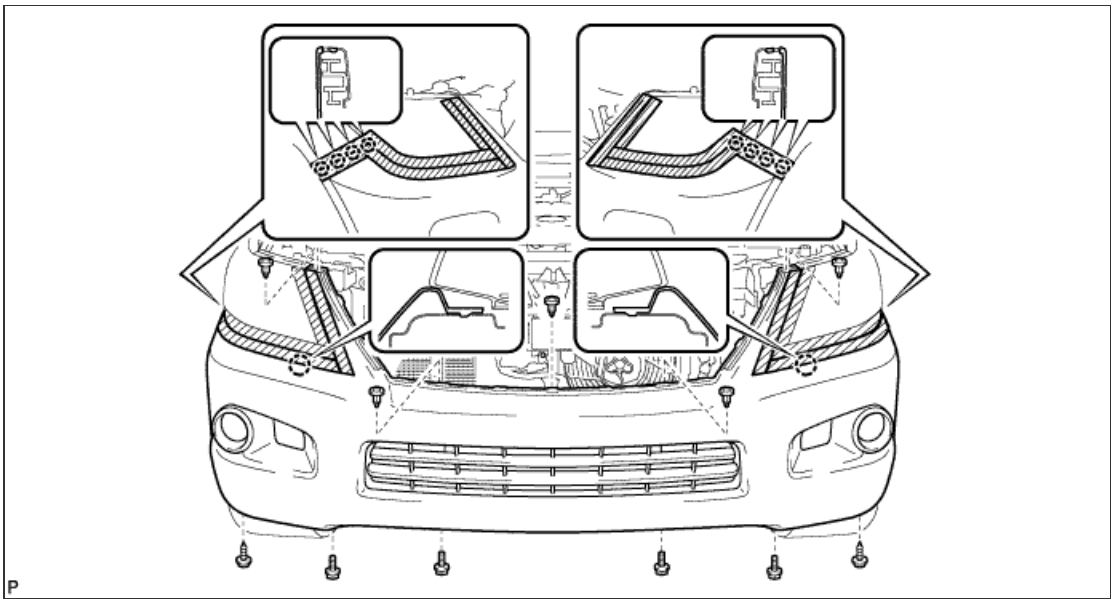


b. Using a T30 "TORX" socket, remove the 6 screws.

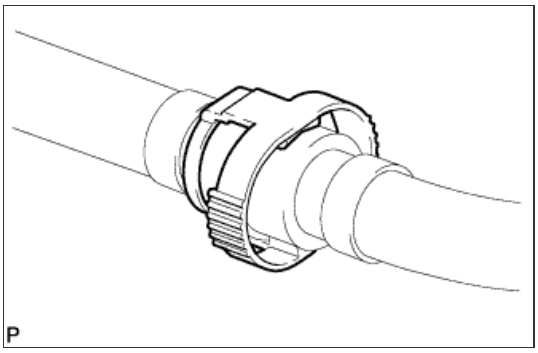


c. Remove the 5 clips, 2 screws and 4 bolts.

d. Detach the 10 claws, disconnect the No. 4 engine room wire connector and remove the bumper cover.

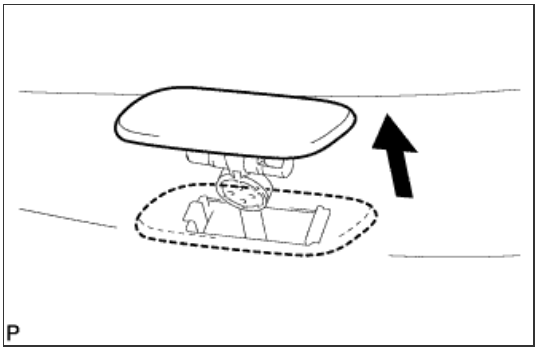


e. w/ Headlight Cleaner System:
Disconnect the headlight cleaner hose and remove the bumper cover.

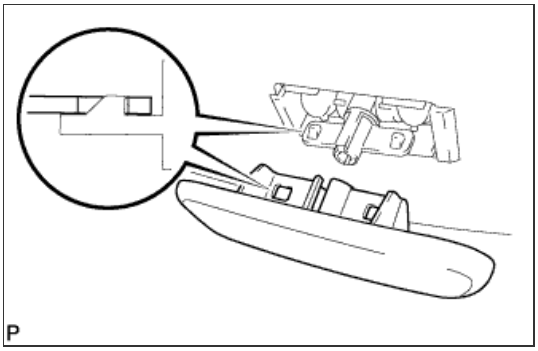


8. REMOVE TYPE 1 HEADLIGHT WASHER NOZZLE SUB-ASSEMBLY LH

a. Extend the headlight washer nozzle.



b. Detach the 2 claws and remove the washer nozzle.



9. REMOVE TYPE 1 HEADLIGHT WASHER NOZZLE SUB-ASSEMBLY RH

HINT:

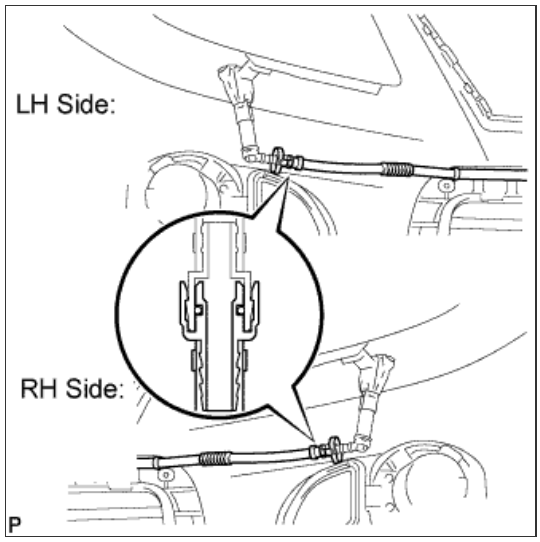
Use the same procedures described for the LH side.

10. REMOVE HEADLIGHT WASHER ACTUATOR SUB-ASSEMBLY LH

HINT:

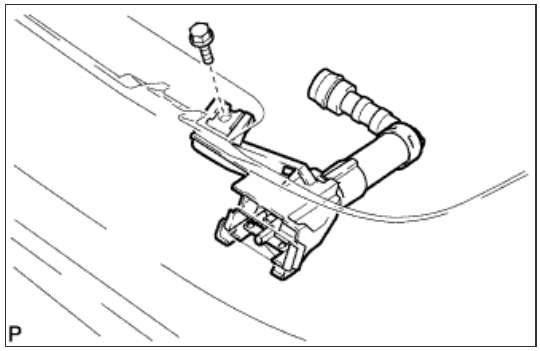
Use the same procedures for the RH side and LH side.

a. Disconnect the headlight washer hose.



b. Remove the bolt.

c. Detach the 2 claws and remove the headlight washer actuator sub-assembly.



for Preparation Click here

1. INSTALL HEADLIGHT WASHER ACTUATOR SUB-ASSEMBLY LH

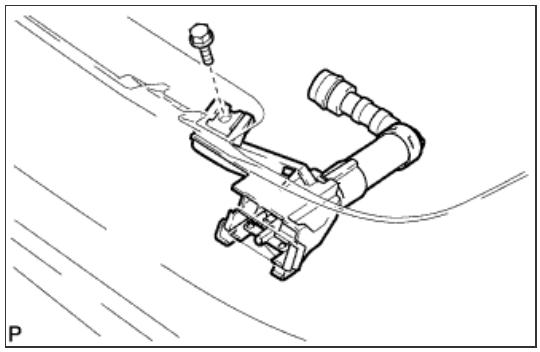
HINT:

Use the same procedures for the RH side and LH side.

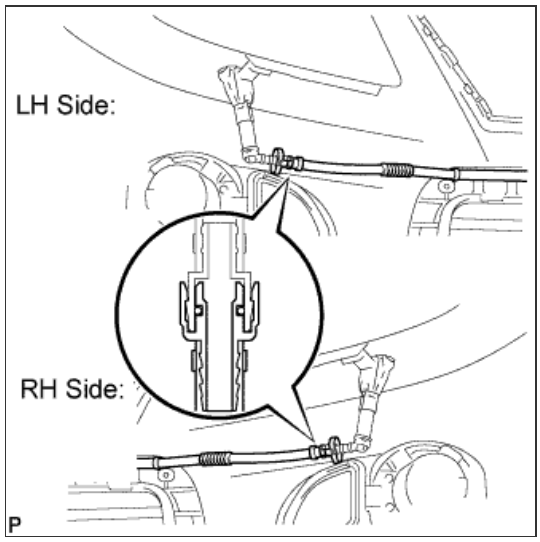
a. Attach the 2 claws.

b. Install the headlight washer actuator sub-assembly with the bolt.

Torque:
1.1 N*m{ 11 kgf*cm , 10 in.*lbf }

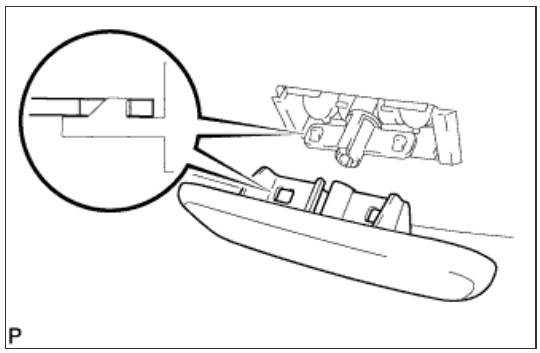


c. Connect the headlight washer hose.

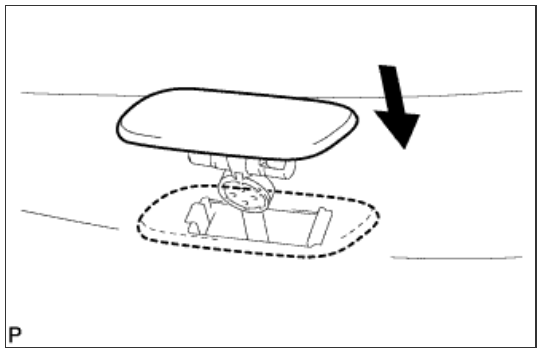


2. INSTALL TYPE 1 HEADLIGHT WASHER NOZZLE SUB-ASSEMBLY LH

a. Attach the 2 claws to install the headlight washer nozzle.



b. Return the headlight washer nozzle to its original position.



3. INSTALL TYPE 1 HEADLIGHT WASHER NOZZLE SUB-ASSEMBLY RH

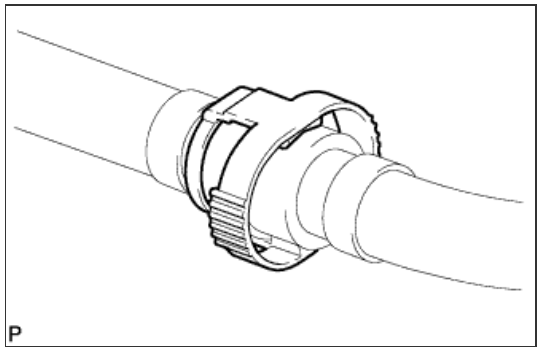
HINT:

Use the same procedures described for the LH side.

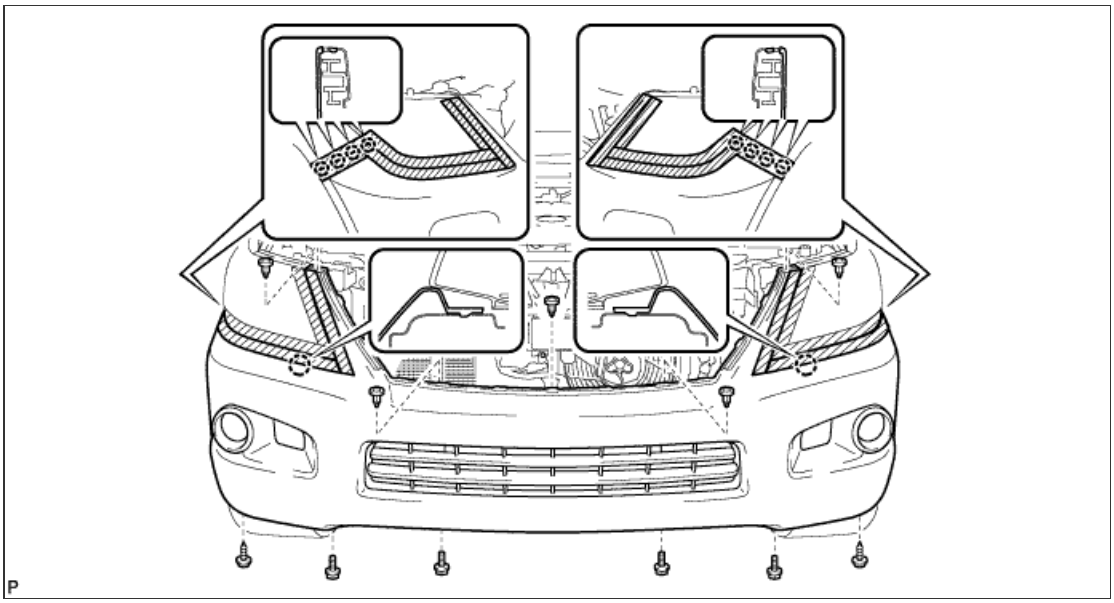
4. INSTALL FRONT BUMPER COVER

a. w/ Headlight Cleaner System:
Connect the headlight cleaner hose.

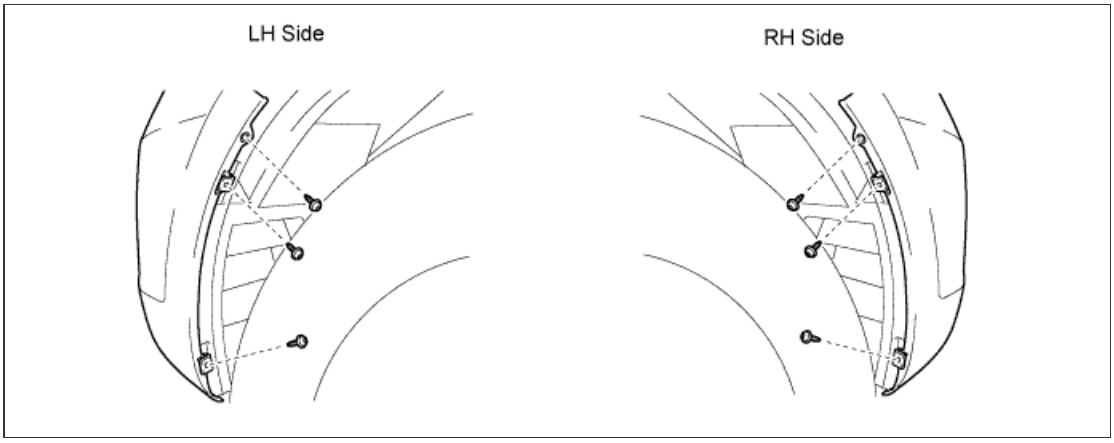
b. Connect the No. 4 engine room wire connector and attach the 10 claws to install the bumper cover.



c. Install the 5 clips, 2 screws and 4 bolts.



d. Using a T30 "TORX" socket, install the 6 screws.



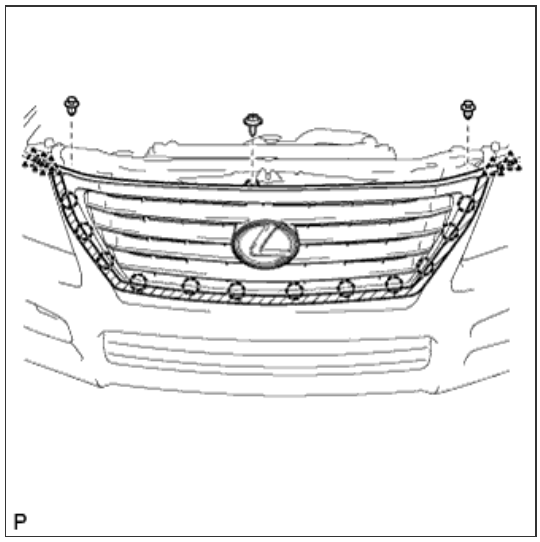
5. INSTALL RADIATOR GRILLE

a. w/ Wide View Front Monitor System:
Connect the connector.

b. Attach the 12 claws to install the radiator grille.

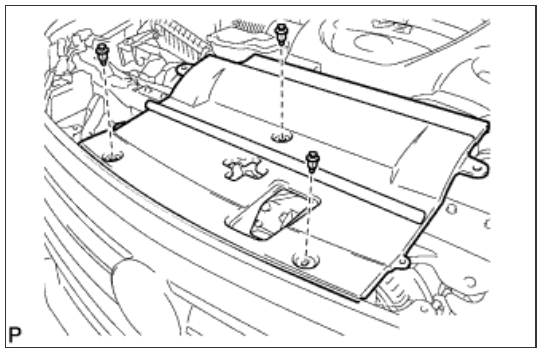
c. Attach the 5 clips to install the detached part of the upper radiator seal.

d. Install the screw and 2 clips.



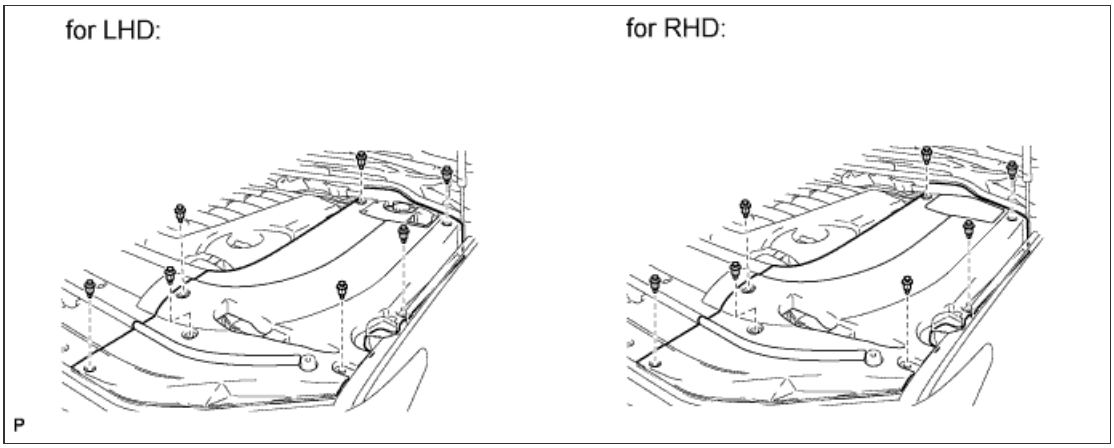
6. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the upper radiator support seal with the 3 clips.



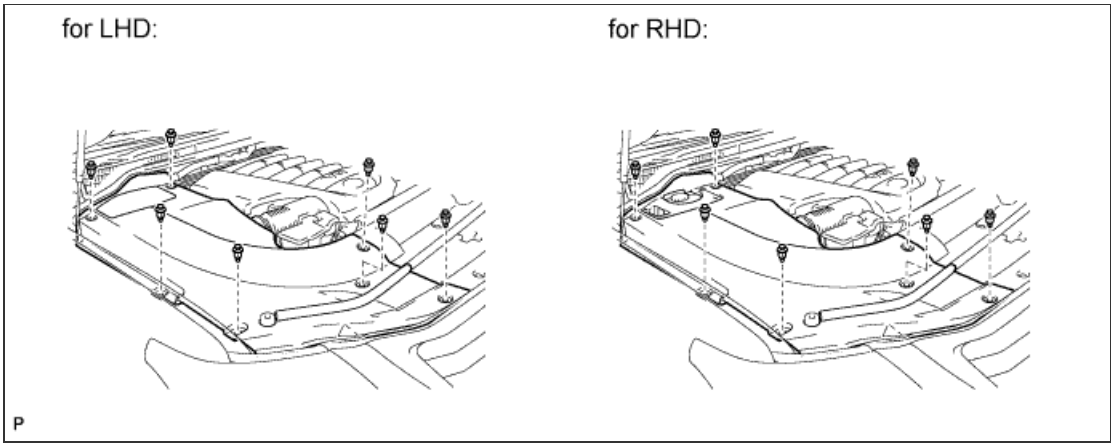
7. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



8. INSTALL ENGINE ROOM SIDE COVER RH

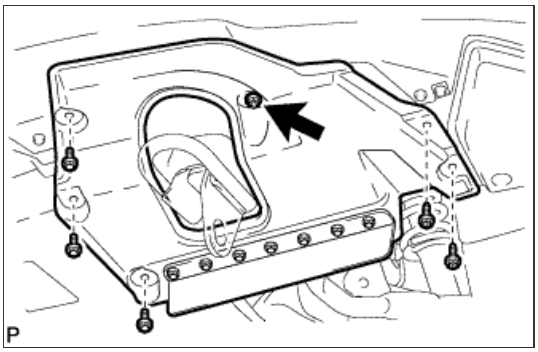
a. Install the engine room side cover with the 7 clips.



9. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. Push in the clip indicated by the arrow in the illustration to install the fender splash shield.

b. Install the 3 bolts and 2 screws.

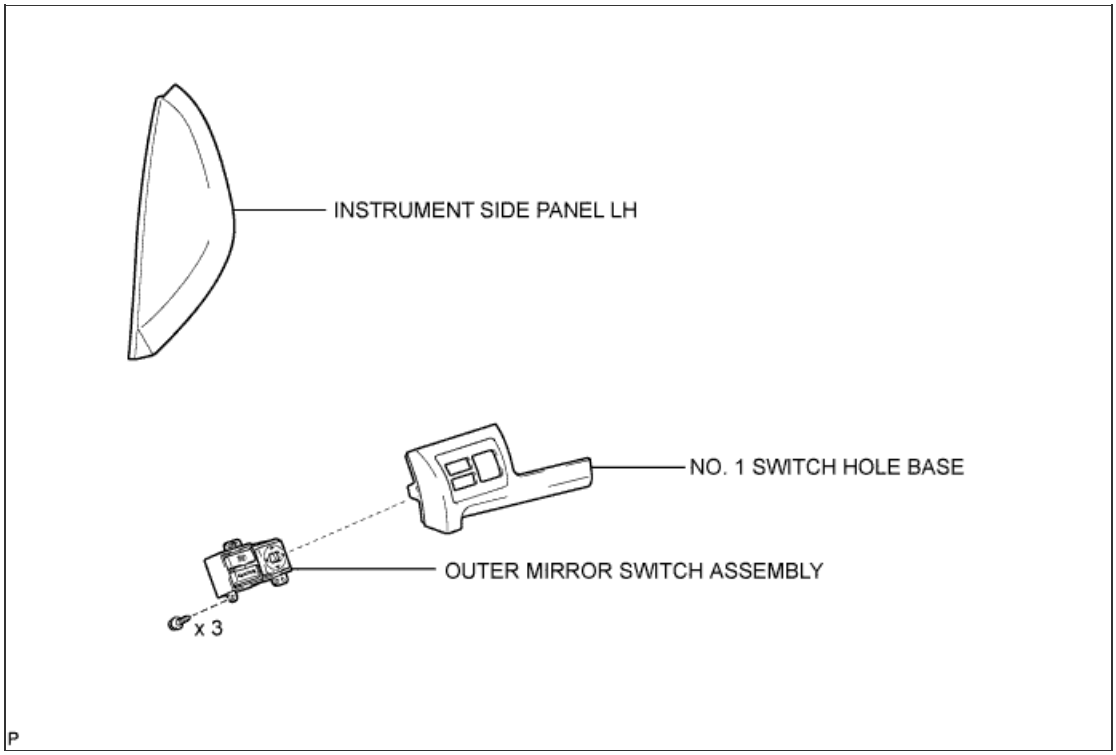


10. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

for Preparation [Click here]



HEADLIGHT CLEANER SWITCH > REMOVAL

for Preparation Click here

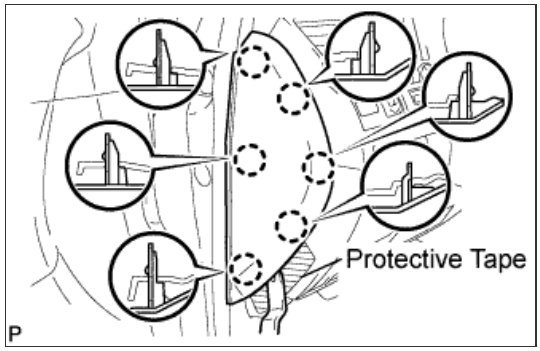
HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. REMOVE INSTRUMENT SIDE PANEL LH

a. Place protective tape as shown in the illustration.

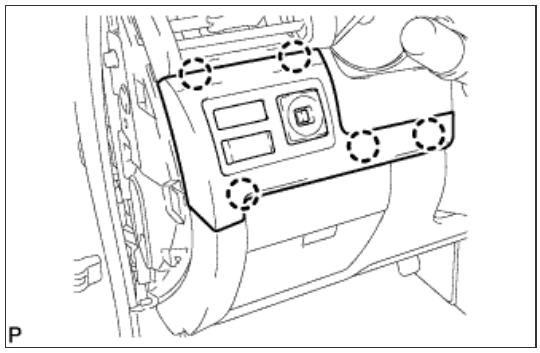
b. Using a moulding remover, detach the 6 claws and remove the side panel.



2. REMOVE NO. 1 SWITCH HOLE BASE

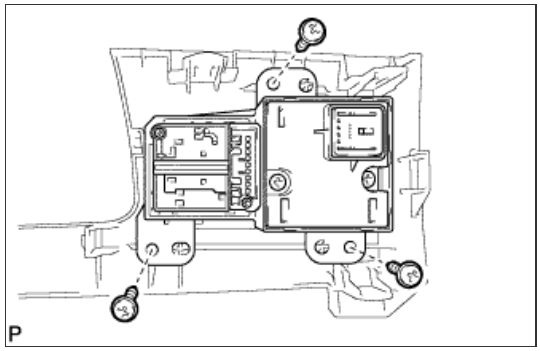
a. Using a moulding remover, detach the 5 claws.

b. Disconnect the 2 connectors and remove the switch hole base.



3. REMOVE OUTER MIRROR SWITCH ASSEMBLY

a. Remove the 3 screws and mirror switch.



for Preparation Click here

1. INSPECT OUTER MIRROR SWITCH ASSEMBLY

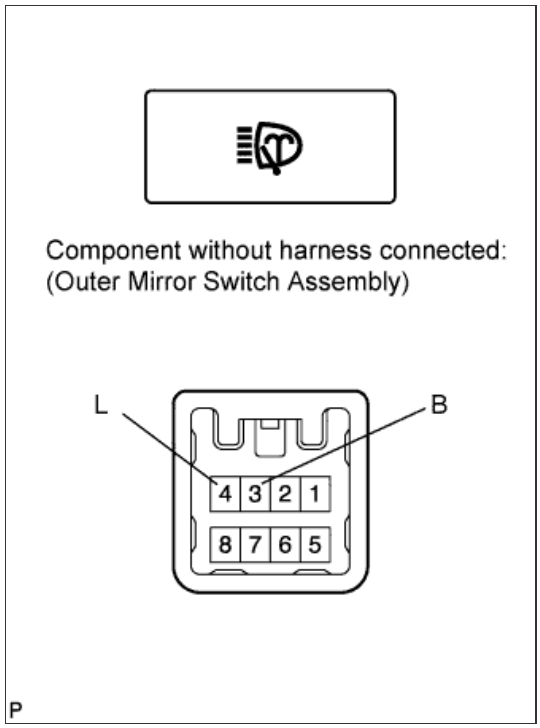
a. Remove the outer mirror switch assembly.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
3 (B) - 4 (L)	Headlight cleaner switch on	Below 1 Ω
	Headlight cleaner switch off	10 kΩ or higher

If the result is not as specified, replace the outer mirror switch assembly.



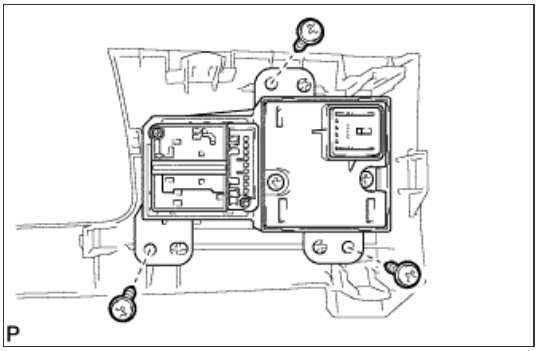
for Preparation Click here

HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. INSTALL OUTER MIRROR SWITCH ASSEMBLY

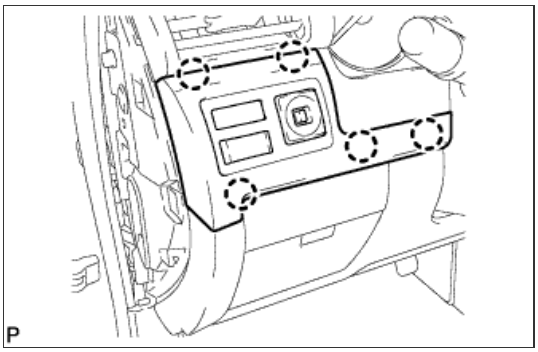
a. Install the mirror switch with the 3 screws.



2. INSTALL NO. 1 SWITCH HOLE BASE

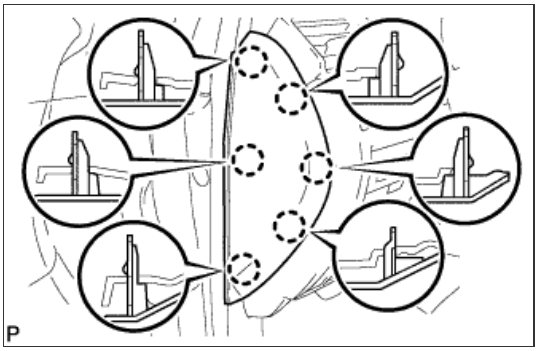
a. Connect the 2 connectors.

b. Attach the 5 claws to install the switch hole base.

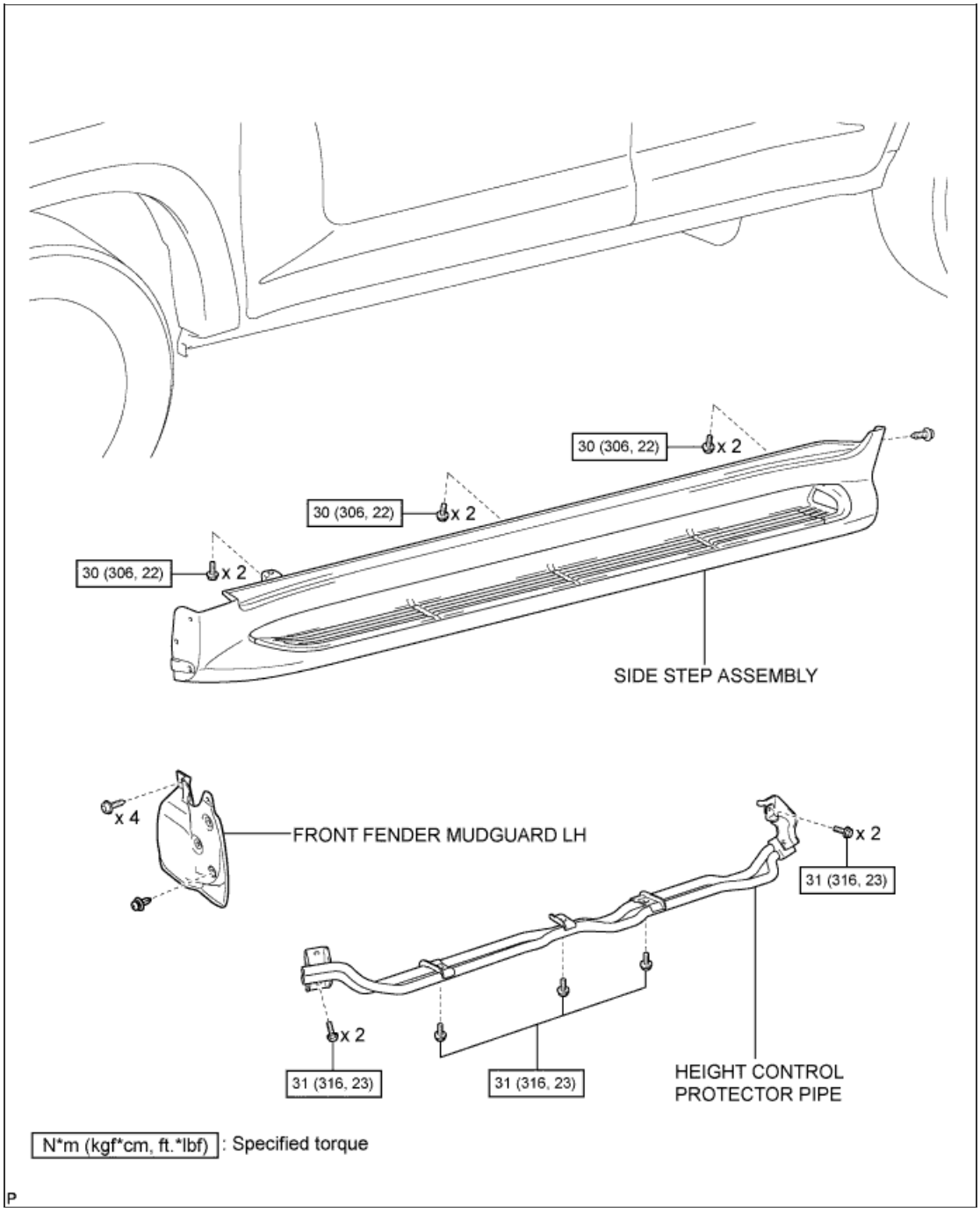


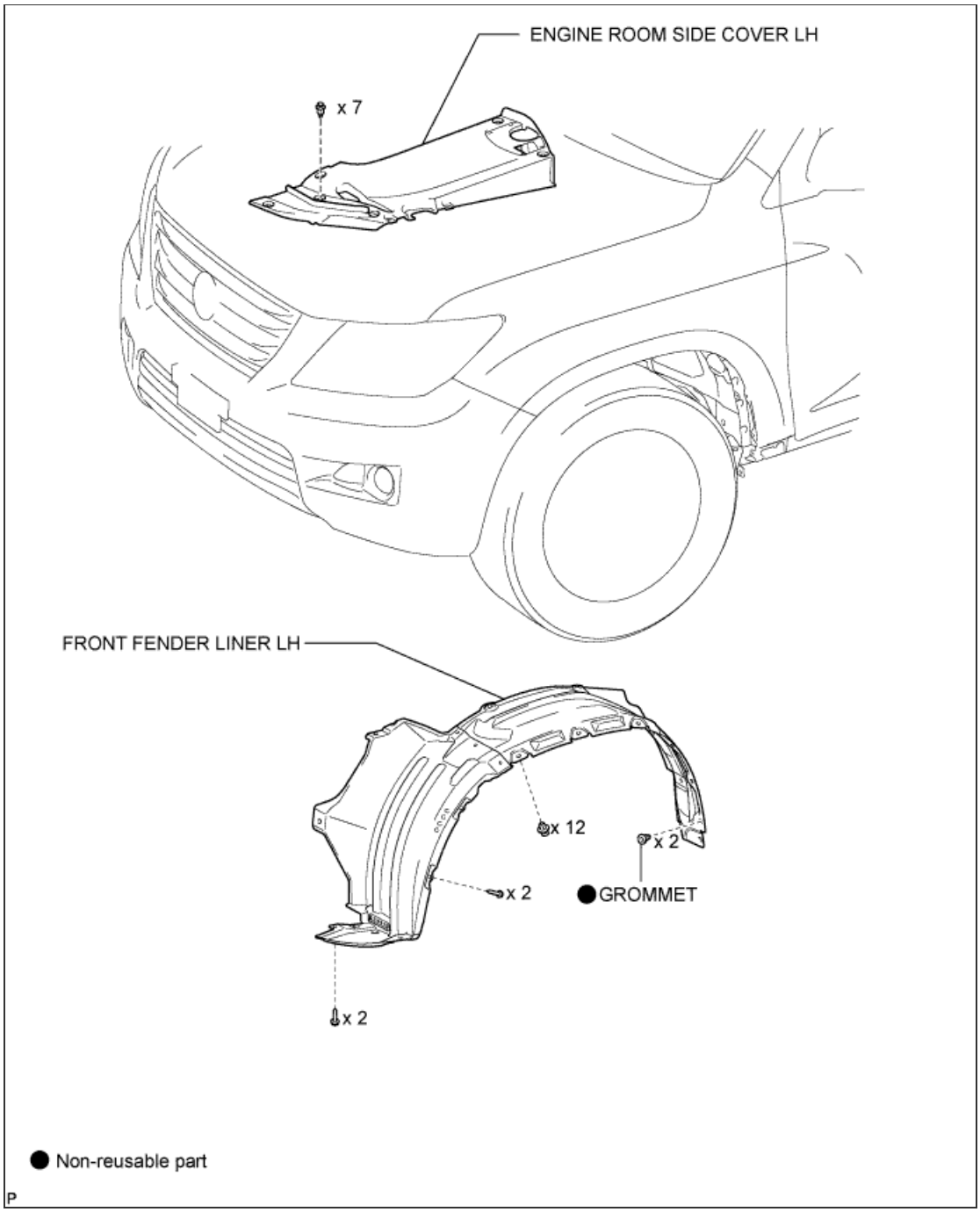
3. INSTALL INSTRUMENT SIDE PANEL LH

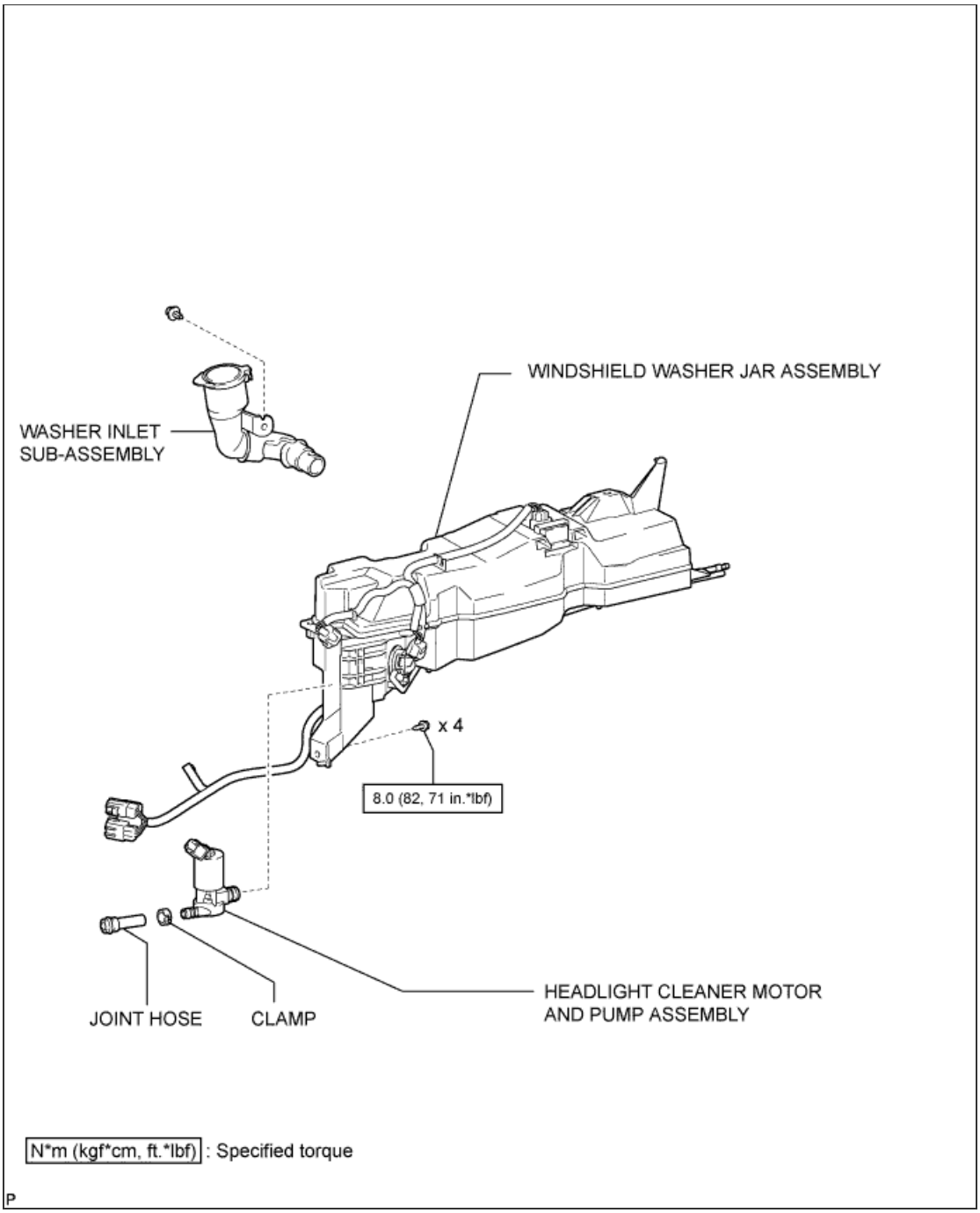
a. Attach the 6 claws to install the side panel.



for Preparation Click here



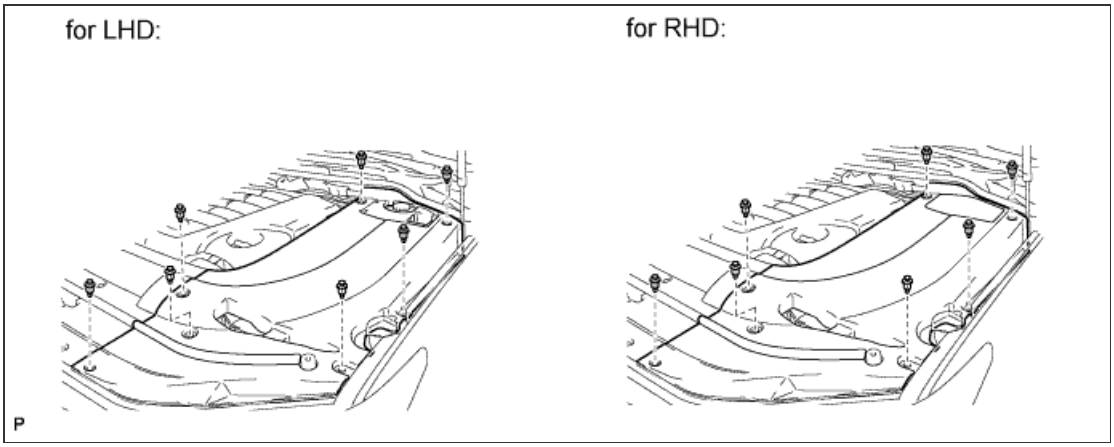

ENGINE ROOM SIDE COVER LH
x 7
FRONT FENDER LINER LH
x 12
x 2
x 2
GROMMET
x 2
Non-reusable part
P


WINDSHIELD WASHER JAR ASSEMBLY
WASHER INLET
SUB-ASSEMBLY
x 4
8.0 (82, 71 in.*lbf)
JOINT HOSE
CLAMP
HEADLIGHT CLEANER MOTOR
AND PUMP ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
P

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

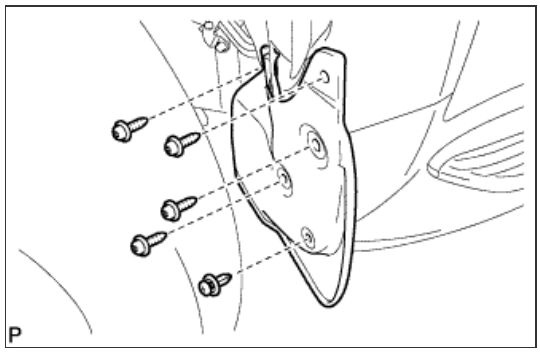
a. Remove the 7 clips and engine room side cover.



2. REMOVE FRONT FENDER MUDGUARD LH

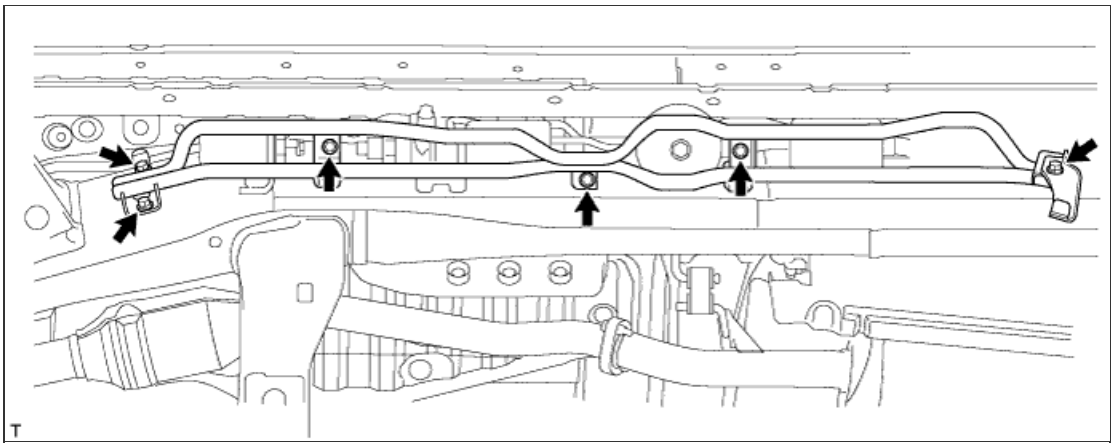
a. Remove the clip.

b. Using a T30 "TORX" socket, remove the 4 screws and mudguard.



3. REMOVE HEIGHT CONTROL PROTECTOR PIPE

a. Remove the 6 bolts and protector pipe.

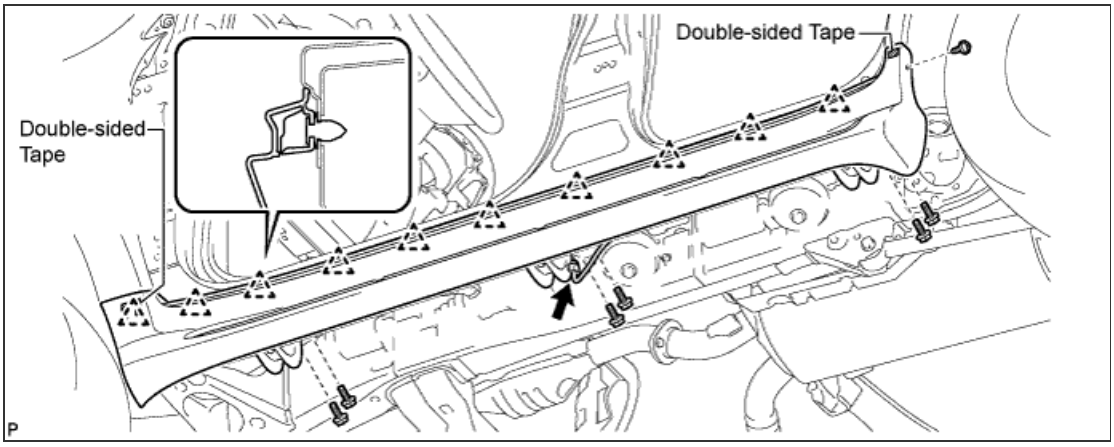


4. REMOVE SIDE STEP ASSEMBLY

a. Remove the screw and 6 bolts.

b. Disconnect the connector.

c. Detach the 10 clips and remove the double-sided tape to remove the side step.

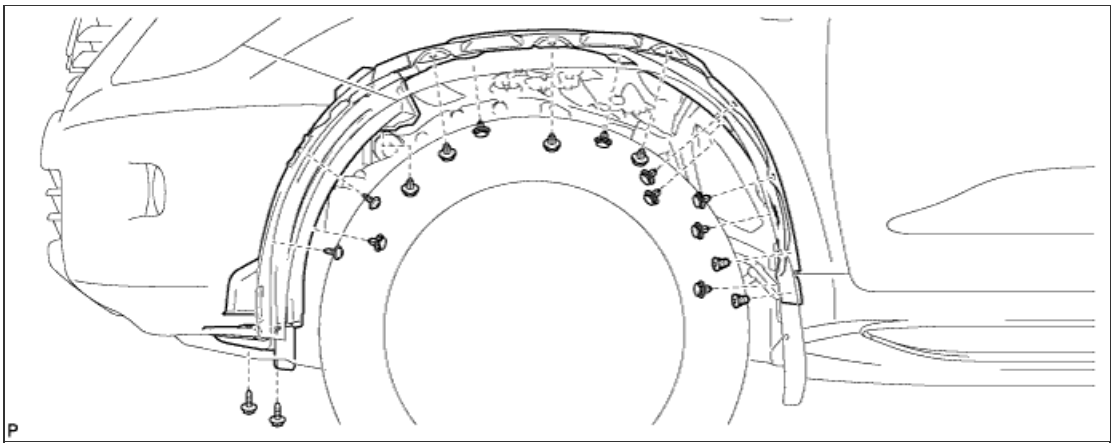


5. REMOVE FRONT FENDER LINER LH

a. Remove the 2 screws.

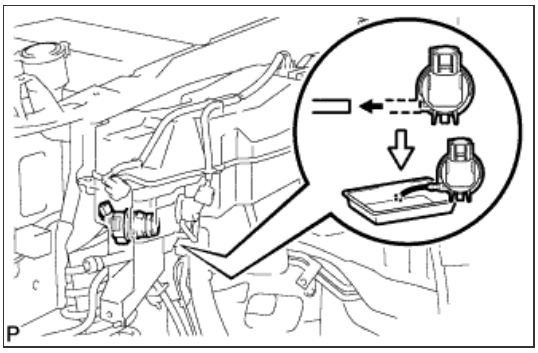
b. Using a T30 "TORX" socket, remove the 2 screws.

c. Using a clip remover, remove the 2 grommets, 12 clips and fender liner.



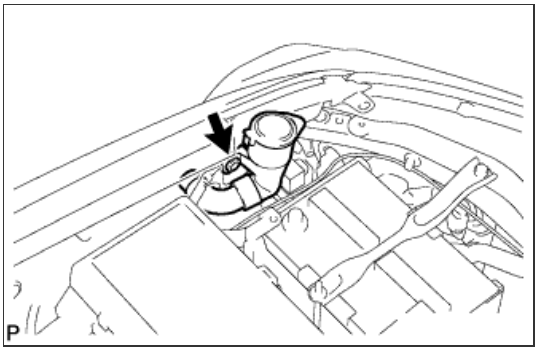
6. DRAIN WASHER FLUID

a. Remove the washer hose from the windshield washer motor and pump, and drain the washer fluid.



7. REMOVE WASHER INLET SUB-ASSEMBLY

a. Using a clip remover, remove the clip and washer inlet.

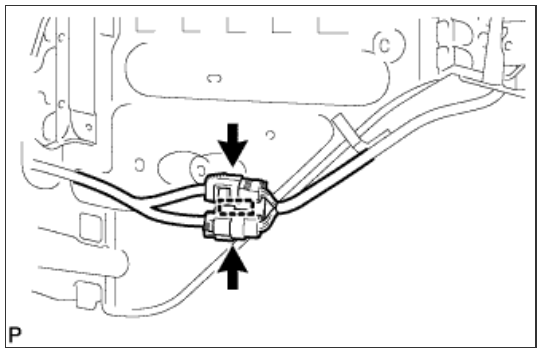


8. REMOVE WINDSHIELD WASHER JAR ASSEMBLY

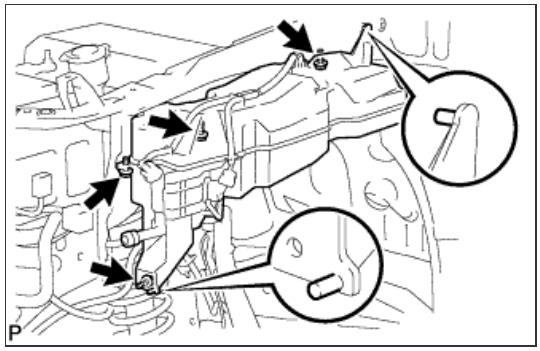
a. Detach the clamp.

b. Disconnect the 2 connectors.

c. Disconnect the headlight cleaner hose.



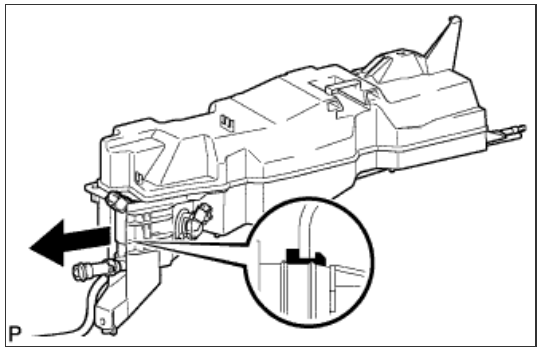
d. Remove the 4 bolts. Then remove the windshield washer jar and pump.



9. REMOVE HEADLIGHT CLEANER MOTOR AND PUMP ASSEMBLY

a. Disconnect the connector.

b. Remove the headlight cleaner motor and pump assembly together with the gasket in the direction shown in the illustration.



for Preparation Click here

1. INSPECT HEADLIGHT CLEANER MOTOR AND PUMP ASSEMBLY

HINT:

This inspection should be performed with the headlight cleaner motor and pump installed to the washer jar.

a. Fill the washer jar with washer fluid.

b. Apply battery voltage to the headlight cleaner motor and pump and check the operation of the headlight cleaner motor and pump assembly.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 Battery negative (-) → Terminal 2	Headlight cleaner motor and pump operation is normal

If the result is not as specified, replace the headlight cleaner motor and pump assembly.

Component without harness connected:
(Headlight Cleaner Motor and Pump Assembly)



for Preparation Click here

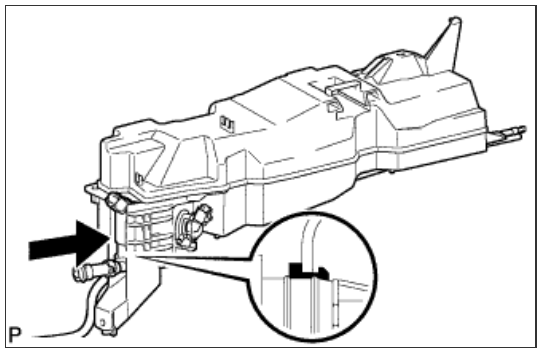
1. INSTALL HEADLIGHT CLEANER MOTOR AND PUMP ASSEMBLY

a. Install the headlight cleaner motor and pump together with the gasket in the direction shown in the illustration.

HINT:

Make sure the gasket is positioned as shown in the illustration.

b. Connect the connector.



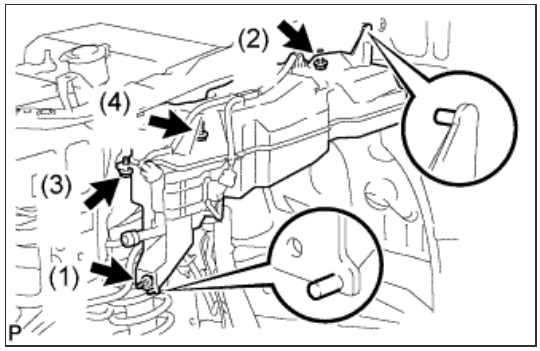
2. INSTALL WINDSHIELD WASHER JAR ASSEMBLY

a. Temporarily install the windshield washer jar with the 4 bolts.

b. Tighten the 4 bolts in the order shown in the illustration to install the windshield washer jar.

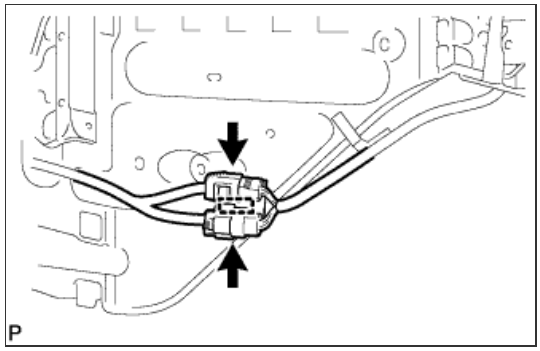
Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }

c. Connect the headlight cleaner hose to the windshield washer jar and pump.



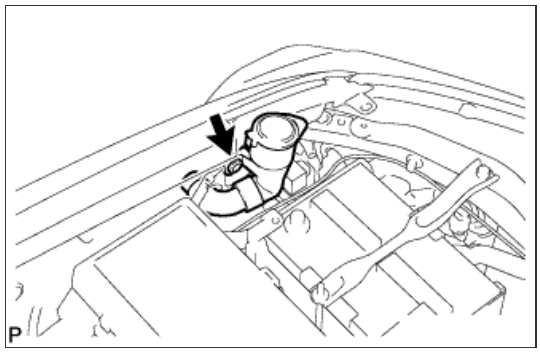
d. Connect the 2 connectors.

e. Attach the clamp.



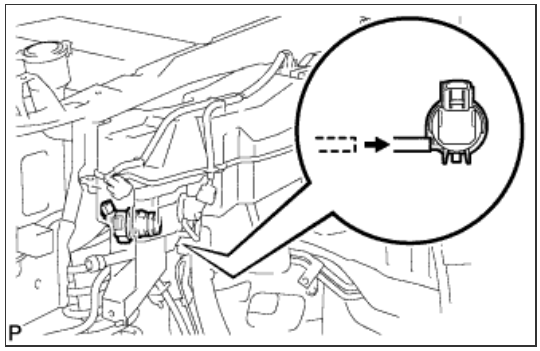
3. INSTALL WASHER INLET SUB-ASSEMBLY

a. Install the washer inlet with the clip.



4. FILL WINDSHIELD WASHER JAR AND PUMP ASSEMBLY WITH WASHER FLUID

a. Connect the washer hose to the windshield washer motor and pump, and fill the washer jar with washer fluid.

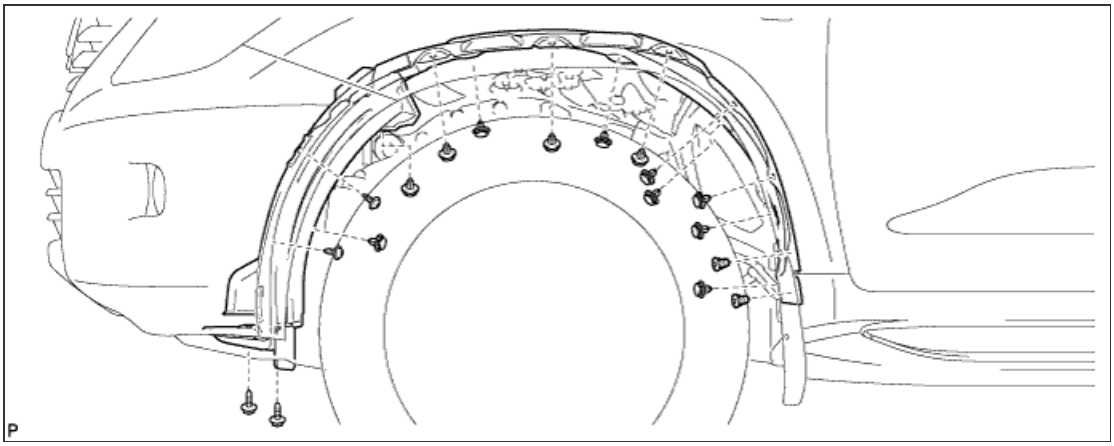


5. INSTALL FRONT FENDER LINER LH

a. Install the fender liner with the 12 clips and 2 new grommets.

b. Using a T30 "TORX" socket, install the 2 screws.

c. Install the 2 screws.



6. INSTALL SIDE STEP ASSEMBLY

a. Clean the vehicle body 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.

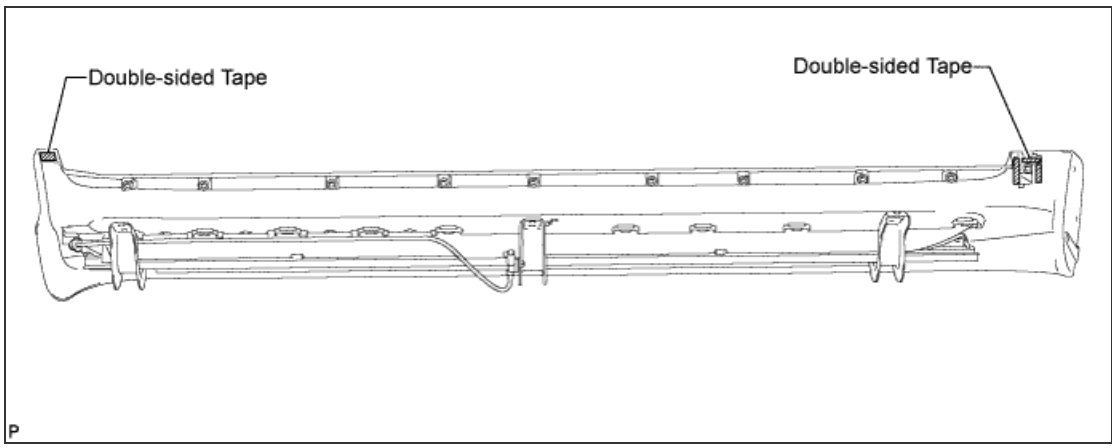
b. If reusing the side step:
Clean the side step.

i. Using a heat light, heat the side step.

ii. Remove the double-sided tape from the side step.

iii. Wipe off any tape adhesive residue with cleaner.

iv. Apply new double-sided tape to the side step, as shown in the illustration.



c. Install the side step.

i. Using a heat light, heat the vehicle body and side step.

ii. Remove the peeling paper from the face of the side step.

HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

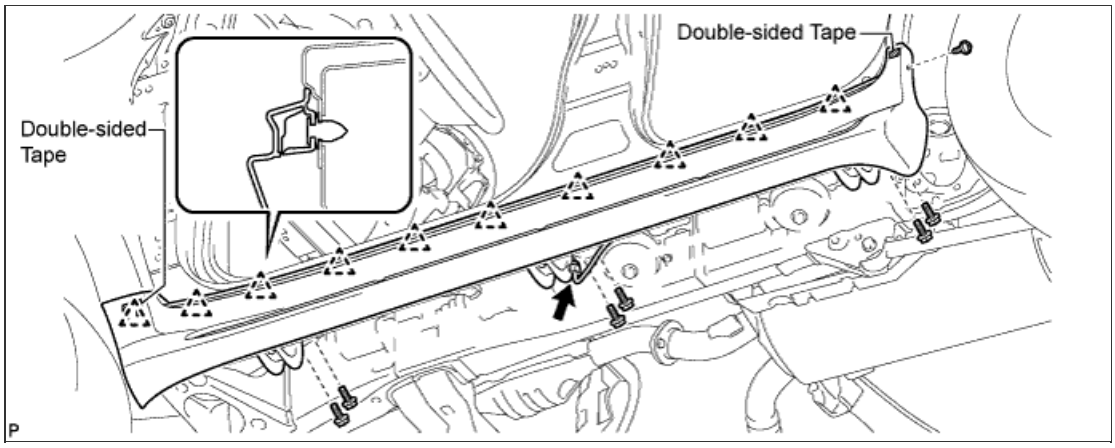
iii. Attach the 10 clips to install the side step.

iv. Install the 6 bolts.

Torque:
30 N*m{ 306 kgf*cm , 22 ft.*lbf }

v. Install the screw.

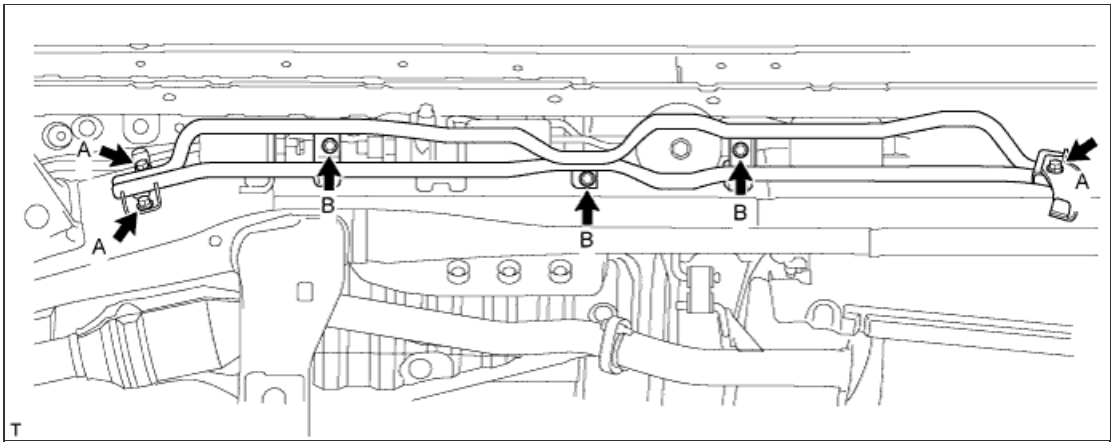
vi. Connect the connector.



7. INSTALL HEIGHT CONTROL PROTECTOR PIPE

a. Install the protector pipe with the 6 bolts.

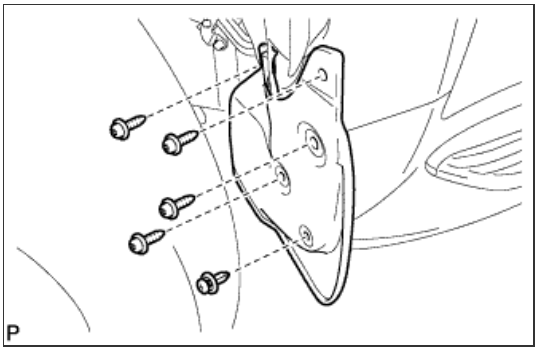
Torque:
for bolt A:
31 N*m{ 316 kgf*cm , 23 ft.*lbf }
for bolt B:
16 N*m{ 163 kgf*cm , 12 ft.*lbf }



8. INSTALL FRONT FENDER MUDGUARD LH

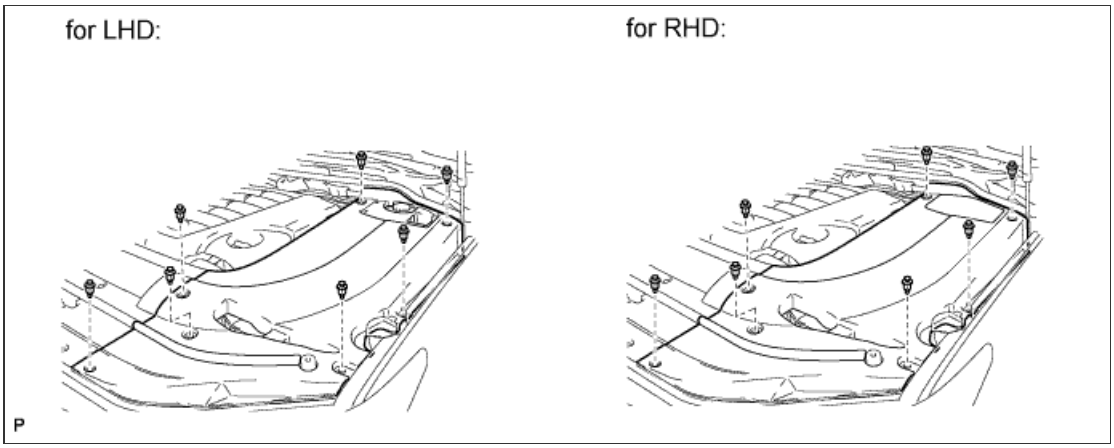
a. Install the mudguard with the clip.

b. Using a T30 "TORX" socket, install the 4 screws.

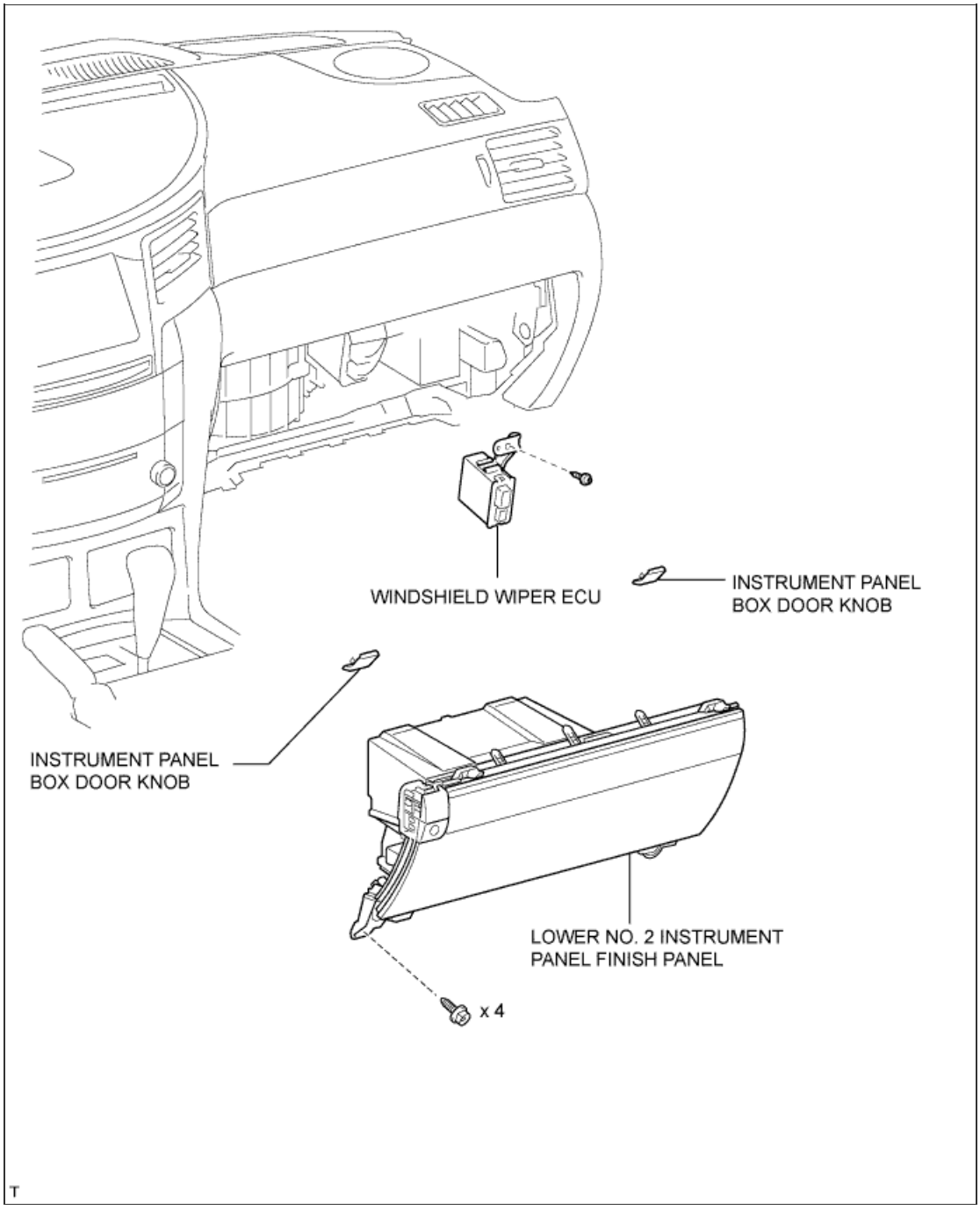


9. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



for Preparation [Click here]



for Preparation Click here

HINT:

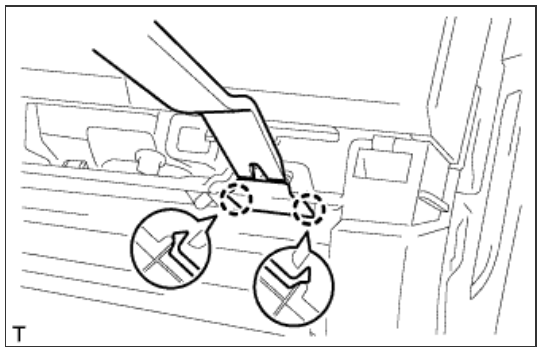
- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. REMOVE FRONT 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 knob.

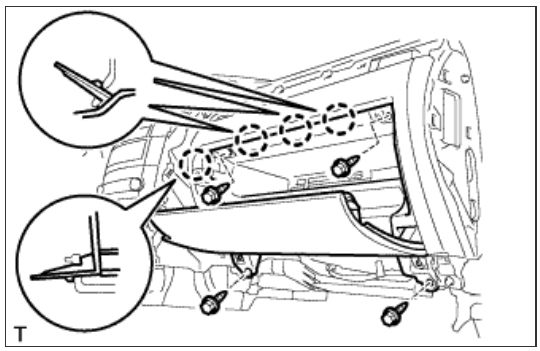


3. REMOVE LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Remove the 4 bolts.

b. Detach the 4 claws.

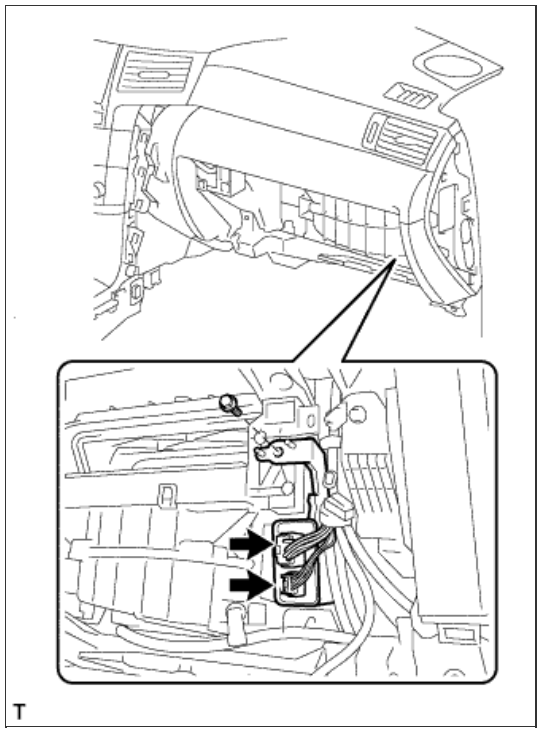
c. Remove the finish panel and then disconnect the connector.



4. REMOVE WINDSHIELD WIPER ECU

a. Disconnect the 2 connectors.

b. Remove the bolt and windshield wiper ECU.


T

for Preparation Click here

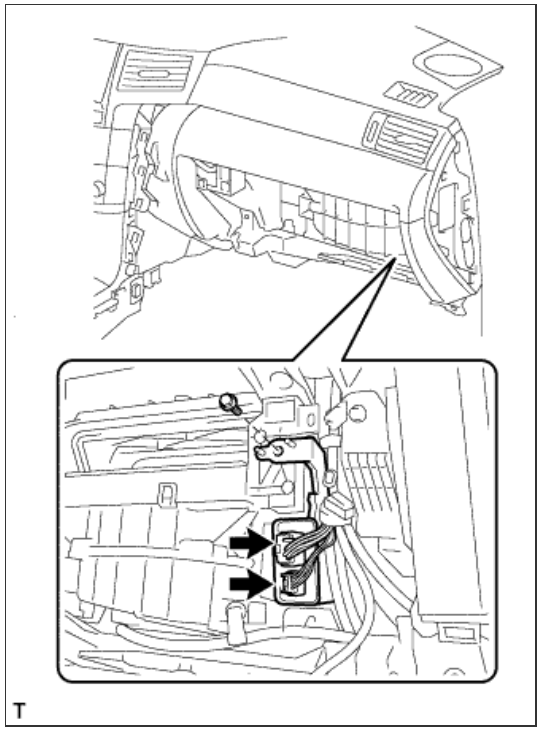
HINT:

- **Use the same procedures for LHD and RHD vehicles.**
- **The procedures listed below are for LHD vehicles.**

1. INSTALL WINDSHIELD WIPER ECU

a. Install the windshield wiper ECU with the screw.

b. Connect the 2 connectors.

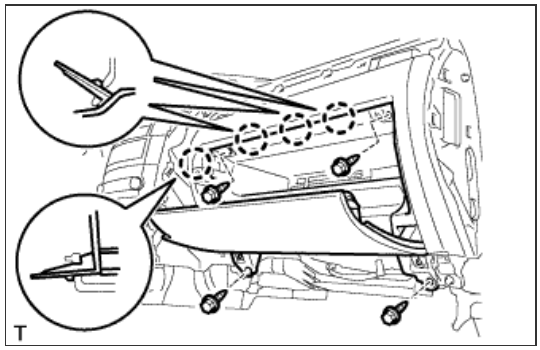


2. INSTALL LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Connect the connector.

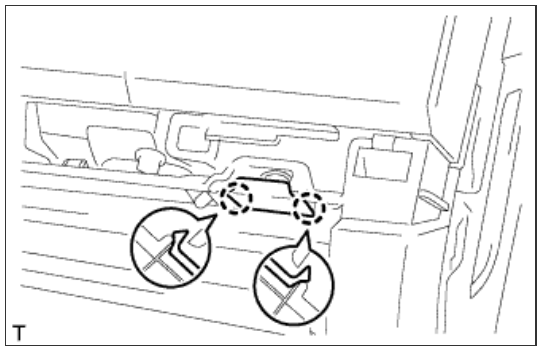
b. Attach the 4 claws to install the finish panel.

c. Install the 4 bolts.



3. INSTALL INSTRUMENT PANEL BOX DOOR KNOB

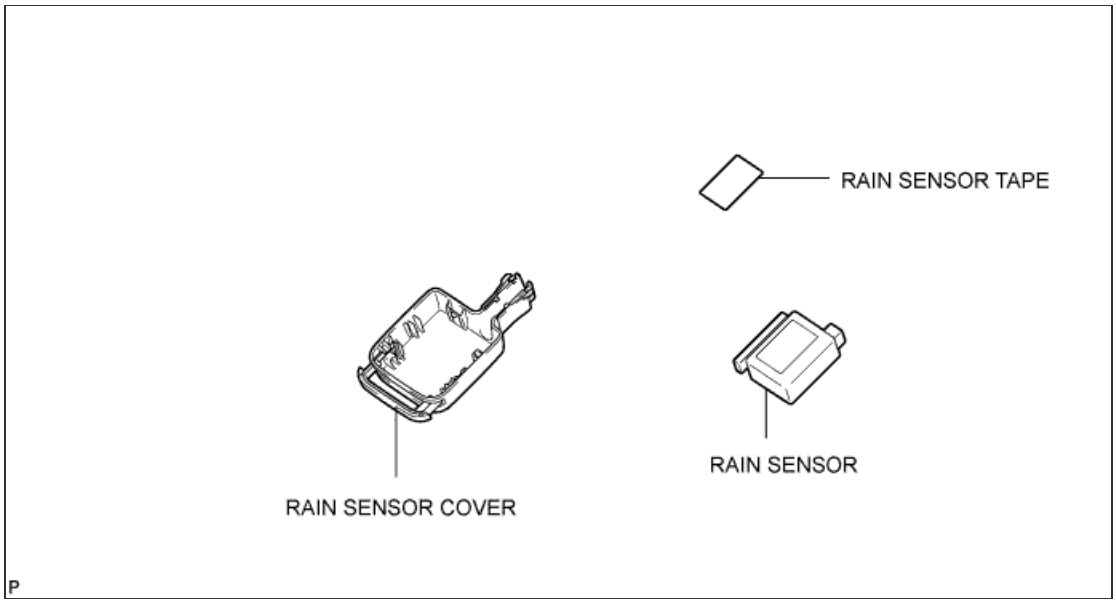
a. Attach the 2 claws to install the knob.



4. INSTALL FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY

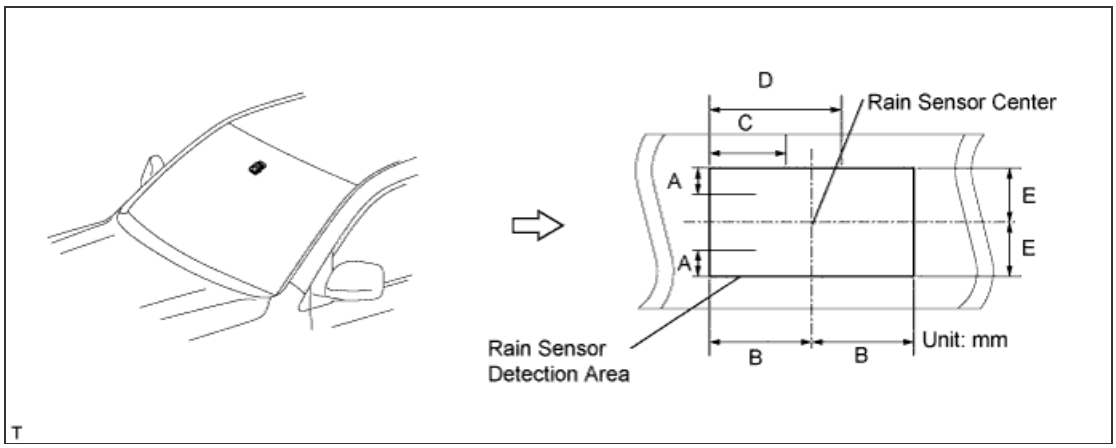
a. Install the front passenger side knee airbag assembly (Click here).

for Preparation Click here



for Preparation Click here

1. INSPECT FUNCTION OF RAIN SENSOR



Standard Measurement:

Area	Specified Condition
A	7 mm (0.276 in.)
B	22 mm (0.866 in.)
C	16.6 mm (0.653 in.)
D	26.6 mm (1.05 in.)
E	12 mm (0.472 in.)

a. LO operation inspection

i. Turn the engine switch on (IG), and set the windshield wiper switch to AUTO.

ii. Flatten the end of a cotton swab soaked with water so that it is 4 to 6 mm (0.157 to 0.236 in.) wide.

iii. Wipe the center of the rain sensor detection area (within the range shown in the illustration) with the cotton swab, and check that the wiper operates once.

b. HI operation inspection

i. Cut 2 or 3 squares out of tissue paper so that they are 25 mm (0.984 in.) long on each side, and soak them with water.

ii. Jack up the vehicle.

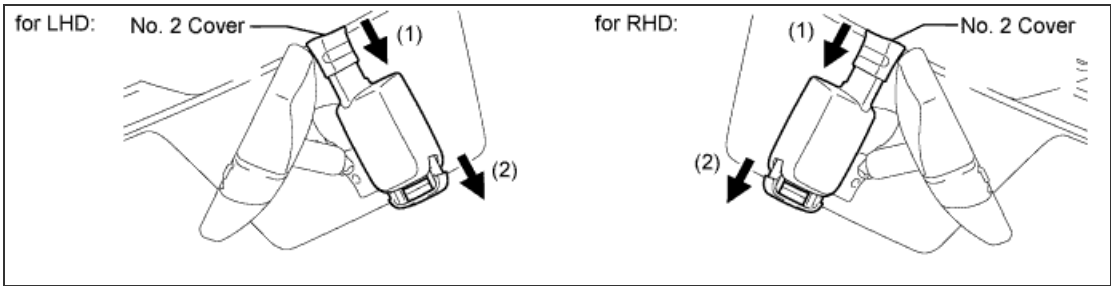
iii. Start the engine and depress the accelerator pedal so that the wheel speed is 30 km/h (19 mph).

iv. Place the wet tissue paper onto the rain sensor detection area so that the area is completely covered, and check that the wiper operates on HI.

for Preparation Click here

1. REMOVE RAIN SENSOR COVER

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 rain sensor cover.

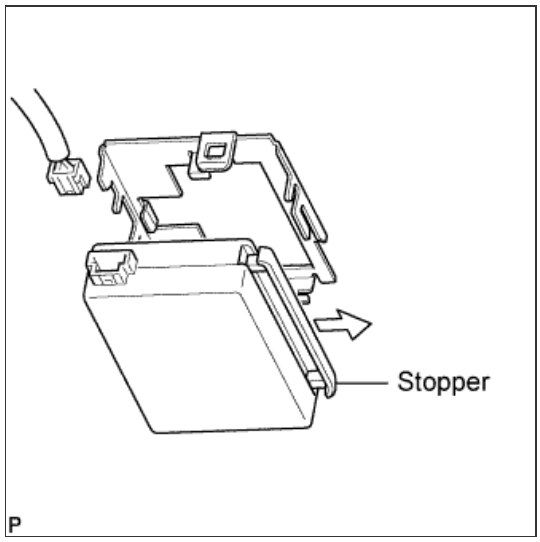
2. REMOVE RAIN SENSOR

a. Release the stopper by pulling it in the direction of the arrow, and separate the rain sensor.

b. Disconnect the connector and remove the rain sensor.

c. When replacing the rain sensor tape:

   i. Remove the rain sensor tape.



for Preparation Click here

1. INSTALL RAIN SENSOR TAPE

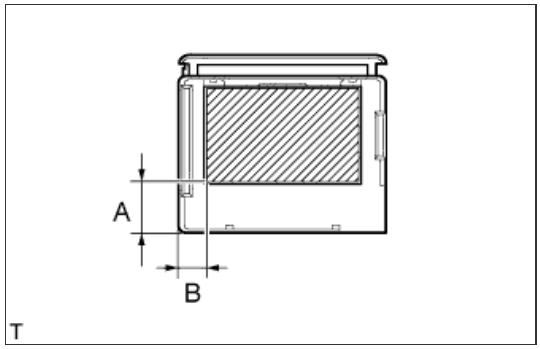
HINT:

Only perform this procedure when replacing the rain sensor tape.

a. Apply new rain sensor tape to the rain sensor surface indicated by the hatched area.

NOTICE:

- **Keep the exposed adhesive on the tape free from dust and fingerprints.**
- **Apply the tape exactly according to the specifications below.**
- **When installing a new rain sensor, peel the release paper off from the silicon sheet first.**
- **Be careful not to leave any air bubbles in the rain sensor tape when installing it.**



Standard:

Area	Specified Condition
A	15 mm (0.591 in.)
B	8 mm (0.315 in.)

2. INSTALL RAIN SENSOR

NOTICE:

- **Make sure the adhesive between the bracket and windshield glass is normal.**
- **If there is any residue left from the rain sensor tape on the windshield, remove it.**
- **Clean the glass surface with cloth or similar material.**
- **Make sure there are no air bubbles between the rain sensor and windshield.**

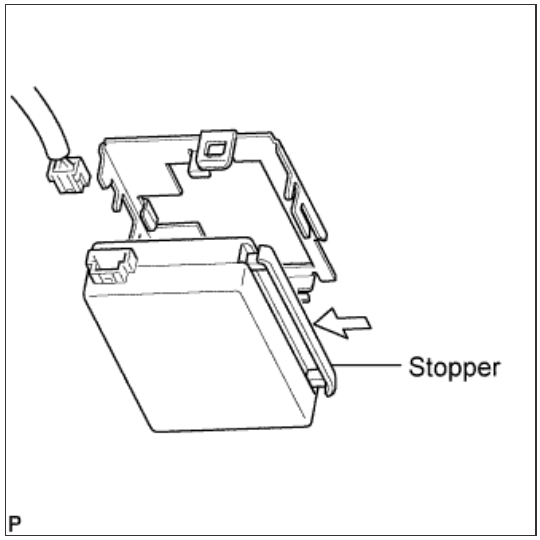
a. Securely attach the rain sensor to the bracket.

b. Push in the stopper.

NOTICE:

The stopper can be used a maximum of 5 times.

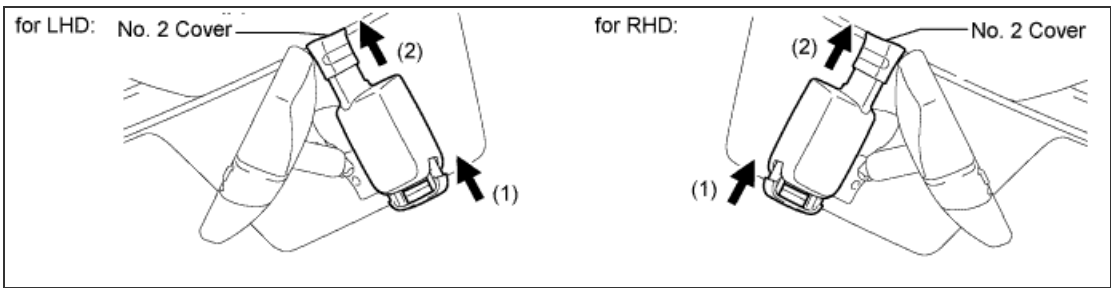
c. Connect the connector.



3. INSTALL RAIN SENSOR COVER

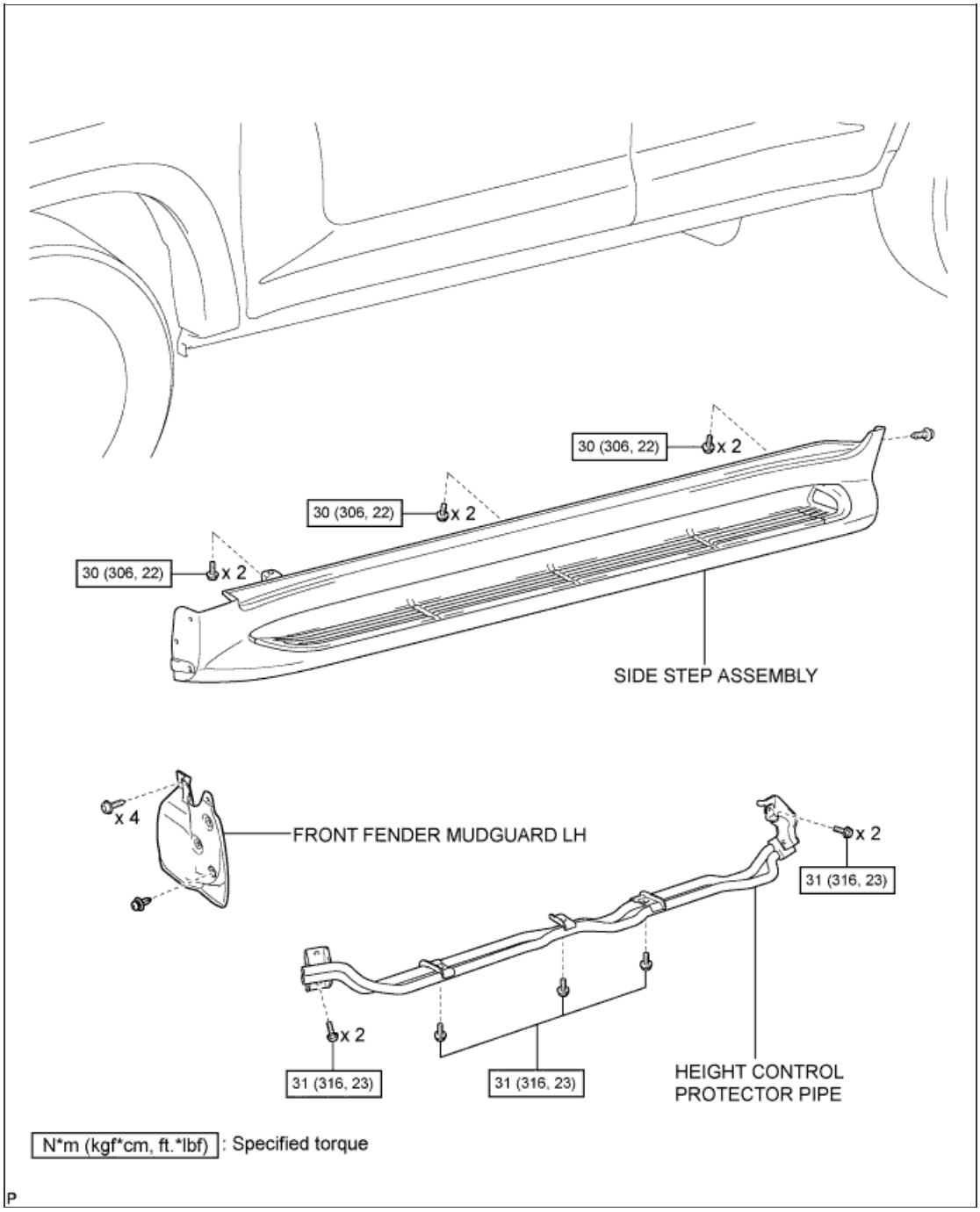
a. Push in the stopper in the direction of the arrow labeled (1) to install the rain sensor cover.

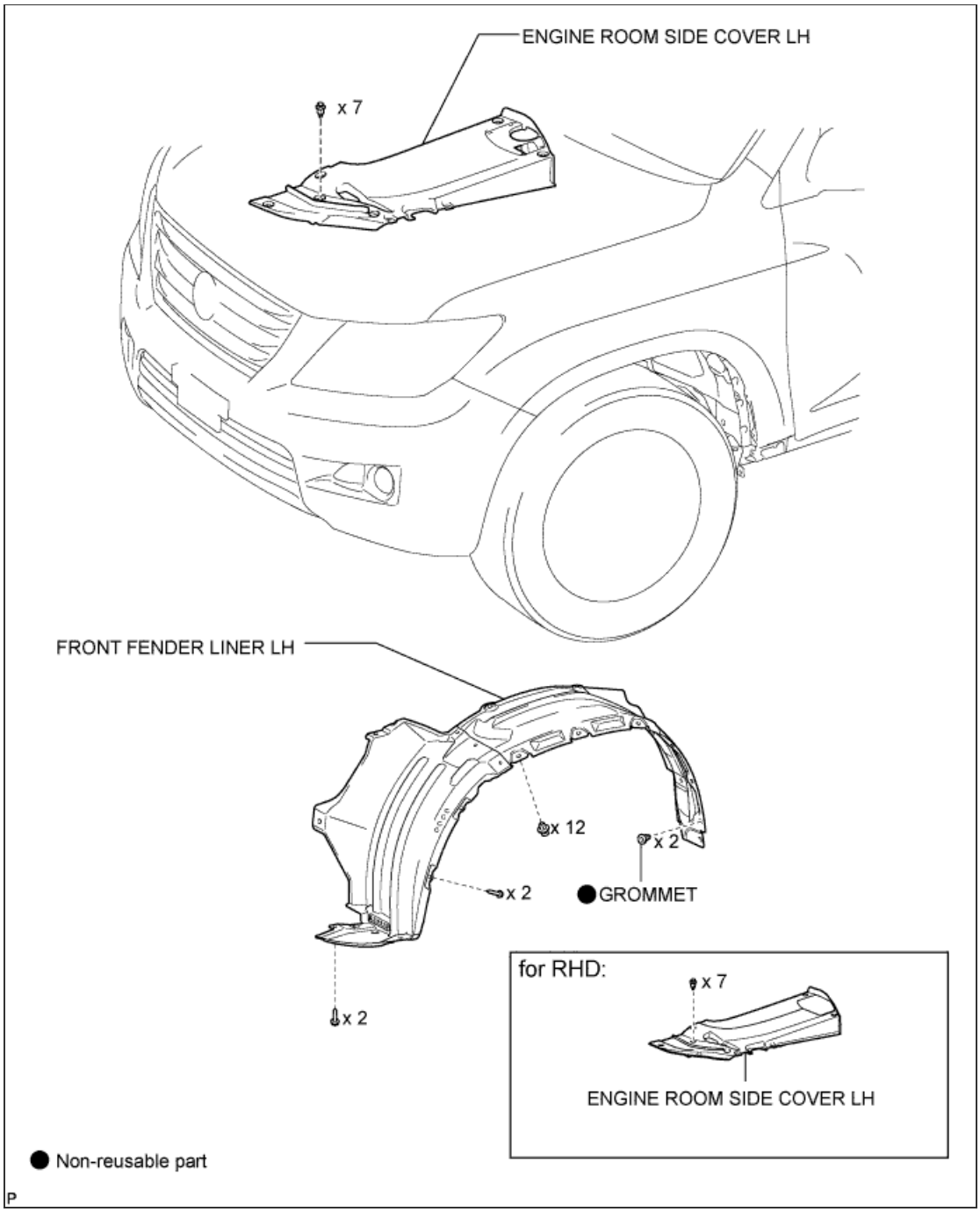
a. Push in the stopper in the direction of the arrow labeled (1) to install the rain sensor cover.

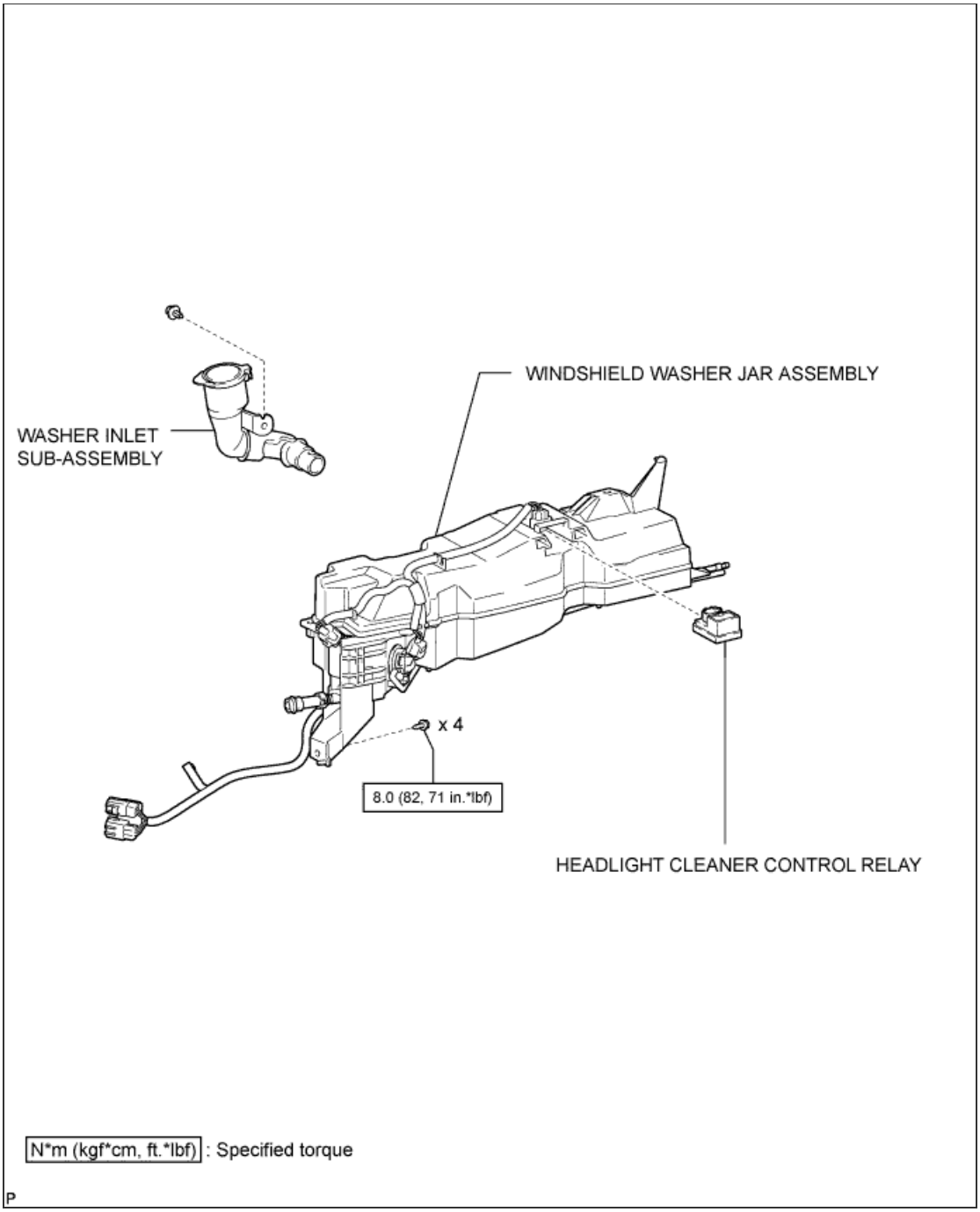


b. Slide the No. 2 cover in the direction of the arrow labeled (2) to fix it in place.

for Preparation Click here




ENGINE ROOM SIDE COVER LH
x 7
FRONT FENDER LINER LH
x 12
x 2
x 2
GROMMET
x 2
for RHD:
x 7
ENGINE ROOM SIDE COVER LH
Non-reusable part
P


WINDSHIELD WASHER JAR ASSEMBLY
WASHER INLET
SUB-ASSEMBLY
x 4
8.0 (82, 71 in.*lbf)
HEADLIGHT CLEANER CONTROL RELAY
N*m (kgf*cm, ft.*lbf) : Specified torque
P

for Preparation Click here

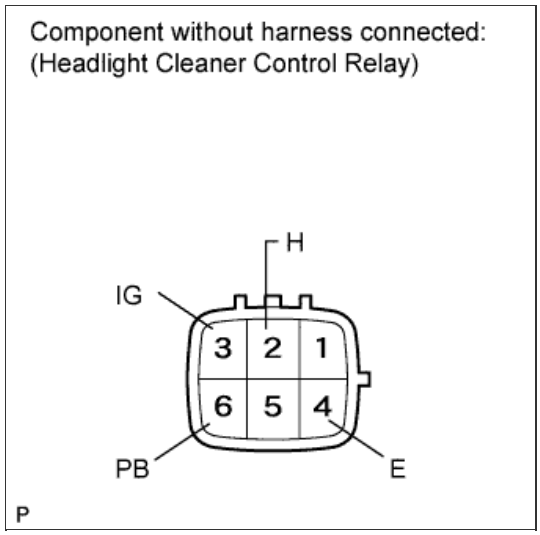
1. INSPECT HEADLIGHT CLEANER CONTROL RELAY

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
6 (PB) - 4 (E)	Battery voltage is not applied between terminals 3 (IG) and 2 (H)	10 kΩ or higher
	Battery voltage is applied between terminals 3 (IG) and 2 (H)	Below 1 Ω (0.8 to 0.9 seconds, then no continuity exists)

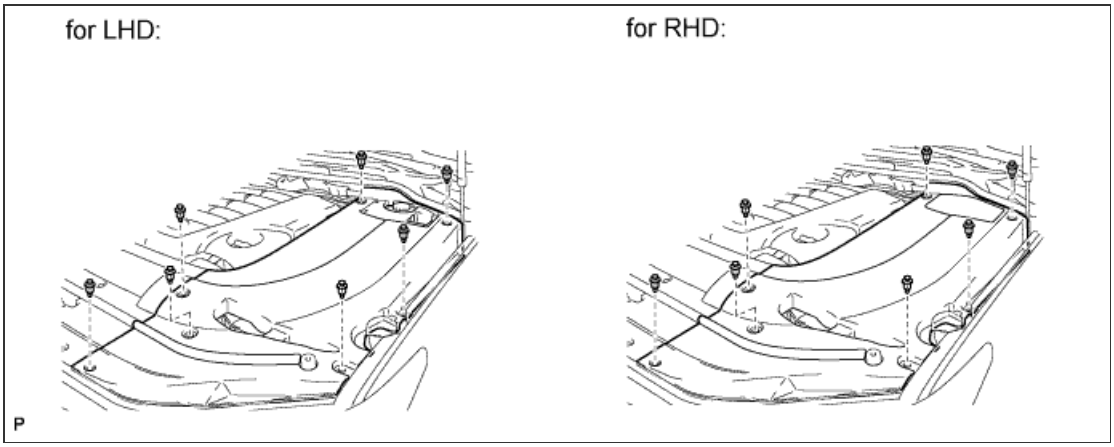
If the result is not as specified, replace the headlight cleaner control relay.



for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

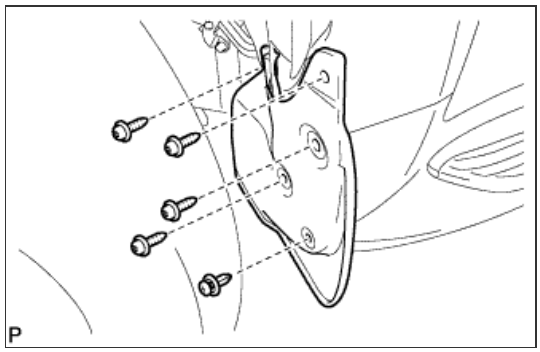
a. Remove the 7 clips and engine room side cover.



2. REMOVE FRONT FENDER MUDGUARD LH

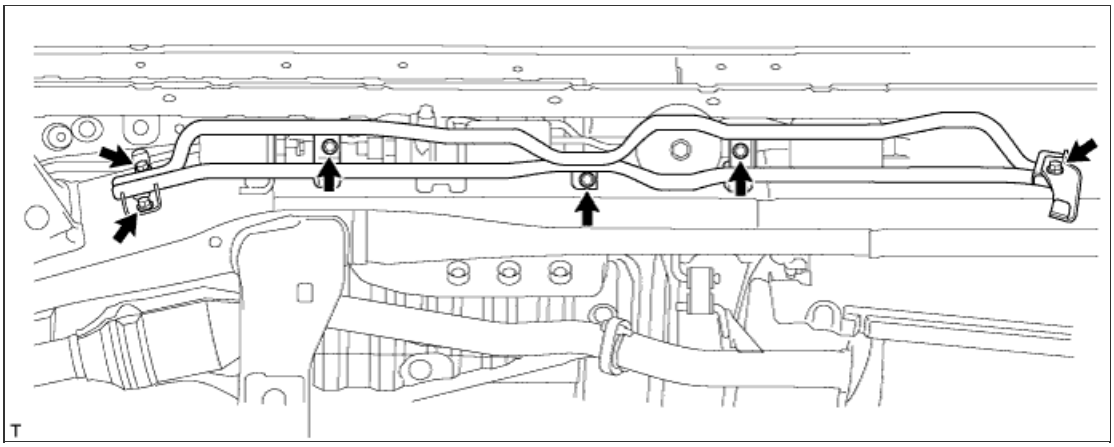
a. Remove the clip.

b. Using a T30 "TORX" socket, remove the 4 screws and mudguard.



3. REMOVE HEIGHT CONTROL PROTECTOR PIPE

a. Remove the 6 bolts and protector pipe.

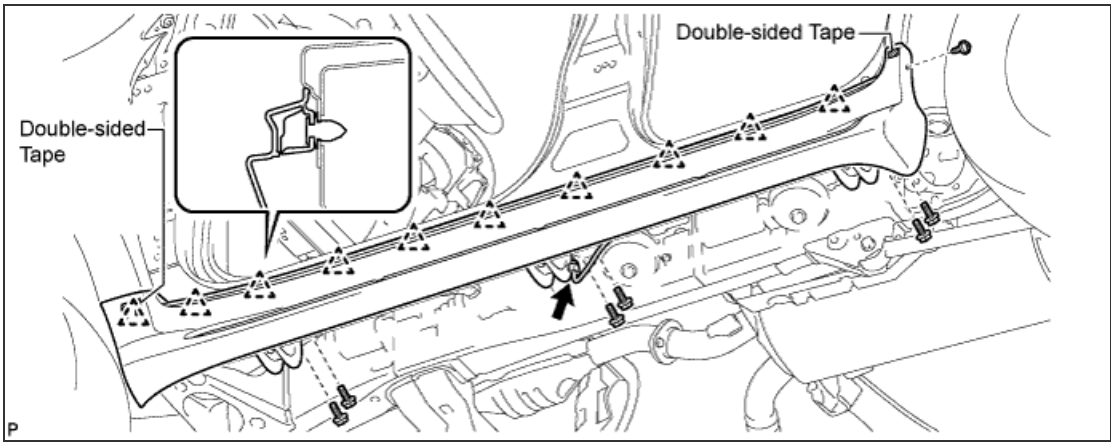


4. REMOVE SIDE STEP ASSEMBLY

a. Remove the screw and 6 bolts.

b. Disconnect the connector.

c. Detach the 10 clips and remove the double-sided tape to remove the side step.

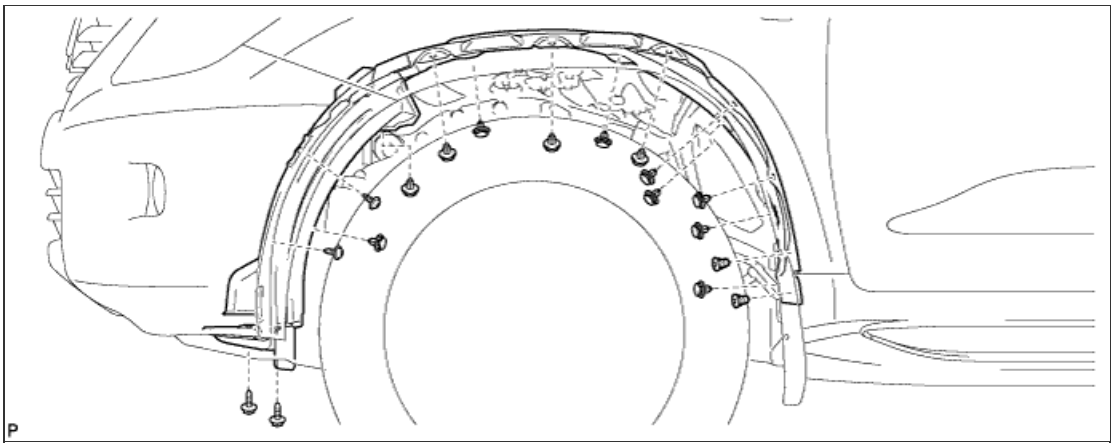


5. REMOVE FRONT FENDER LINER LH

a. Remove the 2 screws.

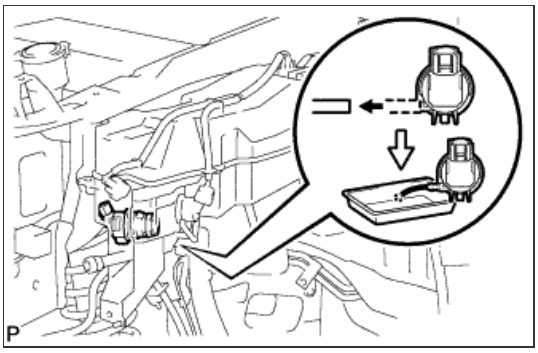
b. Using a T30 "TORX" socket, remove the 2 screws.

c. Using a clip remover, remove the 2 grommets, 12 clips and fender liner.



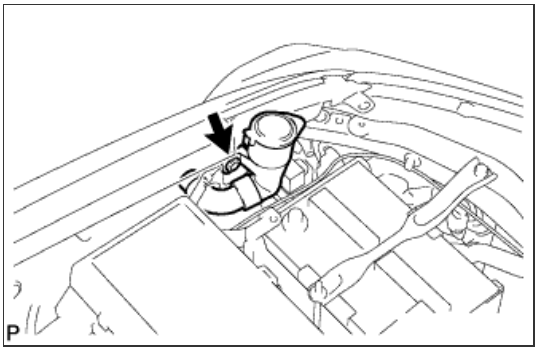
6. DRAIN WASHER FLUID

a. Remove the washer hose from the windshield washer motor and pump, and drain the washer fluid.



7. REMOVE WASHER INLET SUB-ASSEMBLY

a. Using a clip remover, remove the clip and washer inlet.

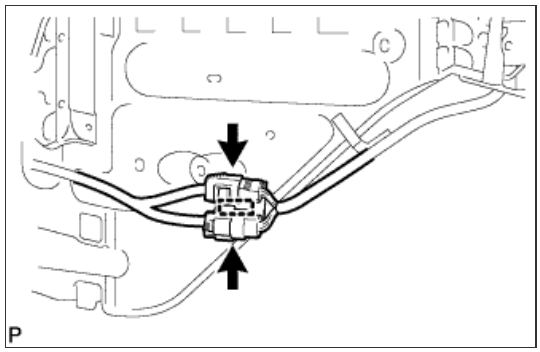


8. REMOVE WINDSHIELD WASHER JAR ASSEMBLY

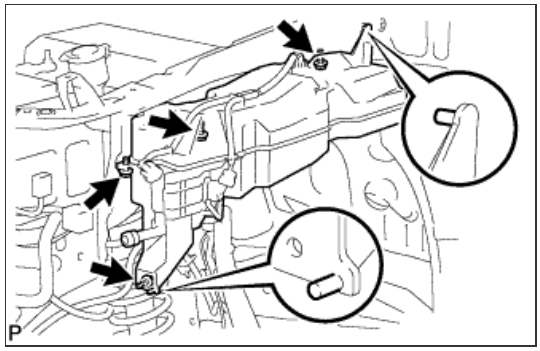
a. Detach the clamp.

b. Disconnect the 2 connectors.

c. Disconnect the headlight cleaner hose.



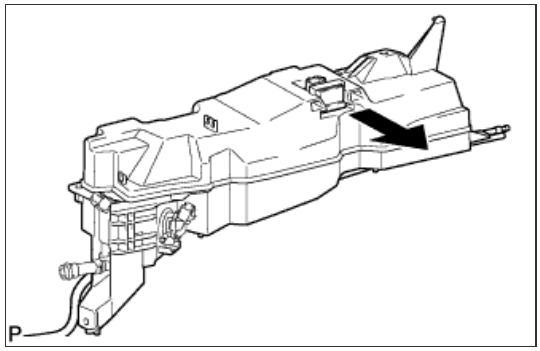
d. Remove the 4 bolts. Then remove the windshield washer jar and pump.



9. REMOVE HEADLIGHT CLEANER CONTROL RELAY

a. Disconnect the connector.

b. Remove the headlight cleaner control relay in the direction shown in the illustration.

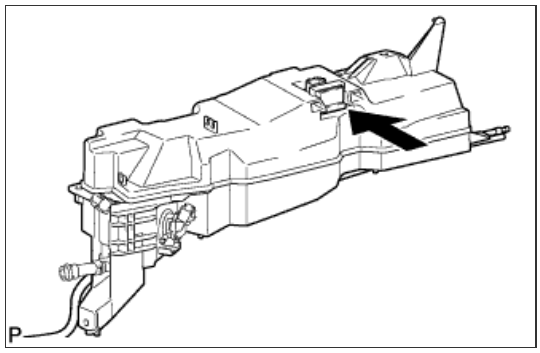


for Preparation Click here

1. INSTALL HEADLIGHT CLEANER CONTROL RELAY

a. Install the headlight cleaner control relay in the direction shown in the illustration.

b. Connect the connector.



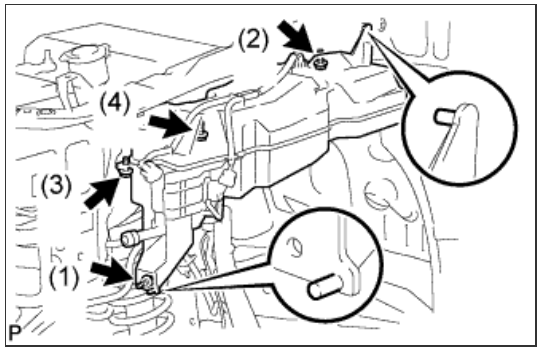
2. INSTALL WINDSHIELD WASHER JAR ASSEMBLY

a. Temporarily install the windshield washer jar with the 4 bolts.

b. Tighten the 4 bolts in the order shown in the illustration to install the windshield washer jar.

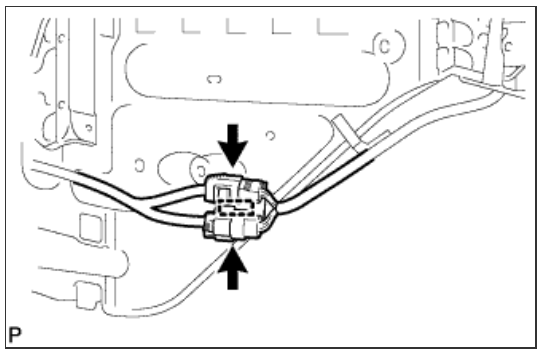
Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }

c. Connect the headlight cleaner hose to the windshield washer jar and pump.



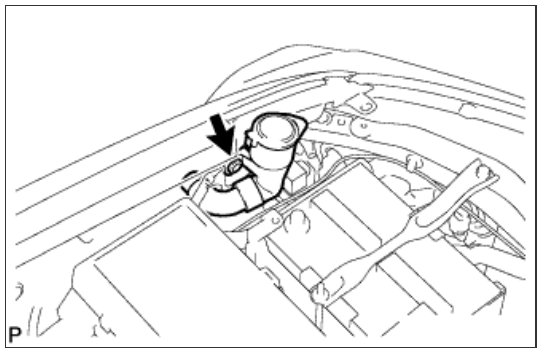
d. Connect the 2 connectors.

e. Attach the clamp.



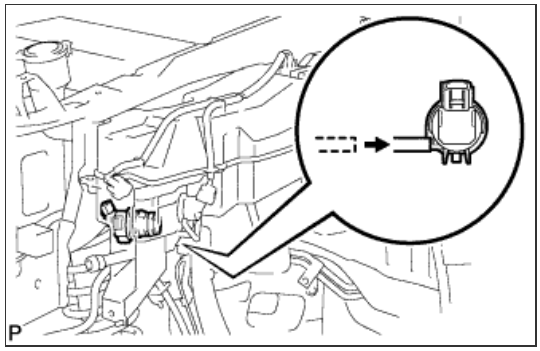
3. INSTALL WASHER INLET SUB-ASSEMBLY

a. Install the washer inlet with the clip.



4. FILL WINDSHIELD WASHER JAR AND PUMP ASSEMBLY WITH WASHER FLUID

a. Connect the washer hose to the windshield washer motor and pump, and fill the washer jar with washer fluid.

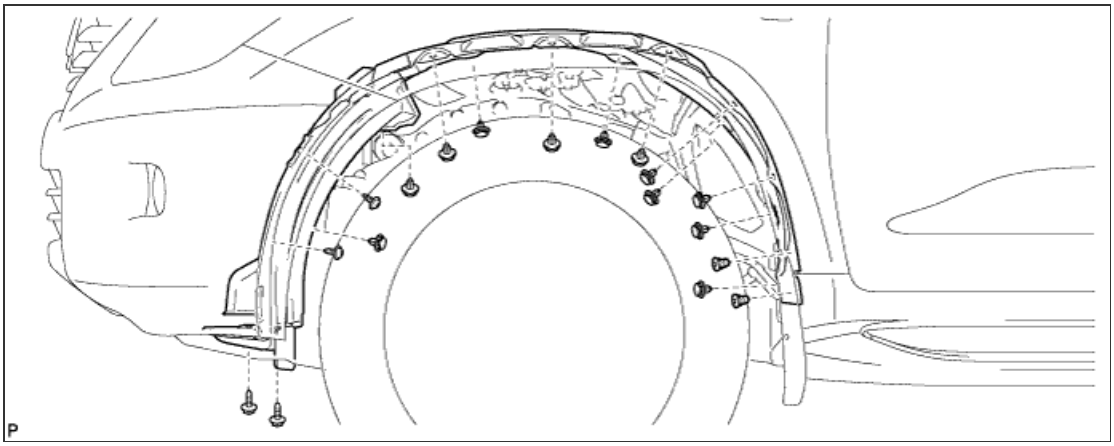


5. INSTALL FRONT FENDER LINER LH

a. Install the fender liner with the 12 clips and 2 new grommets.

b. Using a T30 "TORX" socket, install the 2 screws.

c. Install the 2 screws.



6. INSTALL SIDE STEP ASSEMBLY

a. Clean the vehicle body 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.

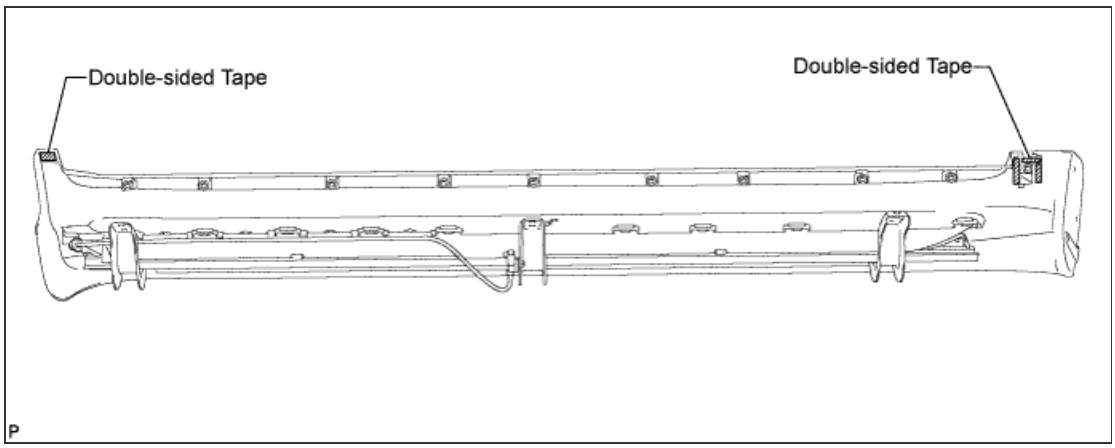
b. If reusing the side step:
Clean the side step.

i. Using a heat light, heat the side step.

ii. Remove the double-sided tape from the side step.

iii. Wipe off any tape adhesive residue with cleaner.

iv. Apply new double-sided tape to the side step, as shown in the illustration.



c. Install the side step.

i. Using a heat light, heat the vehicle body and side step.

ii. Remove the peeling paper from the face of the side step.

HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

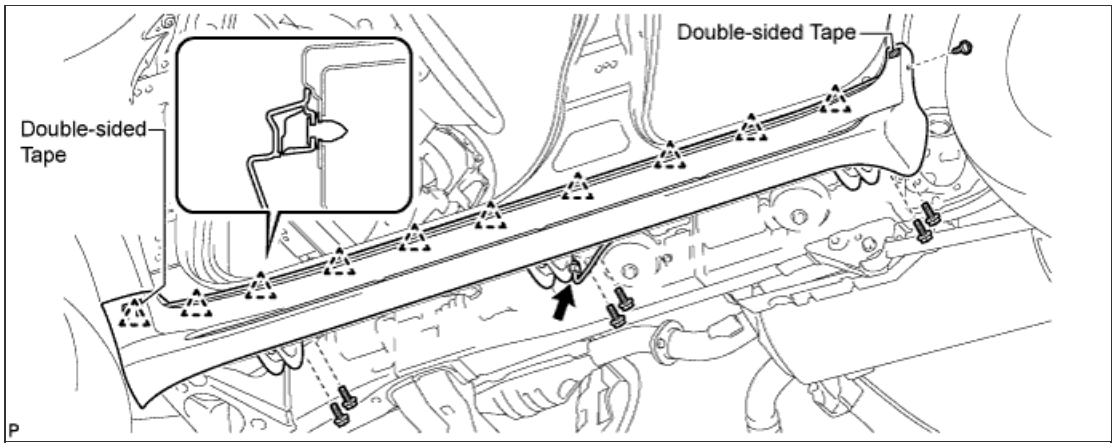
iii. Attach the 10 clips to install the side step.

iv. Install the 6 bolts.

Torque:
30 N*m{ 306 kgf*cm , 22 ft.*lbf }

v. Install the screw.

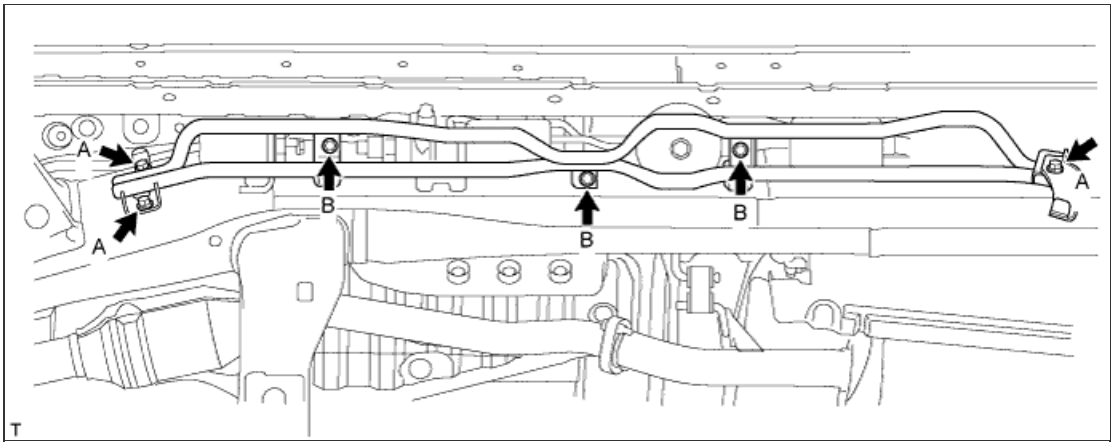
vi. Connect the connector.



7. INSTALL HEIGHT CONTROL PROTECTOR PIPE

a. Install the protector pipe with the 6 bolts.

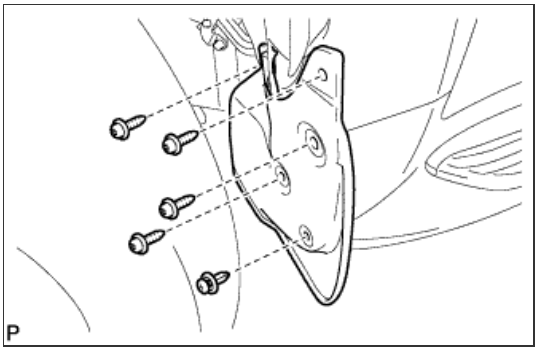
Torque:
for bolt A:
31 N*m{ 316 kgf*cm , 23 ft.*lbf }
for bolt B:
16 N*m{ 163 kgf*cm , 12 ft.*lbf }



8. INSTALL FRONT FENDER MUDGUARD LH

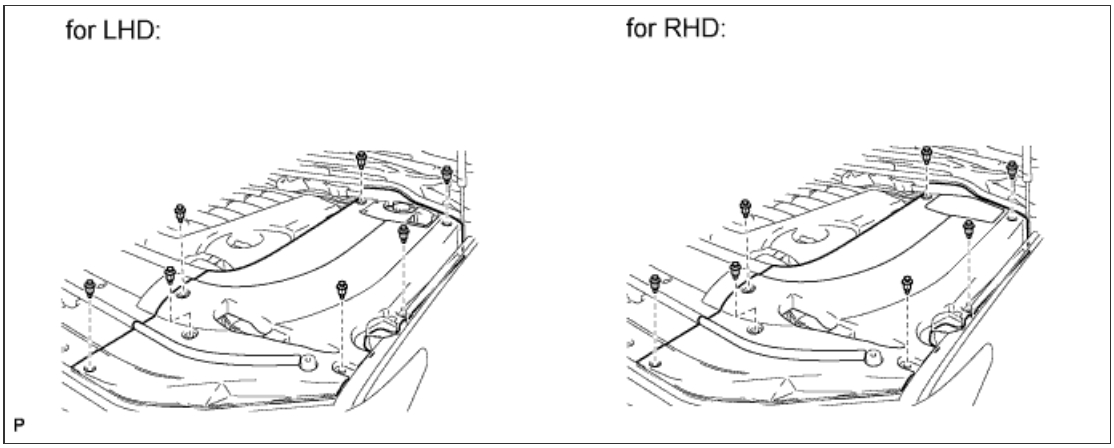
a. Install the mudguard with the clip.

b. Using a T30 "TORX" socket, install the 4 screws.



9. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



for Preparation Click here

1.PRECAUTION FOR USING BATTERY DURING INSPECTION

a. While using the battery during inspection, do not bring the positive and negative tester probes too close to each other as a short circuit may occur.

2.PRECAUTION WHEN SERVICING LIGHTING SYSTEM

a. When any defects such as deformation, cracks, dents, chipping, etc. are identified on the discharge headlight, replace it with a new one.

b. Even if the operation seems to be normal, the fail-safe function may be defective.

c. Since the bulb of the discharge headlight and halogen bulbs (for headlight or front fog light) have pressurized gas inside and can easily be broken if scratched or dropped, special care should be taken.
When handling the bulb, hold the plastic or metal part and do not touch the glass part with bare hands.

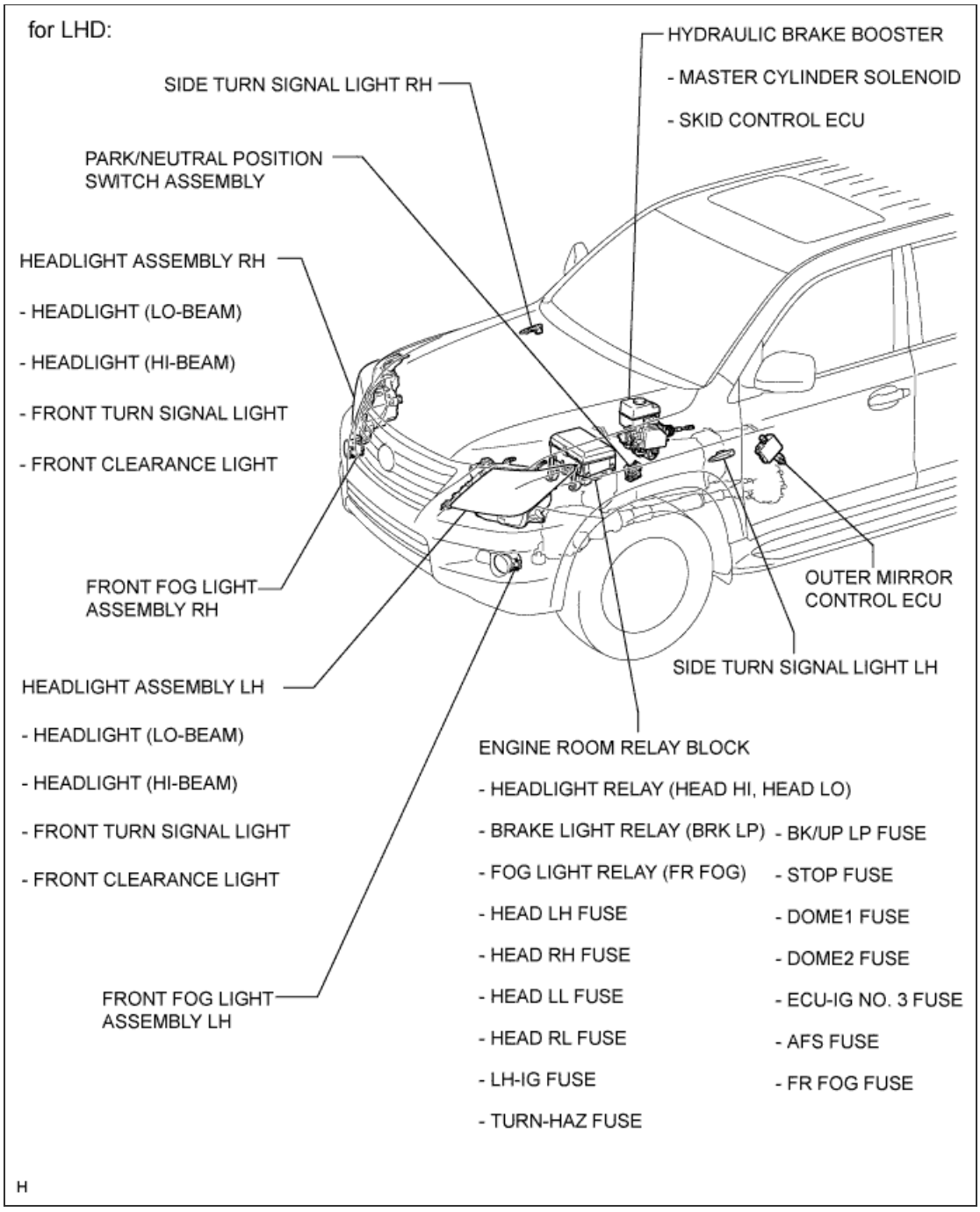
d. Never touch the high voltage socket of the discharge headlight with the light control switch in the HEAD position, as this could generate a momentary high voltage of 20000 V and lead to a serious accident.

e. Never connect a tester to the high voltage socket of the discharge headlight for measurement, as this may result in a serious accident because of high voltage.

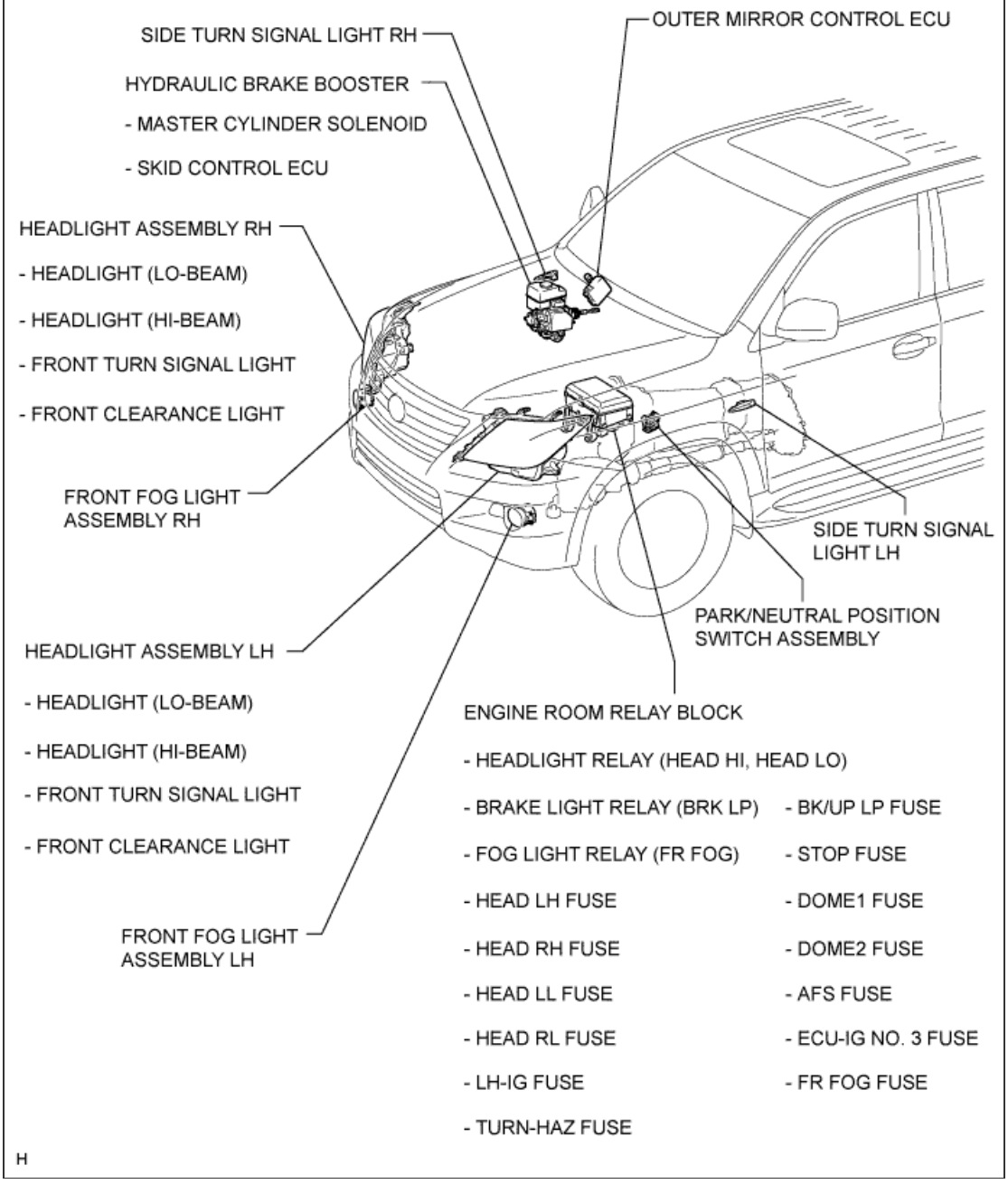
f. When servicing the discharge headlight, do not allow the discharge headlight to come into contact with water. Turn off the light control switch and disconnect the cable from the negative (-) battery terminal and the connector of the headlight control ECU in advance to avoid electric shocks.

g. Do not turn on the discharge headlight using a power source other than the vehicle battery.

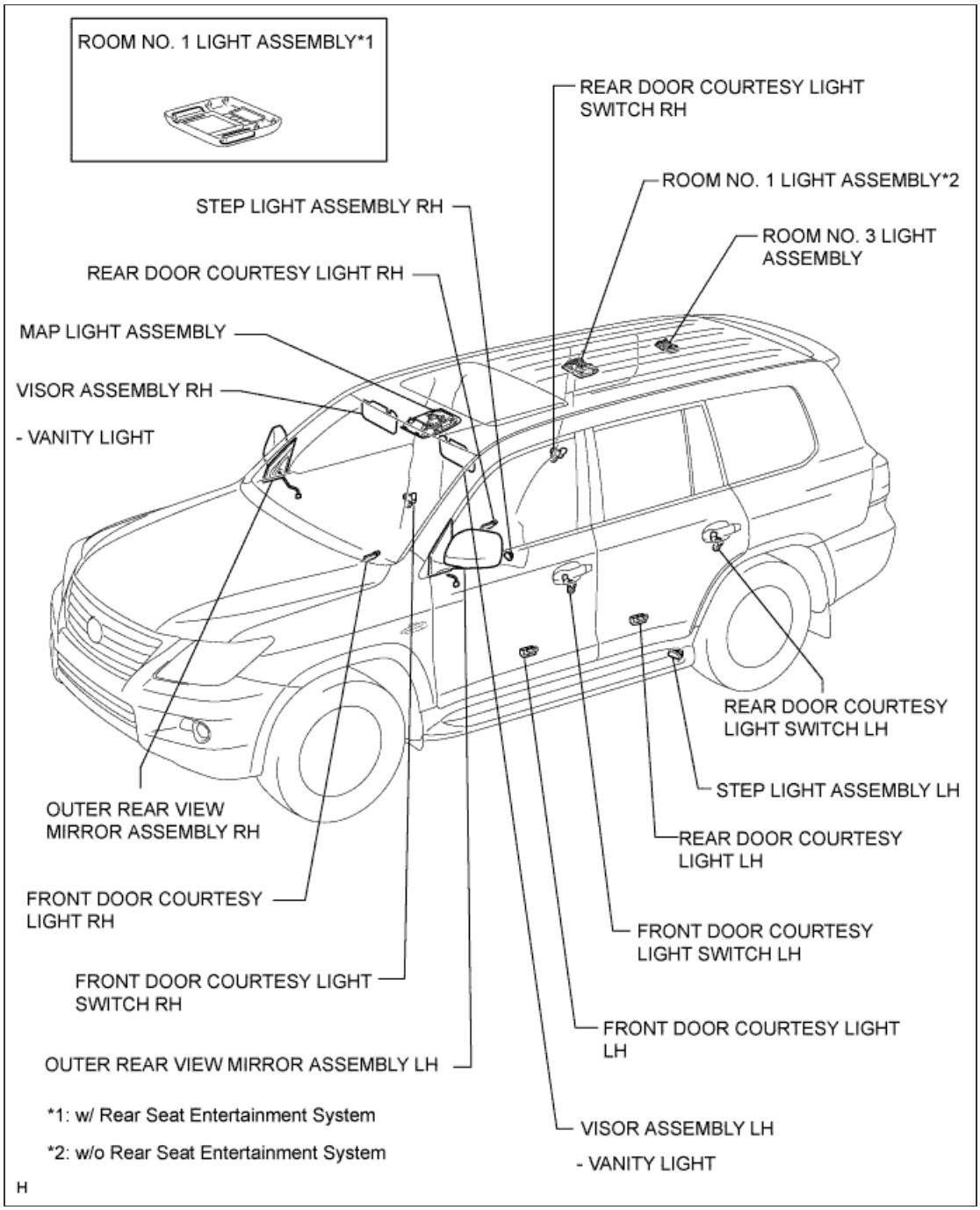
for Preparation Click here

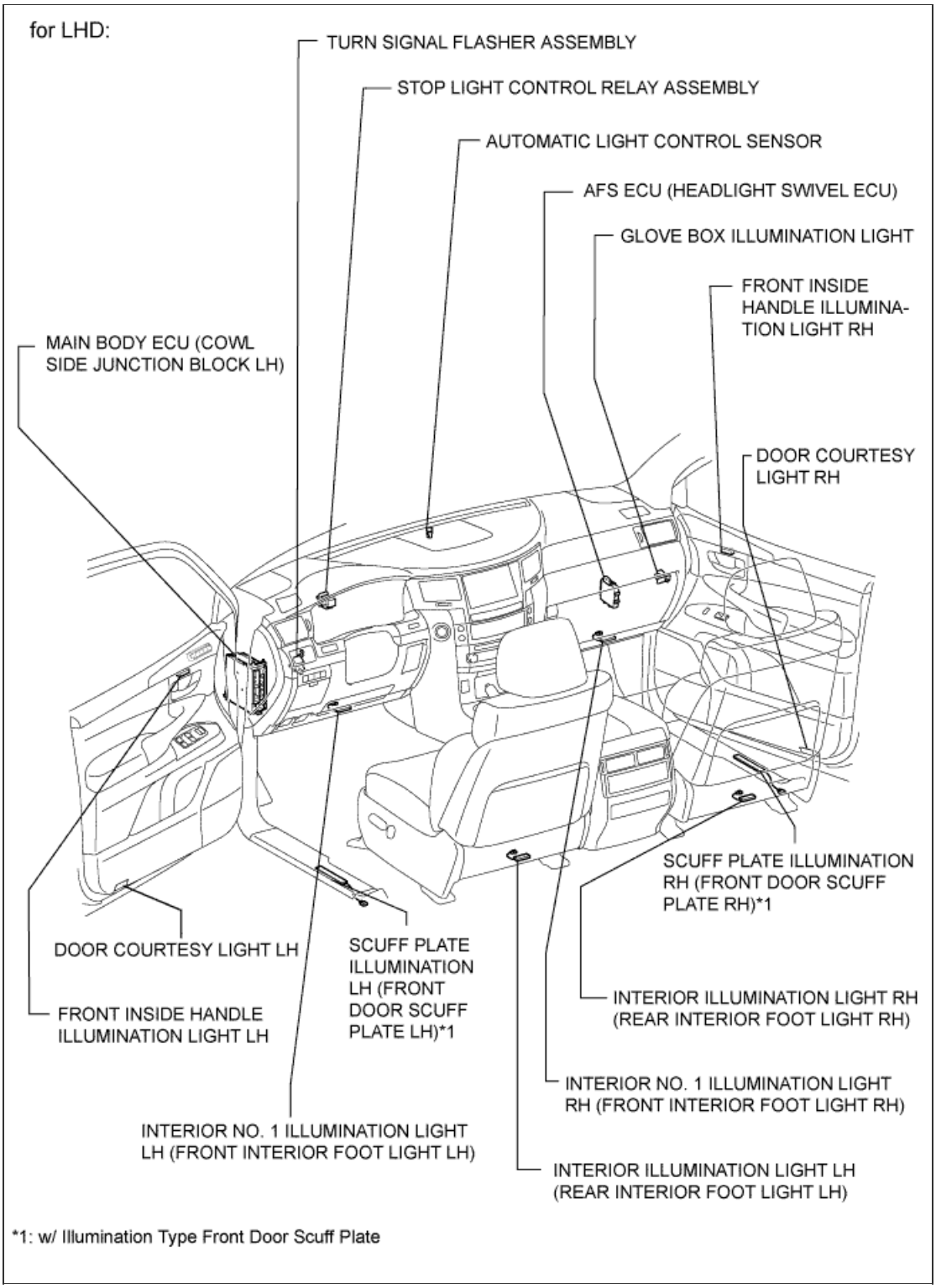


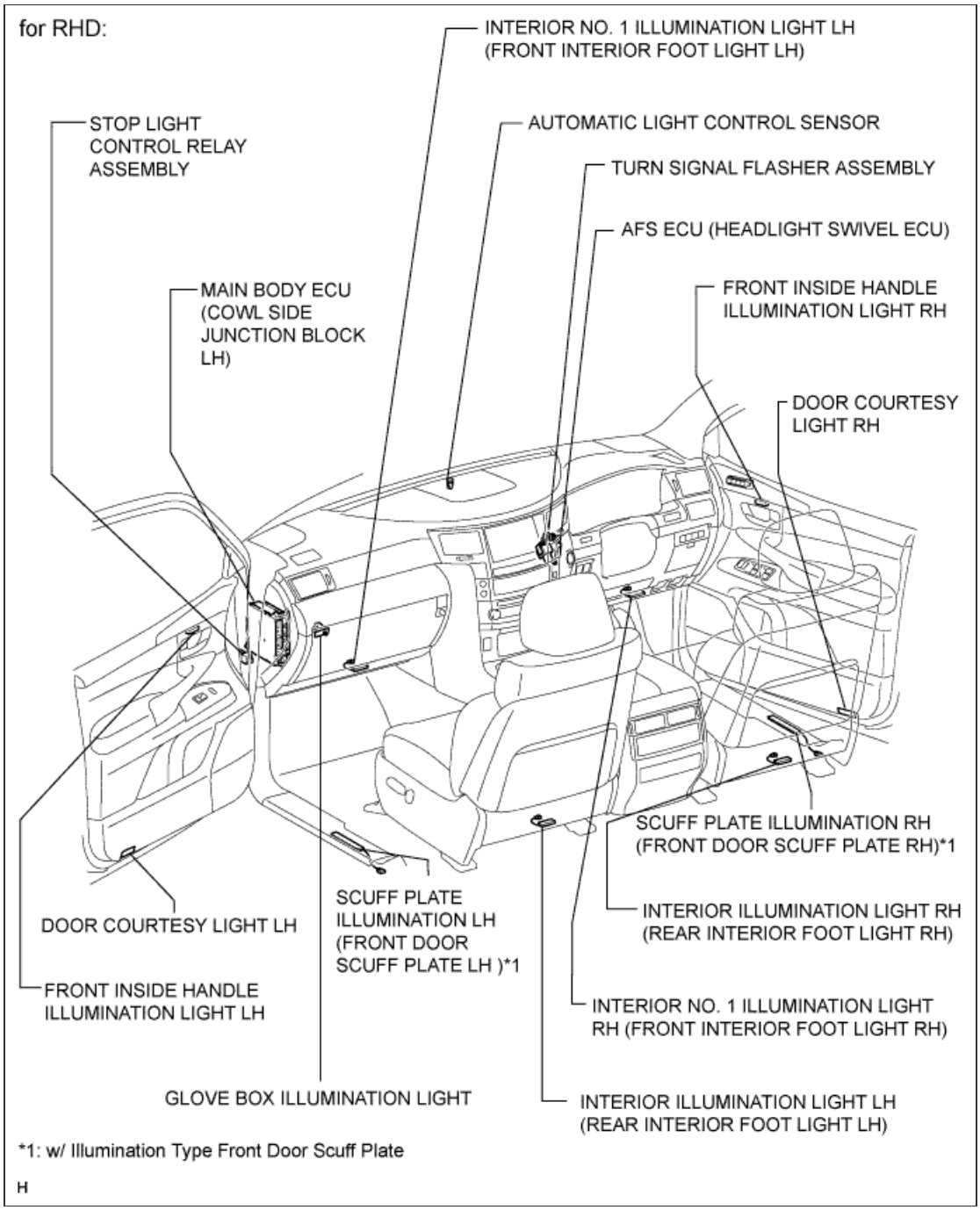
for RHD:


SIDE TURN SIGNAL LIGHT RH
OUTER MIRROR CONTROL ECU
HYDRAULIC BRAKE BOOSTER
- MASTER CYLINDER SOLENOID
- SKID CONTROL ECU
HEADLIGHT ASSEMBLY RH
- HEADLIGHT (LO-BEAM)
- HEADLIGHT (HI-BEAM)
- FRONT TURN SIGNAL LIGHT
- FRONT CLEARANCE LIGHT
FRONT FOG LIGHT ASSEMBLY RH
SIDE TURN SIGNAL LIGHT LH
PARK/NEUTRAL POSITION SWITCH ASSEMBLY
HEADLIGHT ASSEMBLY LH
- HEADLIGHT (LO-BEAM)
- HEADLIGHT (HI-BEAM)
- FRONT TURN SIGNAL LIGHT
- FRONT CLEARANCE LIGHT
FRONT FOG LIGHT ASSEMBLY LH
ENGINE ROOM RELAY BLOCK
- HEADLIGHT RELAY (HEAD HI, HEAD LO)
- BRAKE LIGHT RELAY (BRK LP)
- FOG LIGHT RELAY (FR FOG)
- HEAD LH FUSE
- HEAD RH FUSE
- HEAD LL FUSE
- HEAD RL FUSE
- LH-IG FUSE
- TURN-HAZ FUSE
- BK/UP LP FUSE
- STOP FUSE
- DOME1 FUSE
- DOME2 FUSE
- AFS FUSE
- ECU-IG NO. 3 FUSE
- FR FOG FUSE

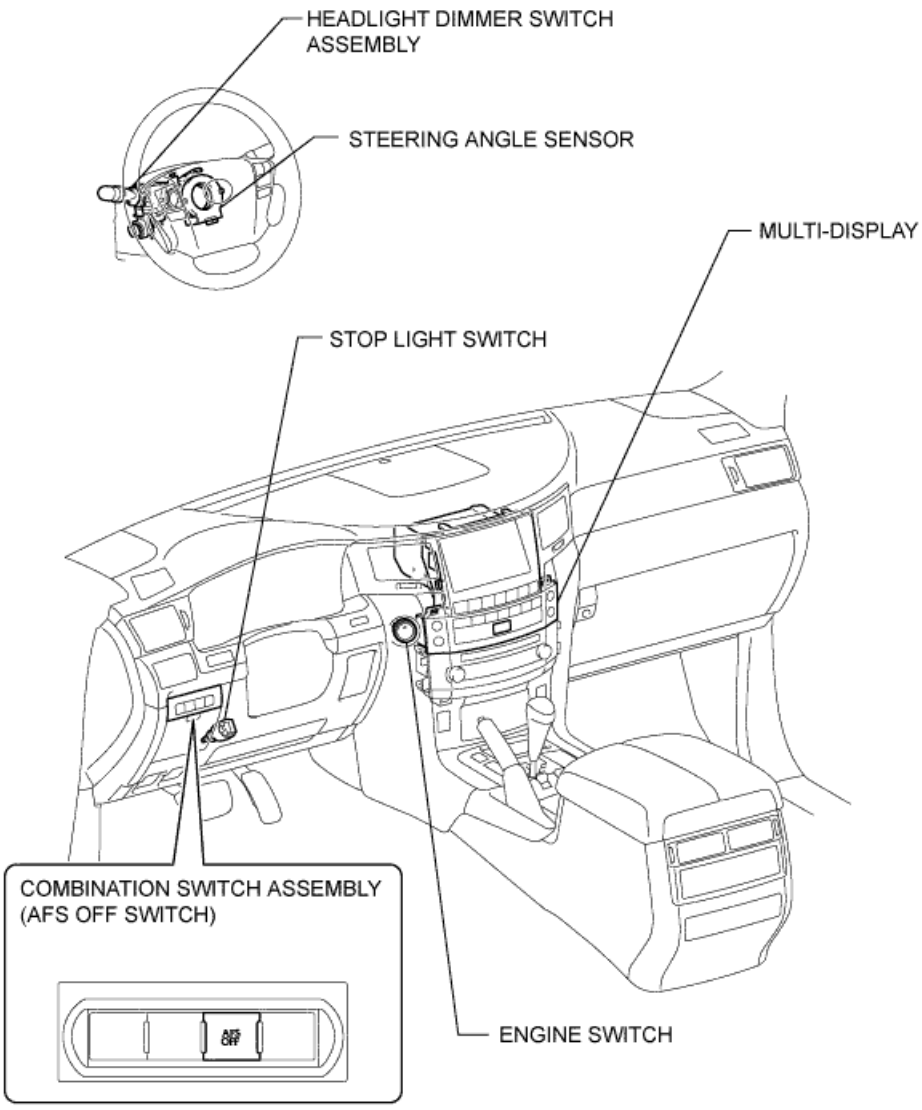
H


ROOM NO. 1 LIGHT ASSEMBLY*1
REAR DOOR COURTESY LIGHT SWITCH RH
ROOM NO. 1 LIGHT ASSEMBLY*2
STEP LIGHT ASSEMBLY RH
ROOM NO. 3 LIGHT ASSEMBLY
REAR DOOR COURTESY LIGHT RH
MAP LIGHT ASSEMBLY
VISOR ASSEMBLY RH
- VANITY LIGHT
REAR DOOR COURTESY LIGHT SWITCH LH
STEP LIGHT ASSEMBLY LH
OUTER REAR VIEW MIRROR ASSEMBLY RH
REAR DOOR COURTESY LIGHT LH
FRONT DOOR COURTESY LIGHT RH
FRONT DOOR COURTESY LIGHT SWITCH LH
FRONT DOOR COURTESY LIGHT SWITCH RH
FRONT DOOR COURTESY LIGHT LH
OUTER REAR VIEW MIRROR ASSEMBLY LH
*1: w/ Rear Seat Entertainment System
*2: w/o Rear Seat Entertainment System
VISOR ASSEMBLY LH
- VANITY LIGHT
H


for LHD:
TURN SIGNAL FLASHER ASSEMBLY
STOP LIGHT CONTROL RELAY ASSEMBLY
AUTOMATIC LIGHT CONTROL SENSOR
AFS ECU (HEADLIGHT SWIVEL ECU)
GLOVE BOX ILLUMINATION LIGHT
FRONT INSIDE HANDLE ILLUMINATION LIGHT RH
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
DOOR COURTESY LIGHT RH
SCUFF PLATE ILLUMINATION RH (FRONT DOOR SCUFF PLATE RH)*1
DOOR COURTESY LIGHT LH
SCUFF PLATE ILLUMINATION LH (FRONT DOOR SCUFF PLATE LH)*1
FRONT INSIDE HANDLE ILLUMINATION LIGHT LH
INTERIOR ILLUMINATION LIGHT RH (REAR INTERIOR FOOT LIGHT RH)
INTERIOR NO. 1 ILLUMINATION LIGHT RH (FRONT INTERIOR FOOT LIGHT RH)
INTERIOR NO. 1 ILLUMINATION LIGHT LH (FRONT INTERIOR FOOT LIGHT LH)
INTERIOR ILLUMINATION LIGHT LH (REAR INTERIOR FOOT LIGHT LH)
*1: w/ Illumination Type Front Door Scuff Plate

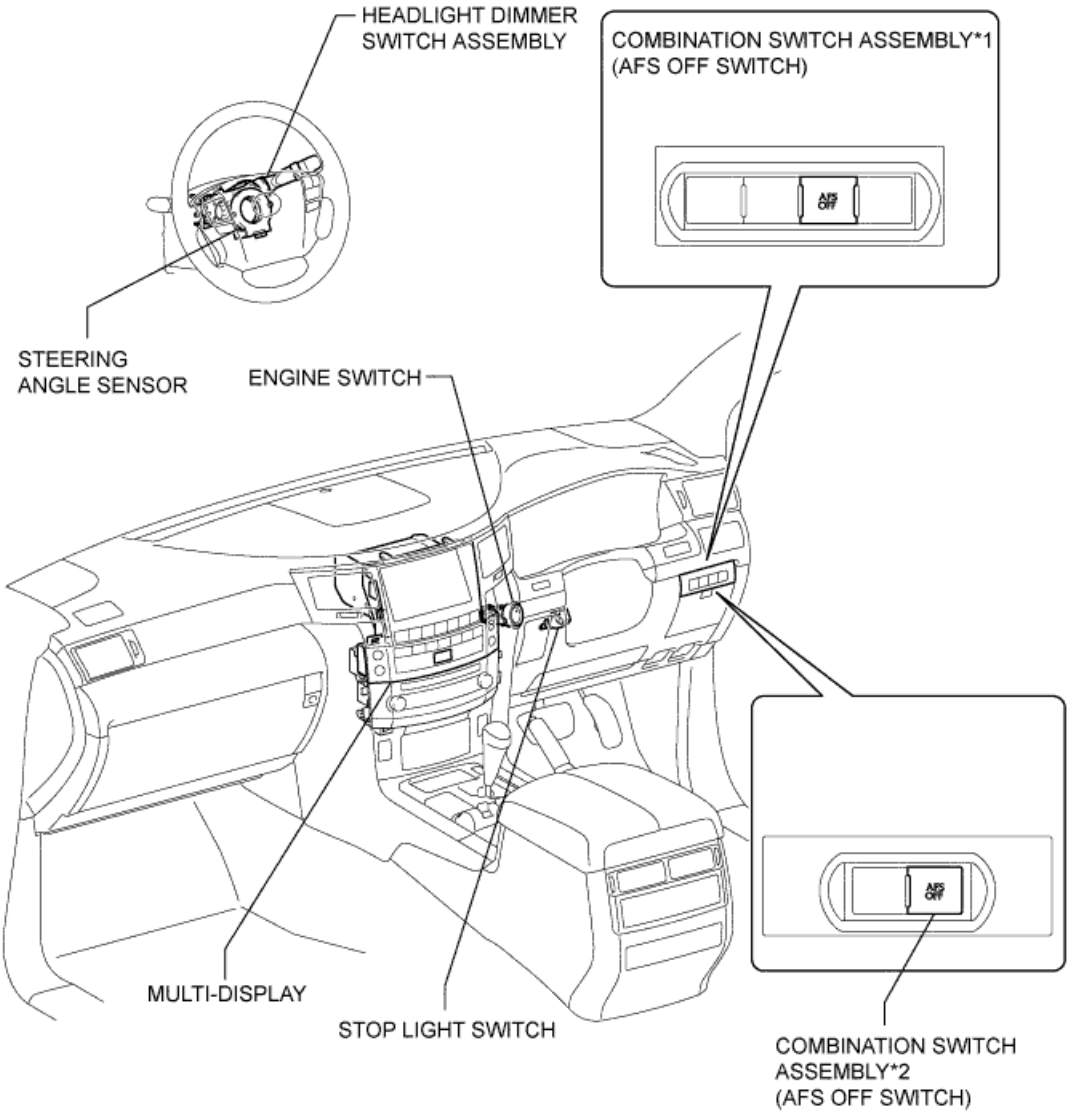

for RHD:
INTERIOR NO. 1 ILLUMINATION LIGHT LH (FRONT INTERIOR FOOT LIGHT LH)
STOP LIGHT CONTROL RELAY ASSEMBLY
AUTOMATIC LIGHT CONTROL SENSOR
TURN SIGNAL FLASHER ASSEMBLY
AFS ECU (HEADLIGHT SWIVEL ECU)
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
FRONT INSIDE HANDLE ILLUMINATION LIGHT RH
DOOR COURTESY LIGHT RH
SCUFF PLATE ILLUMINATION RH (FRONT DOOR SCUFF PLATE RH)*1
INTERIOR ILLUMINATION LIGHT RH (REAR INTERIOR FOOT LIGHT RH)
DOOR COURTESY LIGHT LH
SCUFF PLATE ILLUMINATION LH (FRONT DOOR SCUFF PLATE LH)*1
FRONT INSIDE HANDLE ILLUMINATION LIGHT LH
INTERIOR NO. 1 ILLUMINATION LIGHT RH (FRONT INTERIOR FOOT LIGHT RH)
GLOVE BOX ILLUMINATION LIGHT
INTERIOR ILLUMINATION LIGHT LH (REAR INTERIOR FOOT LIGHT LH)
*1: w/ Illumination Type Front Door Scuff Plate
H

for LHD:


HEADLIGHT DIMMER SWITCH ASSEMBLY
STEERING ANGLE SENSOR
MULTI-DISPLAY
STOP LIGHT SWITCH
COMBINATION SWITCH ASSEMBLY (AFS OFF SWITCH)
OFF
ENGINE SWITCH

H

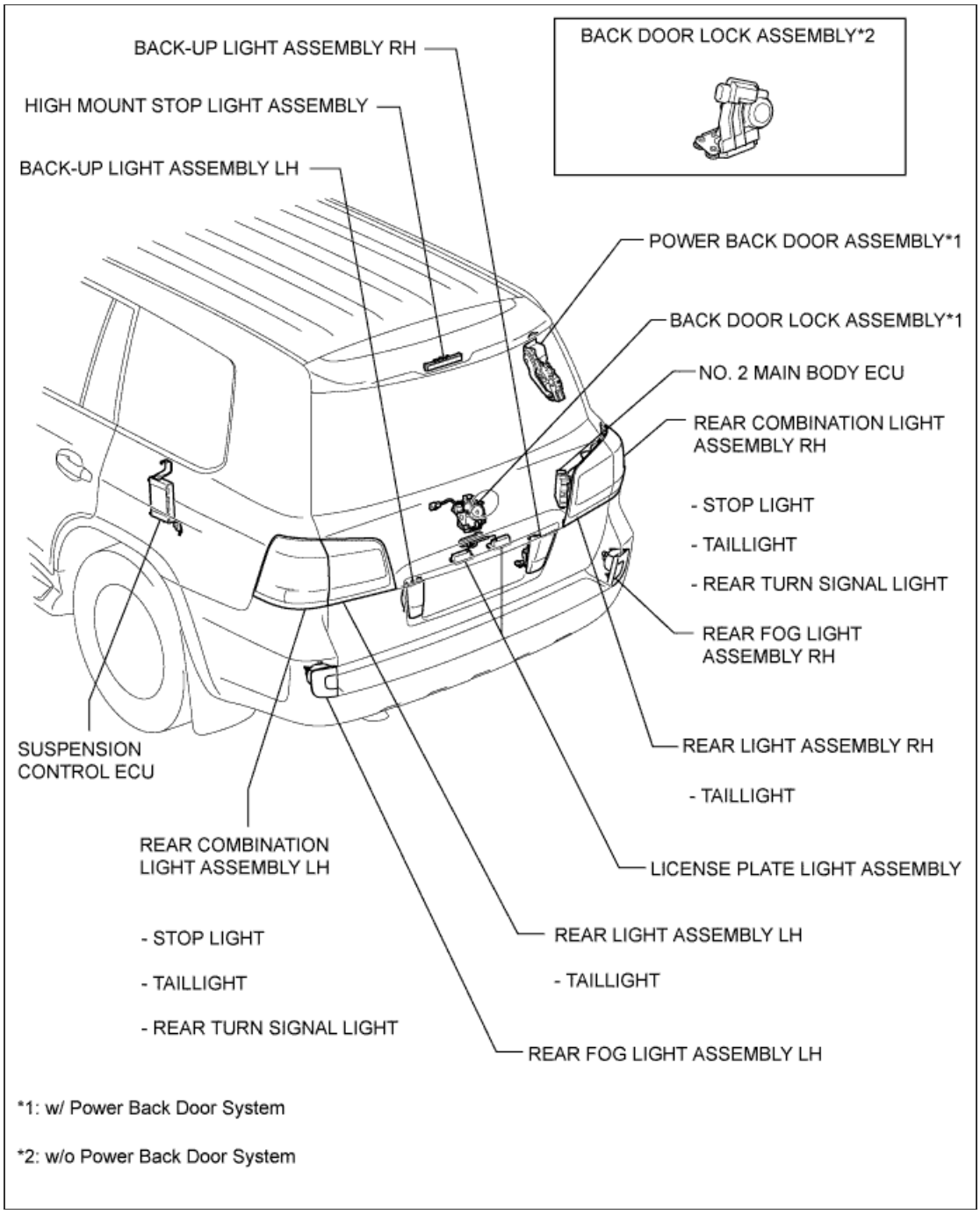
for RHD:



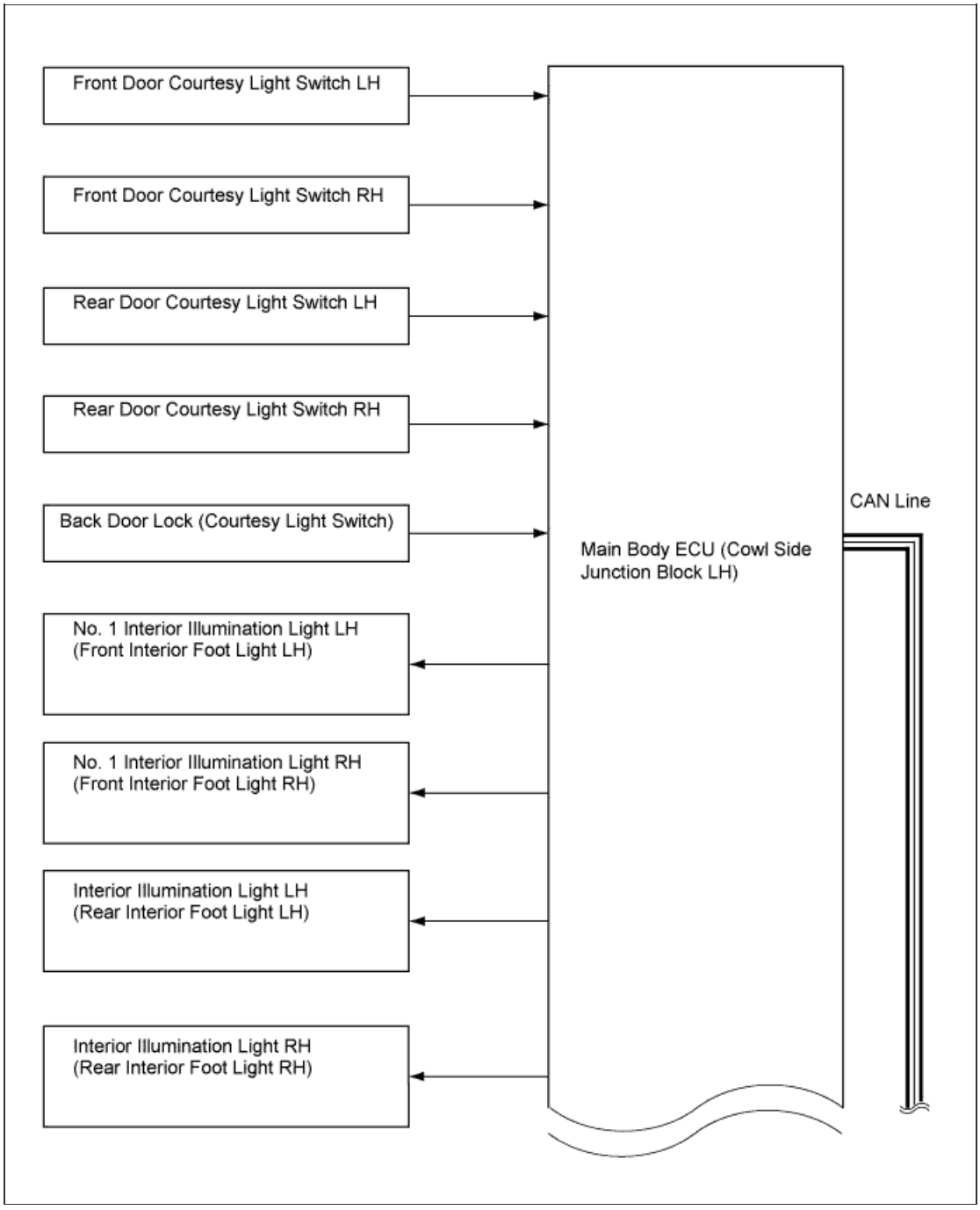
*1: w/ Power Back Door System

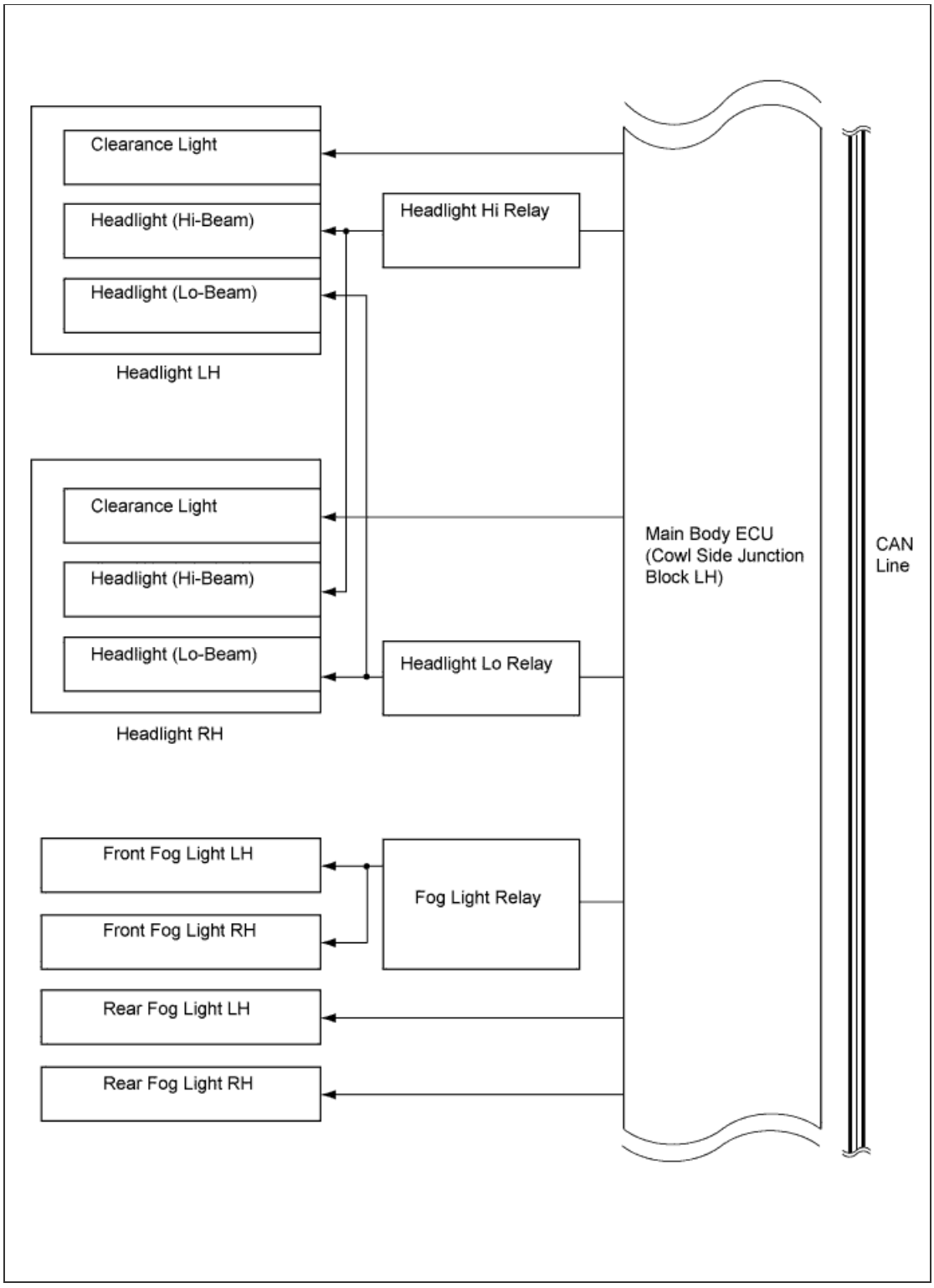
*2: w/o Power Back Door System

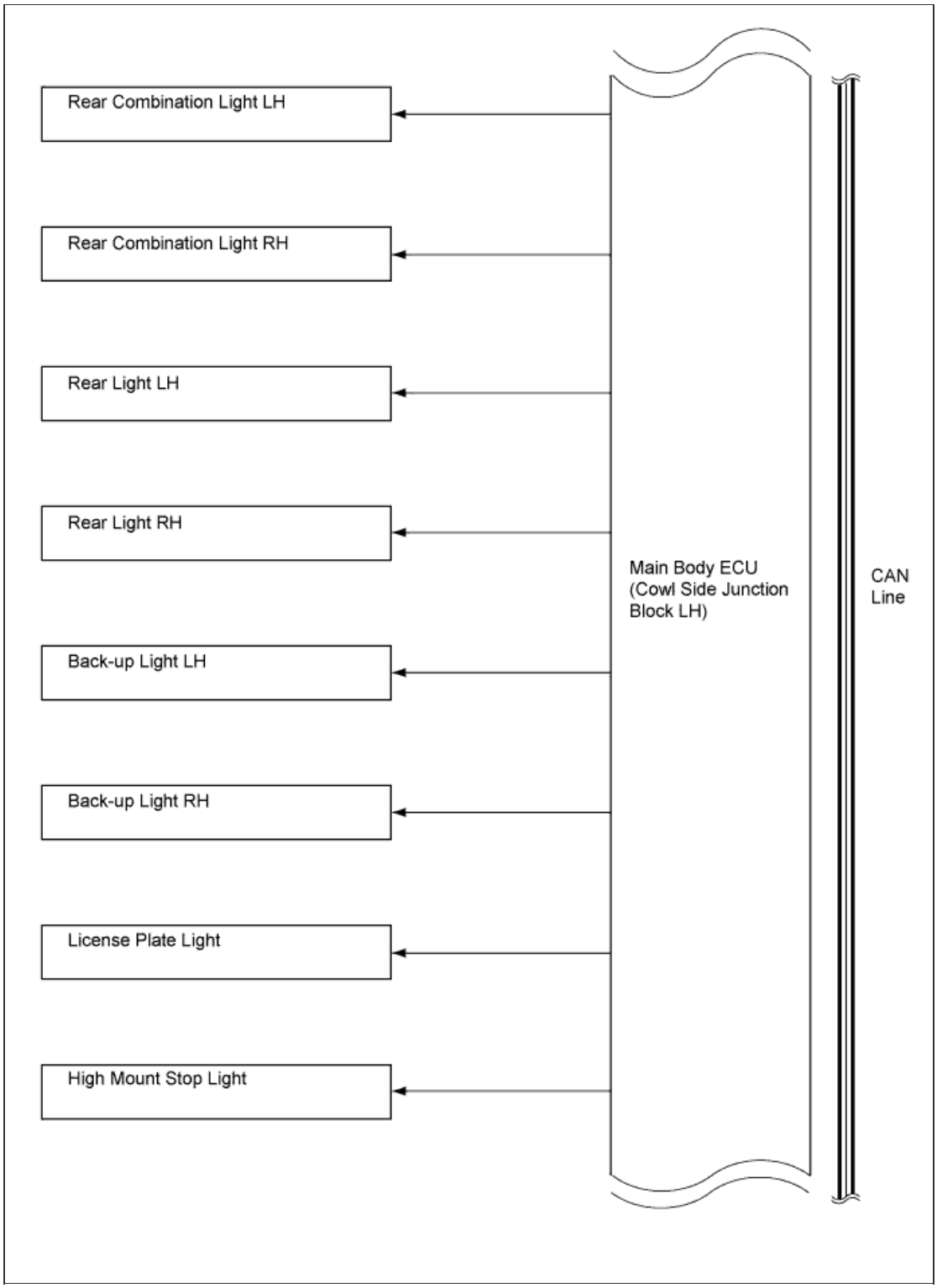
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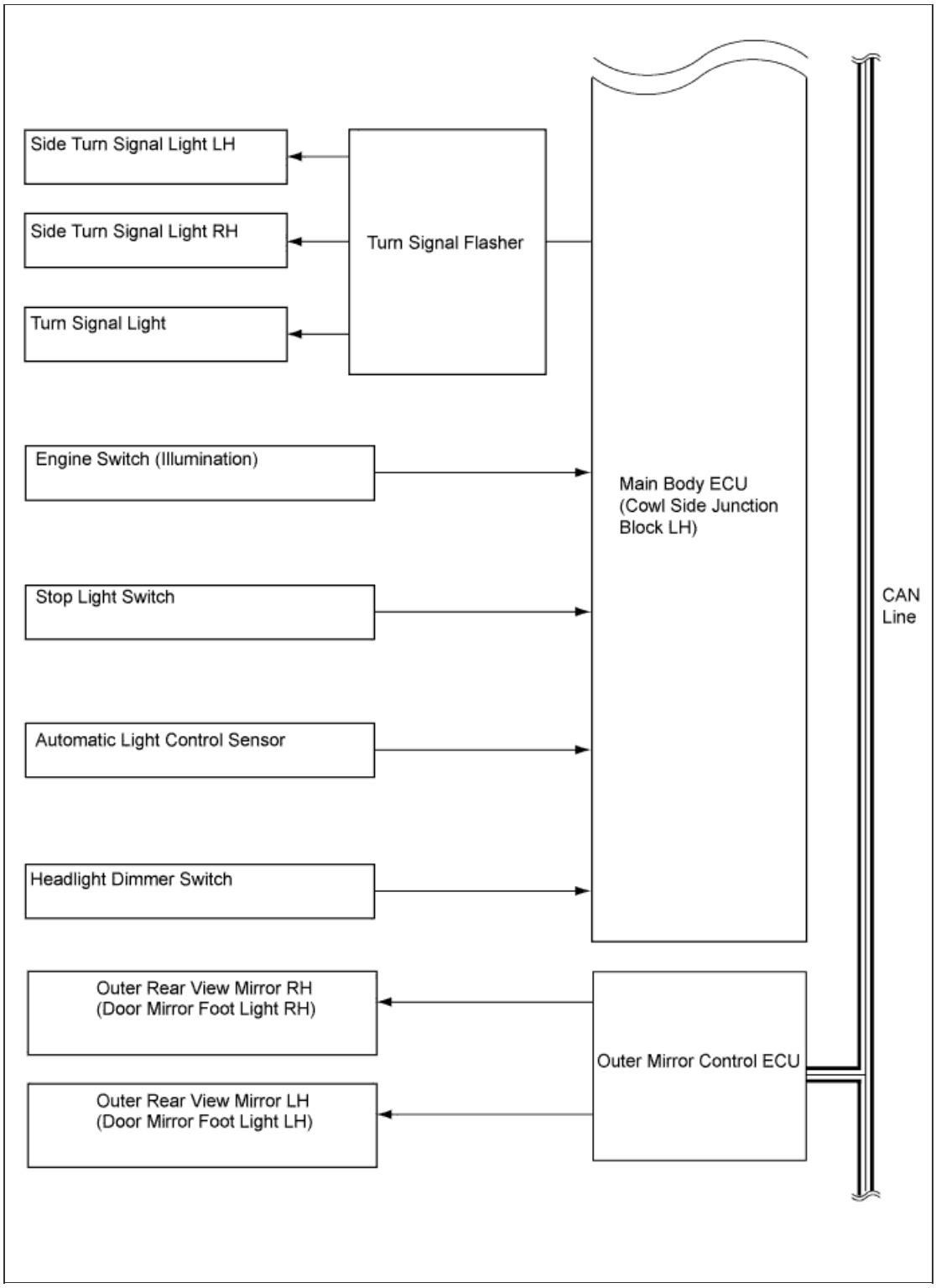

BACK-UP LIGHT ASSEMBLY RH
HIGH MOUNT STOP LIGHT ASSEMBLY
BACK-UP LIGHT ASSEMBLY LH
BACK DOOR LOCK ASSEMBLY*2
POWER BACK DOOR ASSEMBLY*1
BACK DOOR LOCK ASSEMBLY*1
NO. 2 MAIN BODY ECU
REAR COMBINATION LIGHT ASSEMBLY RH
- STOP LIGHT
- TAILLIGHT
- REAR TURN SIGNAL LIGHT
REAR FOG LIGHT ASSEMBLY RH
SUSPENSION CONTROL ECU
REAR LIGHT ASSEMBLY RH
- TAILLIGHT
REAR COMBINATION LIGHT ASSEMBLY LH
- STOP LIGHT
- TAILLIGHT
- REAR TURN SIGNAL LIGHT
LICENSE PLATE LIGHT ASSEMBLY
REAR LIGHT ASSEMBLY LH
- TAILLIGHT
REAR FOG LIGHT ASSEMBLY LH
*1: w/ Power Back Door System
*2: w/o Power Back Door System

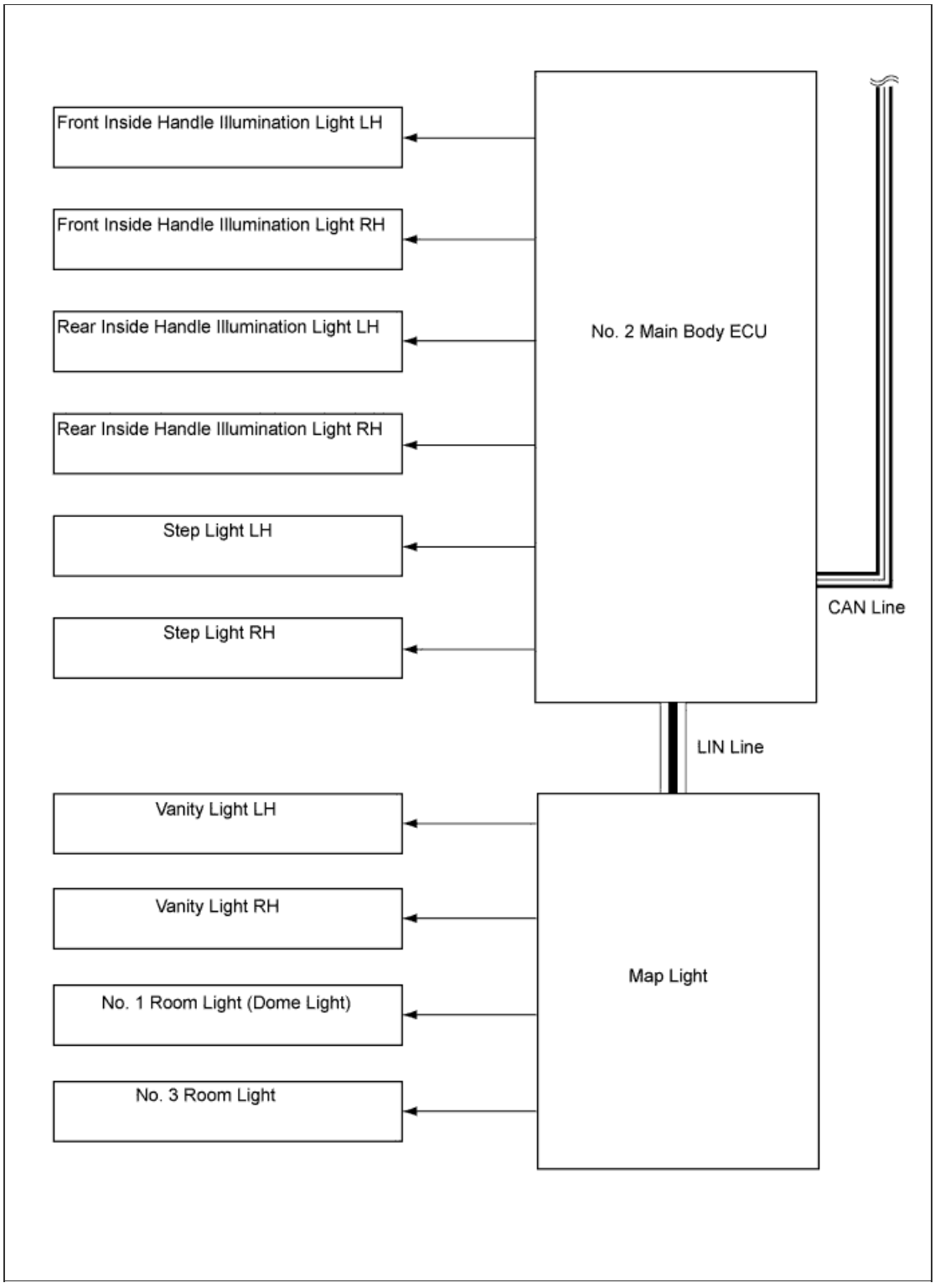
for Preparation Click here



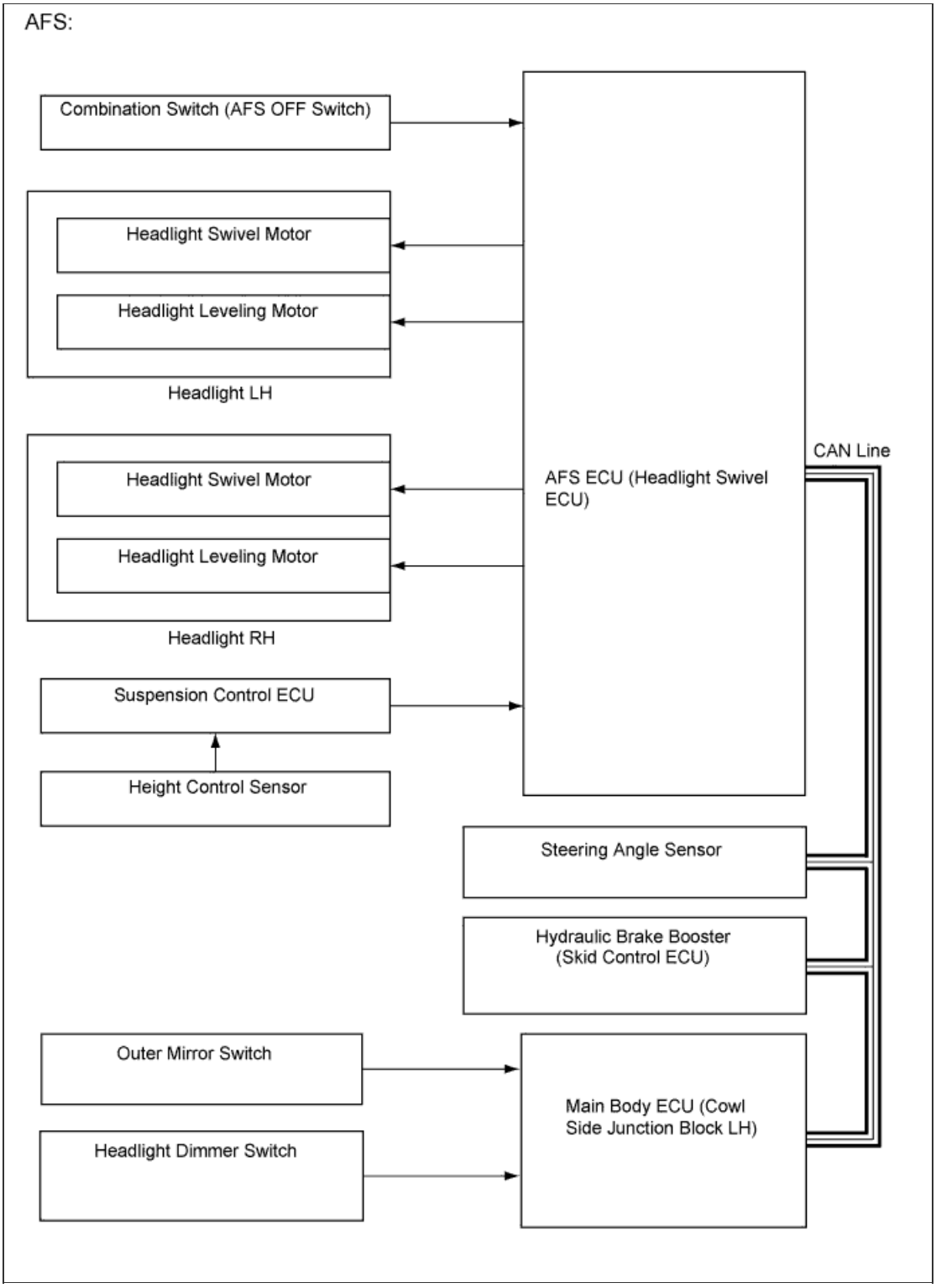

Clearance Light
Headlight (Hi-Beam)
Headlight (Lo-Beam)
Headlight LH
Headlight Hi Relay
Clearance Light
Headlight (Hi-Beam)
Headlight (Lo-Beam)
Headlight RH
Headlight Lo Relay
Front Fog Light LH
Front Fog Light RH
Fog Light Relay
Rear Fog Light LH
Rear Fog Light RH
Main Body ECU
(Cowl Side Junction
Block LH)
CAN
Line


Rear Combination Light LH
Rear Combination Light RH
Rear Light LH
Rear Light RH
Back-up Light LH
Back-up Light RH
License Plate Light
High Mount Stop Light
Main Body ECU
(Cowl Side Junction
Block LH)
CAN
Line


Side Turn Signal Light LH
Side Turn Signal Light RH
Turn Signal Light
Turn Signal Flasher
Engine Switch (Illumination)
Stop Light Switch
Automatic Light Control Sensor
Headlight Dimmer Switch
Main Body ECU
(Cowl Side Junction
Block LH)
CAN
Line
Outer Rear View Mirror RH
(Door Mirror Foot Light RH)
Outer Rear View Mirror LH
(Door Mirror Foot Light LH)
Outer Mirror Control ECU


Front Inside Handle Illumination Light LH
Front Inside Handle Illumination Light RH
Rear Inside Handle Illumination Light LH
Rear Inside Handle Illumination Light RH
Step Light LH
Step Light RH
No. 2 Main Body ECU
CAN Line
LIN Line
Vanity Light LH
Vanity Light RH
No. 1 Room Light (Dome Light)
No. 3 Room Light
Map Light

AFS:


Combination Switch (AFS OFF Switch)
Headlight Swivel Motor
Headlight Leveling Motor
Headlight LH
Headlight Swivel Motor
Headlight Leveling Motor
Headlight RH
Suspension Control ECU
Height Control Sensor
AFS ECU (Headlight Swivel ECU)
CAN Line
Steering Angle Sensor
Hydraulic Brake Booster (Skid Control ECU)
Outer Mirror Switch
Headlight Dimmer Switch
Main Body ECU (Cowl Side Junction Block LH)

for Preparation Click here

AUTOMATIC HEADLIGHT BEAM LEVEL CONTROL SYSTEM

- When the headlights are on, the automatic headlight beam level control system operates the headlight level actuator in accordance with the movement of the vehicle.
- The automatic headlight beam level control system mainly consists of the AFS ECU, front and rear height control sensors, and 2 headlight level actuators.
- For vehicles with the air suspension system, the AFS ECU calculates changes in the vehicle posture based on the signals from the air suspension ECU and each ECU. Then the AFS ECU controls the headlight level actuator based on this information, in order to change the headlight reflector angle.

AFS

- An intelligent AFS (Adaptive Front-lighting System) is used in order to ensure a wide low beam lighting area and realize excellent visibility during turns by moving the low beam.
- The intelligent AFS of this vehicle uses medium-to-high speed control. During medium-to-high speed control, the system calculates the target lighting angle based on the tire angle and vehicle speed, and changes the swivel angle of the low beam headlights independently.

ILLUMINATED ENTRY SYSTEM

- The illuminated entry system of this vehicle controls 8 kinds of lights: engine switch illumination, interior foot light illumination, step light, door inside handle illumination light, interior lights (for front and rear) and door mirror foot lights.
- The main body ECU controls this system.

INTERIOR LIGHT CONTROL

The interior light control (front interior light, engine switch illumination) consists primarily of the fade-in/fade-out function and timer illumination function.

INTERIOR FOOT LIGHT ILLUMINATION LIGHT CONTROL AND DOOR INSIDE HANDLE ILLUMINATION CONTROL

The interior foot light illumination control and door inside handle illumination light control consist primarily of the fade-in/fade-out function and timer illumination function.

DOOR MIRROR FOOT LIGHT CONTROL

The door mirror foot light control consists primarily of the fade-in/fade-out function and timer illumination function.

BATTERY SAVING CONTROL

When the following condition has been met, battery saving control turns off the illuminated lights.

NOTICE:

This applies to the map light, room No. 1 light and room No. 3 light only when the door switch is on.

- With a door open and the engine not running, approximately 20 minutes elapse.

AUTOMATIC LIGHT CONTROL SYSTEM

- When the light control switch is in the AUTO position, the automatic light control system detects ambient light levels and controls the headlights and taillights (parking lights, taillights and license plate light).
- Ambient light levels are detected by the light control sensor that is integrated into the front solar sensor of the air conditioning system.
- The main body ECU controls this system.

LIGHT AUTO TURN OFF SYSTEM

*1: For Russia only.

- The light auto turn off system is used to prevent the driver from leaving the vehicle with the exterior lights (headlights, fog lights, taillights and license plate light) on.
- With the engine switch off, when the driver door is opened, all exterior lights turn off.
- With the headlight dimmer switch set to AUTO, when the driver door is opened, all exterior lights turn off.*1
- With the headlight dimmer switch set to head or tail, when the engine switch is turned off, the headlights and front fog lights turn off.*1
- This system turns all exterior lights off immediately when the lock button on the wireless remote control is pushed with all the doors locked or unlocked.

for Preparation Click here

HINT:

- **Use these procedures to troubleshoot the lighting 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 COMMUNICATION SYSTEM*

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

b. Clear the DTCs.

c. Recheck for DTCs. Based on the DTCs output above, try to cause the output of the same CAN communication system DTC, LIN communication DTC or lighting system DTC by simulating the symptoms indicated by the DTC.

Result

Result	Proceed to
DTC output does not reoccur	A
CAN communication system DTC output reoccurs (for LHD)	B
CAN communication system DTC output reoccurs (for RHD)	C
LIN communication system DTC output reoccurs	D
Lighting system DTC output reoccurs	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

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.ADJUST, REPAIR OR REPLACE

NEXT

7.CONFIRMATION TEST

NEXT

END

for Preparation Click here

HINT:

- **Use these procedures to troubleshoot the lighting 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 COMMUNICATION SYSTEM*

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

b. Clear the DTCs.

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Result

Result	Proceed to
DTC output does not reoccur	A
CAN communication system DTC output reoccurs (for LHD)	B
CAN communication system DTC output reoccurs (for RHD)	C
LIN communication system DTC output reoccurs	D
Lighting system DTC output reoccurs	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

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.ADJUST, REPAIR OR REPLACE

NEXT

7.CONFIRMATION TEST

NEXT

END

for Preparation Click here

BEFORE PERFORMING TROUBLESHOOTING

a. Basic inspection

i. Inspect the battery voltage.

Standard voltage:
11 to 14 V

b. Visually inspect for burned out lights, blown fuses, open or shorted wire harnesses, malfunctioning or partially connected connectors, etc.

HINT:

If the condition of a discharge headlight bulb cannot be determined through a visual check, replace it with a normally functioning bulb or interchange the left and right bulbs and check its condition.

INSPECT INTELLIGENT AFS SYSTEM

a. With the vehicle stopped and the engine started, check that the leveling motor and swivel motor initialization (initial position setting) is performed.

HINT:

For the swivel motor, only perform the vehicle inner side movement inspection (facing forward → facing inner side → facing forward).

b. Based on the vehicle condition, check that the intelligent AFS system operation starts and stops accordingly.

INSPECT FRONT DOME LIGHT CONTROL OPERATION

NOTICE:

Perform this inspection with the customize parameter at the initial setting.

HINT:

The front dome light control illuminates the lights below.

- **Map light assembly**

a. With the engine switch off, and all doors closed and locked, unlock a door. Check that the lights listed above illuminate for approximately 15 seconds, and then turn off.*1

b. With the engine switch off and all doors closed, open and close a front door. Check that the lights listed above illuminate for approximately 15 seconds, and then turn off.

c. With all doors closed, turn the engine switch on (IG) or on (ACC), or turn the engine switch from on (IG) to off. Check that the lights listed above illuminate for approximately 15 seconds, and then turn off.*2

d. For *1 and *2, before the lights listed above turn off, open a front door. Check that the illumination continues. Then close the door and check that the lights remain illuminated for approximately 15 seconds from when the door was closed.

e. With the engine switch off and the lights listed above illuminated based on the timer control (approximately 15 seconds), close and lock all doors, or turn the engine switch on (IG) or on (ACC). Check that the lights turn off.

INSPECT REAR ROOM LIGHT CONTROL OPERATION

NOTICE:

Perform this inspection with the customize parameter at the initial setting.

HINT:

The front dome light control illuminates the lights below.

- **Room No. 1 light assembly**
- **Room No. 3 light assembly**

a. With the engine switch off, and all doors closed and locked, unlock a door. Check that the lights listed above illuminate for approximately 15

seconds, and then turn off.*1

b. With the engine switch off and all doors closed, open and close a rear door. Check that the lights listed above illuminate for approximately 15 seconds, and then turn off.

c. With all doors closed, turn the engine switch on (IG) or on (ACC), or turn the engine switch from on (IG) to off. Check that the lights listed above illuminate for approximately 15 seconds, and then turn off.*2

d. For *1 and *2, before the lights listed above turn off, open a rear door. Check that the illumination continues. Then close that door and check that the lights remain illuminated for approximately 15 seconds.

e. With the engine switch off and the lights listed above illuminated based on the timer control (approximately 15 seconds), close and lock all doors, or turn the engine switch on (IG) or on (ACC). Check that the lights turn off.

INSPECT MAP LIGHT CONTROL

NOTICE:

Perform this inspection with the customize parameter at the initial setting.

HINT:

The related light is listed below.

Map light assembly

a. Check that the map light turns on when the engine switch is turned on (ACC).

b. Check that the map light turns off when the engine switch is turned off.

INSPECT INTERIOR FOOT LIGHT CONTROL

NOTICE:

Perform this inspection with the customize parameter at the initial setting.

HINT:

The related lights are listed below.

- **Interior No. 1 illumination light assembly LH (front interior foot light LH)**
- **Interior No. 1 illumination light assembly RH (front interior foot light RH)**
- **Interior illumination light assembly RH (rear interior foot light RH)**
- **Interior illumination light assembly LH (rear interior foot light LH)**

a. Check that either condition described below illuminates the interior foot light.

i. A door is opened.

ii. The engine switch is turned on (IG) and the shift lever is moved to P.

b. Check that the condition described below dims the interior foot light.

i. The engine switch is turned on (IG) and the shift lever is moved to a position other than P.

c. Check that the condition described below illuminates the interior foot light for approximately 15 seconds, and then turns off the interior foot light.

i. With the engine switch off and a door open, the door is closed.

d. Check that the condition described below turns off the interior foot light.

i. With the engine switch off, all doors are closed and locked.

INSPECT INSIDE HANDLE ILLUMINATION LIGHT CONTROL

NOTICE:

Perform this inspection with the customize parameter at the initial setting.

HINT:

The related lights are listed below.

- **Front door inside handle illumination light RH**
- **Front door inside handle illumination light LH**
- **Rear door inside handle illumination light RH**
- **Rear door inside handle illumination light LH**

a. Check that either of the conditions described below illuminates the inside handle illumination light.

i. A door is opened.

ii. The engine switch is turned on (IG) and the shift lever is moved to P.

b. Check that the condition described below dims the inside handle illumination light.

i. The engine switch is turned on (IG) and the shift lever is moved to a position other than P.

c. Check that the condition described below illuminates the inside handle illumination light for approximately 15 seconds, and then turns off the inside handle illumination light.

i. With the engine switch off and a door open, the door is closed.

d. Check that the condition described below turns off the inside handle illumination light.

i. With the engine switch off, all doors are closed and locked.

INSPECT COURTESY LIGHT OPERATION

HINT:

The related lights are listed below.

- **Front door courtesy light assembly LH**
- **Front door courtesy light assembly RH**
- **Rear door courtesy light assembly LH**
- **Rear door courtesy light assembly RH**
- **Scuff plate illumination LH (w/ Illumination Type Front Door Scuff Plate)**
- **Scuff plate illumination RH (w/ Illumination Type Front Door Scuff Plate)**

a. Check that the condition described below illuminates the courtesy light.

i. A door is opened.

b. Check that the condition described below turns off the courtesy light.

i. A door is closed.

INSPECT STEP LIGHT CONTROL

NOTICE:

Perform this inspection with the customize parameter at the initial setting.

HINT:

The related lights are listed below.

- **Step light assembly LH**
- **Step light assembly RH**

a. Check that the condition described below illuminates the step light.

i. A door is opened.

b. Check that the condition described below turns off the step light.

i. A door is closed.

c. Check that the conditions described below illuminate the step light for approximately 15 seconds, and then turns off the step light.

i. The key enters the smart key certification area.

ii. With the engine switch off, all the doors are closed and locked.

iii. With the engine switch on (IG) and the shift lever in P, perform an unlock operation using the door lock switch of the driver door or passenger door.

INSPECT DOOR MIRROR FOOT LIGHT CONTROL

NOTICE:

Perform this inspection with the customize parameter at the initial setting.

HINT:

The related lights are listed below.

- **Door mirror foot light LH**
- **Door mirror foot light RH**

a. Check that any of the conditions described below illuminates the foot light for approximately 15 seconds, and then turns off the foot light.

i. The key enters the smart key certification area.

ii. With the engine switch off, all doors are closed and locked.

iii. With the engine switch on (IG) and the shift lever in P, perform an unlock operation using the door lock switch of the driver door or passenger door.

b. Check that either of the conditions described below turns off the foot light.

i. With the engine switch on (IG), the shift lever is moved from P to a position other than P.

ii. A wireless, entry or key-linked lock operation is performed.

INSPECT AUTOMATIC LIGHT CONTROL SYSTEM OPERATION

NOTICE:

Perform this inspection with the customize parameter at the initial setting.

a. Turn the engine switch on (IG).

b. Set the headlight dimmer switch assembly to AUTO.

c. Slowly cover the automatic light control sensor with a lightproof object, and check that the lights automatically illuminate.

OK:
Clearance lights illuminate, and then headlights illuminate

NOTICE:

For Russia, the headlights and taillights turn on simultaneously.

d. After illuminating the light, slowly move the lightproof object off of the automatic light control sensor, and check that the lights automatically turn off.

OK:
Headlights turn off, and then clearance lights turn off

NOTICE:

For Russia, the headlights and taillights turn off simultaneously.

INSPECT AUTOMATIC LIGHT CONTROL SYSTEM (ILLUMINATION, TURN OFF)

a. Make the area around the automatic light control sensor dark to automatically illuminate the headlights.

b. Check that any of the conditions described below turns off the headlights.

i. The headlight dimmer switch assembly is turned off.

ii. The surrounding area of the automatic light control sensor is brightened.

iii. With the engine switch off, the driver door is opened.

c. Make the area around the automatic light control sensor dark to automatically illuminate the headlights.

d. With the engine switch off, open the driver door to turn off the headlights.

e. When the engine switch is turned on (IG), check that the headlights turn on again.

INSPECT LIGHT AUTO TURN OFF SYSTEM

*1: For Russia only.

a. With the engine switch off, check if all exterior lights turn off when the driver door is opened.

b. With the headlight dimmer switch set to AUTO and the engine switch off, check if all exterior lights turn off when the driver door is opened.*1

c. With the headlight dimmer switch set to head or tail, check if the headlights and front fog lights turn off when the engine switch is turned off.*1

INSPECT BATTERY SAVER

HINT:

The related lights are listed below.

- **Front inside handle illumination light LH**
- **Front inside handle illumination light RH**
- **Rear inside handle illumination light LH**
- **Rear inside handle illumination light RH**
- **Interior No. 1 illumination light assembly LH (front interior foot light LH)**
- **Interior No. 1 illumination light assembly RH (front interior foot light RH)**
- **Interior illumination light assembly LH (rear interior foot light LH)**
- **Interior illumination light assembly RH (rear interior foot light RH)**
- **Door mirror foot light LH**
- **Door mirror foot light RH**
- **Step light assembly LH**
- **Step light assembly RH**
- **Engine switch illumination**
- **Map light assembly**
- **Room No. 1 light (spot light) assembly**
- **Room No. 1 light (dome light) assembly (w/ Rear Seat Entertainment System)**
- **Room No. 3 light assembly**

a. With a door open and the engine switch off, check that the illumination turns off after approximately 20 minutes.

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.

Illuminated Entry

Display	Default	Content	Setting
I/L when ACC OFF	ON	Function to illuminate the interior light when the engine switch is turned from on (IG) or on (ACC) to off.	ON/OFF
Lighting Time	15s	Function to change the lighting time after closing the door. (It will quickly fade out in the case of turning the engine switch on (IG)).	7.5s/15s/30s
Light Control	ON	Function to illuminate the door inside handle illumination light when the engine switch is on (IG) and the shift lever is not in P.	ON/OFF
I/L ON W/Door Key Unlock	ON	Function to illuminate the interior light, etc. when the door is unlocked with a transmitter, door key or door lock control switch.	ON/OFF
Mirr-Foot-Lgt Approached	ON	Function to illuminate the door mirror foot light when the transmitter enters the key ID detection area.	ON/OFF
Mirr-Foot-Lgt Unlocked	ON	Function to illuminate the door mirror foot light when unlocking the doors with the transmitter.	ON/OFF
Mirr-Foot-Lgt w/Master SW	ON	Function to illuminate the door mirror foot light when unlocking the doors with the door lock master switch.	ON/OFF
Mirror Foot Light Time	15s	Door mirror foot light illumination duration.	0s/7.5s/15s/30s
Room Light when Aprchd	ON	Function to illuminate the dome light when the transmitter enters the key ID detection area.	ON/OFF
Inside Foot Light	ON	Interior foot light illumination.	ON/OFF
Center Console Spot Light	ON	Center console spot light.	ON/OFF

Light Control

Display	Default	Content	Setting
Sensitivity	NORMAL	Function to adjust the sensitivity of the lighting illumination*1.	Light2/Light1/Normal/Dark1/Dark2
Disp Ex ON Sen	NORMAL	Changes the brightness when the lights such as the combination meter indicator light, A/C indicator light, and clock light dim. Refer to the illumination*2.	LIGHT2/LIGHT1/NORMAL/DARK1/DARK2
Disp Ex OFF Sen	NORMAL	Adjusts the brightness when lights such as the combination meter, indicator light, A/C indicator light and clock light brighten. Refer to illumination*3.	LIGHT2/LIGHT1/NORMAL/DARK1/DARK2

HINT:

The sensitivity adjustment may be difficult to confirm. Check by driving the vehicle of the customer.

Illumination*1

Lighting Brightness	Dark ← → Bright				
Setting	Dark2	Dark1	Normal	Light1	Light2

Illumination*2

Brightness when the lights dim	Dark ← → Bright				
Setting	DARK2	DARK1	NORMAL	LIGHT1	LIGHT2

Illumination*3

Brightness when lights brighten	Dark ← → Bright				
Setting	DARK2	DARK1	NORMAL	LIGHT1	LIGHT2

Door linked map light and personal light illumination control

Mode 1: When door is opened, map light of opened door illuminates, or personal light illuminates
Mode 2: When door is opened, all map lights and personal lights illuminate
Mode 3: Map lights and personal lights are not linked to doors

a. To change modes, press the map light assembly DOOR and on switch simultaneously, and then turn the engine switch from off to on (IG). Each engine switch off to on (IG) operation will change the mode (Mode 1 → Mode 2 → Mode 3 → Mode 1).

HINT:

After changing modes, the map light responds by blinking as follows: Mode 1: once; Mode 2: twice; Mode 3: three times.

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.**

Headlight and Taillight System

Symptom	Suspected Area	See page
LO-beam headlight does not illuminate	Headlight bulb	-
	LO-beam headlight does not illuminate	Click here
HI-beam headlight does not illuminate	Headlight bulb	-
	HI-beam headlight does not illuminate	-
Flash headlight does not illuminate	Data List	-
	Headlight dimmer switch (for LHD)	Click here
	Headlight dimmer switch (for RHD)	Click here
	Harness or connector	-
	Main body ECU	-
Headlight is dark	Headlight bulb	-
Taillight does not illuminate or has abnormal operation	Clearance light does not illuminate	Click here

Stop Light System

Symptom	Suspected Area	See page
Stop light system does not illuminate	Stop light does not illuminate	Click here
High mount stop light does not illuminate	Stop light does not illuminate	Click here

Front Fog Light System

Symptom	Suspected Area	See page
Front fog light does not illuminate	Fog light bulb	-
	Front fog light does not illuminate	Click here

Rear Fog Light System

Symptom	Suspected Area	See page
Rear fog light does not illuminate	Rear fog light bulb	-
	Rear fog light does not illuminate	Click here

Turn Signal Light System

Symptom	Suspected Area	See page
Turn signal light does not illuminate	Turn signal light does not illuminate	Click here

Interior Light System

Symptom	Suspected Area	See page
Room light does not illuminate or has abnormal operation	Room No. 1 light bulb	-
	Room No. 3 light bulb	-
	Room light control does not operate	Click here
Map light does not illuminate	Map light bulb	-
	Map light assembly	Click here
Personal light does not illuminate or has abnormal operation	Room No. 1 light bulb	-
	Personal light does not illuminate	Click here
Console spot light does not illuminate	Map light assembly	Click here
Vanity light does not illuminate	Vanity light bulb	-
	Visor assembly	-

	Harness or connector	-
Inside handle illumination light does not illuminate	Inside handle light does not illuminate	Click here
Door courtesy light does not illuminate	Front door courtesy light switch assembly	Click here
	Rear door courtesy light switch assembly	Click here
	Front door courtesy light assembly	Click here
	Rear door courtesy light assembly	Click here
	Back door lock assembly (w/ Power Door Lock System)	Click here
	Back door lock assembly (w/o Power Door Lock System)	Click here
	Luggage No. 1 compartment light assembly	Click here
	Harness or connector	-
Interior foot light does not illuminate	Interior foot light does not illuminate	Click here
Engine switch (illumination) does not illuminate	Engine switch	Click here
	Harness or connector	-
	Main body ECU	-

Automatic Light Control System

Symptom	Suspected Area	See page
Automatic light control function does not operate	Automatic light control function does not operate	Click here

Light Auto Turn Off System

Symptom	Suspected Area	See page
Light auto turn off system does not operate normally	Main body ECU	-

Battery Saving System

Symptom	Suspected Area	See page
Battery saving function does not operate	Operation check	Click here
	Main body ECU	-
	Map light assembly	Click here
	No. 2 main body ECU	-
	Harness or connector	-

AFS

Symptom	Suspected Area	See page
AFS OFF switch does not operate	Combination switch assembly	Click here
	AFS ECU (for LHD)	Click here
	AFS ECU (for RHD)	Click here
	CAN communication system (for LHD)	Click here
	CAN communication system (for RHD)	Click here

Other

Symptom	Suspected Area	See page
Back-up light does not illuminate	Back-up light bulb	-
	Back-up light does not illuminate	Click here
License plate light does not illuminate	Clearance light does not illuminate	Click here
Scuff plate light does not illuminate	Front door courtesy light switch assembly	Click here
	Scuff plate light assembly	Click here
	Harness or connector	-
Door mirror foot light does not illuminate	Door mirror foot light does not illuminate	Click here
Step light does not illuminate	Step light bulb	-
	Front door courtesy light switch assembly	Click here
	Rear door courtesy light switch assembly	Click here
	Step light assembly	Click here
	No. 2 main body ECU	Click here
	Harness or connector	-
Glove box illumination light does not illuminate	Glove box illumination light	Click here
	Harness or connector	-

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.**

Headlight and Taillight System

Symptom	Suspected Area	See page
LO-beam headlight does not illuminate	Headlight bulb	-
	LO-beam headlight does not illuminate	Click here
HI-beam headlight does not illuminate	Headlight bulb	-
	HI-beam headlight does not illuminate	-
Flash headlight does not illuminate	Data List	-
	Headlight dimmer switch (for LHD)	Click here
	Headlight dimmer switch (for RHD)	Click here
	Harness or connector	-
	Main body ECU	-
Headlight is dark	Headlight bulb	-
Taillight does not illuminate or has abnormal operation	Clearance light does not illuminate	Click here

Stop Light System

Symptom	Suspected Area	See page
Stop light system does not illuminate	Stop light does not illuminate	Click here
High mount stop light does not illuminate	Stop light does not illuminate	Click here

Front Fog Light System

Symptom	Suspected Area	See page
Front fog light does not illuminate	Fog light bulb	-
	Front fog light does not illuminate	Click here

Rear Fog Light System

Symptom	Suspected Area	See page
Rear fog light does not illuminate	Rear fog light bulb	-
	Rear fog light does not illuminate	Click here

Turn Signal Light System

Symptom	Suspected Area	See page
Turn signal light does not illuminate	Turn signal light does not illuminate	Click here

Interior Light System

Symptom	Suspected Area	See page
Room light does not illuminate or has abnormal operation	Room No. 1 light bulb	-
	Room No. 3 light bulb	-
	Room light control does not operate	Click here
Map light does not illuminate	Map light bulb	-
	Map light assembly	Click here
Personal light does not illuminate or has abnormal operation	Room No. 1 light bulb	-
	Personal light does not illuminate	Click here
Console spot light does not illuminate	Map light assembly	Click here
Vanity light does not illuminate	Vanity light bulb	-
	Visor assembly	-

	Harness or connector	-
Inside handle illumination light does not illuminate	Inside handle light does not illuminate	Click here
Door courtesy light does not illuminate	Front door courtesy light switch assembly	Click here
	Rear door courtesy light switch assembly	Click here
	Front door courtesy light assembly	Click here
	Rear door courtesy light assembly	Click here
	Back door lock assembly (w/ Power Door Lock System)	Click here
	Back door lock assembly (w/o Power Door Lock System)	Click here
	Luggage No. 1 compartment light assembly	Click here
	Harness or connector	-
Interior foot light does not illuminate	Interior foot light does not illuminate	Click here
Engine switch (illumination) does not illuminate	Engine switch	Click here
	Harness or connector	-
	Main body ECU	-

Automatic Light Control System

Symptom	Suspected Area	See page
Automatic light control function does not operate	Automatic light control function does not operate	Click here

Light Auto Turn Off System

Symptom	Suspected Area	See page
Light auto turn off system does not operate normally	Main body ECU	-

Battery Saving System

Symptom	Suspected Area	See page
Battery saving function does not operate	Operation check	Click here
	Main body ECU	-
	Map light assembly	Click here
	No. 2 main body ECU	-
	Harness or connector	-

AFS

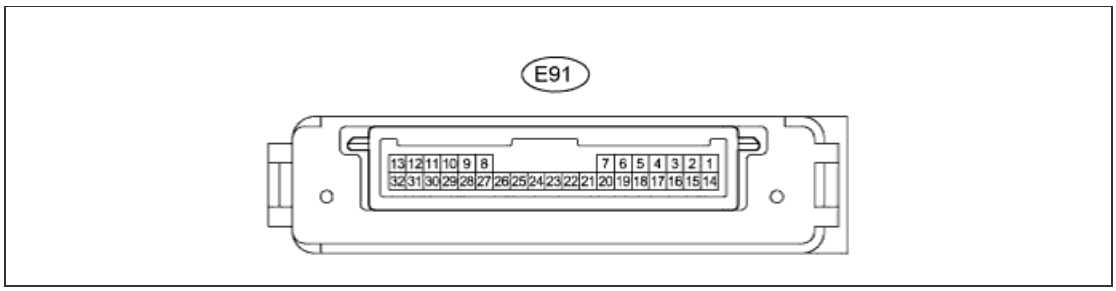
Symptom	Suspected Area	See page
AFS OFF switch does not operate	Combination switch assembly	Click here
	AFS ECU (for LHD)	Click here
	AFS ECU (for RHD)	Click here
	CAN communication system (for LHD)	Click here
	CAN communication system (for RHD)	Click here

Other

Symptom	Suspected Area	See page
Back-up light does not illuminate	Back-up light bulb	-
	Back-up light does not illuminate	Click here
License plate light does not illuminate	Clearance light does not illuminate	Click here
Scuff plate light does not illuminate	Front door courtesy light switch assembly	Click here
	Scuff plate light assembly	Click here
	Harness or connector	-
Door mirror foot light does not illuminate	Door mirror foot light does not illuminate	Click here
Step light does not illuminate	Step light bulb	-
	Front door courtesy light switch assembly	Click here
	Rear door courtesy light switch assembly	Click here
	Step light assembly	Click here
	No. 2 main body ECU	Click here
	Harness or connector	-
Glove box illumination light does not illuminate	Glove box illumination light	Click here
	Harness or connector	-

for Preparation Click here

CHECK AFS ECU



a. Disconnect the E91 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
E91-14 (IGS) - E91-22 (E1)	R - W-B	Ignition power supply	Engine switch on (IG)	11 to 14 V
E91-15 (IG) - E91-22 (E1)	L - W-B	Ignition power supply	Engine switch on (IG)	11 to 14 V
E91-22 (E1) - 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 E91 ECU connector.

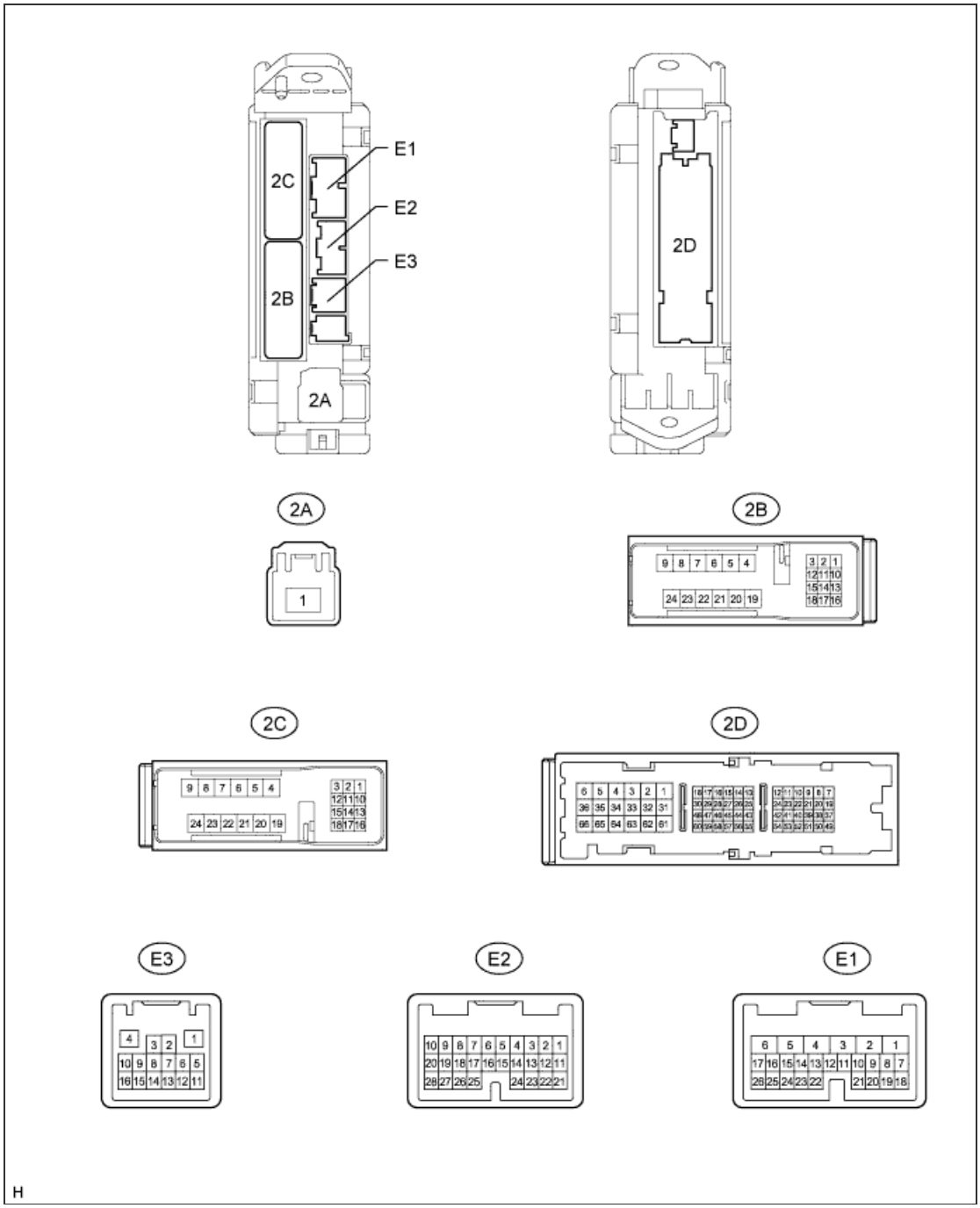
d. Measure the voltage and resistance according to the value(s) in the table below.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
E91-1 (SMBL) - E91-22 (E1)	R - W-B	Swivel motor LH power output	Engine switch on (IG)	11 to 14 V
E91-2 (SMBR) - E91-22 (E1)	R - W-B	Swivel motor RH power output	Engine switch on (IG)	11 to 14 V
E91-3 (LHT) - E91-22 (E1)	G - W-B	Headlight leveling motor LH power output	Engine switch on (IG)	11 to 14 V
E91-4 (RHT) - E91-22 (E1)	P - W-B	Headlight leveling motor RH power output	Engine switch on (IG)	11 to 14 V
E91-10 (SMR) - E91-22 (E1)	L - W-B	Swivel motor RH	Engine switch on (IG)	Pulse generation
E91-11 (RH+) - E91-22 (E1)	G - W-B	Headlight leveling motor RH	Engine switch on (IG)	Pulse generation
E91-12 (MPX1) - E91-22 (E1)	LG - W-B	CAN communication	Engine switch on (IG)	Pulse generation
E91-13 (MPX2) - E91-22 (E1)	B - W-B	CAN communication	Engine switch on (IG)	Pulse generation
E91-17 (SHFL) - E91-22 (E1)	GR - W-B	Vehicle height signal	Engine switch on (IG) (no passengers, no luggage, vehicle not moving)	2.20 to 2.80 V
E91-18 (SBR) - E91-22 (E1)	L - W-B	Vehicle height signal	Engine switch on (IG)	4.5 to 5.5 V
E91-19 (SHRL) - E91-22 (E1)	Y - W-B	Vehicle height signal	Engine switch on (IG) (no passengers, no luggage, vehicle not moving)	2.21 to 2.80 V
E91-21 (SGR) - E91-22 (E1)	P - W-B	Vehicle height signal	Always	Below 1 Ω
E91-23 (SMGL) - E91-22 (E1)	B - W-B	Swivel motor LH	Always	Below 1 Ω

E91-24 (SMGR) - E91-22 (E1)	B - W-B	Swivel motor RH	Always	Below 1 Ω
E91-27 (LH-) - E91-22 (E1)	V - W-B	Headlight leveling motor LH	Always	Below 1 Ω
E91-28 (RH-) - E91-22 (E1)	BR - W-B	Headlight leveling motor RH	Always	Below 1 Ω
E91-29 (SML) - E91-22 (E1)	V - W-B	Swivel motor LH	Engine switch on (IG)	Pulse generation
E91-30 (LH+) - E91-22 (E1)	R - W-B	Headlight leveling motor LH	Engine switch on (IG)	Pulse generation

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 2A, 2B, 2C, 2D, E1, E2, 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 (+B) - Body ground	B - Body ground	ACC power supply	Always	11 to 14 V

2A-1 (+B) - Body ground	B - Body ground	IG power supply	Always	11 to 14 V
2A-1 (+B) - Body ground	B - Body ground	Taillight power supply	Always	11 to 14 V
2D-62 (GND) - Body ground	W-B - Body ground	Body ground	Always	Below 1 Ω
E3-1 (GND3) - Body ground	BR - Body ground	Body ground	Always	Below 1 Ω
E1-24 (DCTY) - Body ground*1	L - Body ground	Front door courtesy light switch LH signal	Front door LH open	Below 1 Ω
			Engine switch off, and front door LH closed	10 kΩ or higher
E1-24 (DCTY) - Body ground*2	Y - Body ground	Front door courtesy light switch RH signal	Front door RH open	Below 1 Ω
			Engine switch off, and front door RH closed	10 kΩ or higher
E2-21 (PCTY) - Body ground*1	Y - Body ground	Front door courtesy light switch RH signal	Front door RH open	Below 1 Ω
			Engine switch off, and front door RH closed	10 kΩ or higher
E2-21 (PCTY) - Body ground*2	L - Body ground	Front door courtesy light switch LH signal	Front door LH open	Below 1 Ω
			Engine switch off, and front door LH closed	10 kΩ or higher
2C-2 (LCTY) - Body ground	W - Body ground	Rear door courtesy light switch LH signal	Rear door LH open	Below 1 Ω
			Engine switch off, and rear door LH closed	10 kΩ or higher
E2-7 (RCTY) - Body ground	G - Body ground	Rear door courtesy light switch RH signal	Rear door RH open	Below 1 Ω
			Engine switch off, and rear door RH closed	10 kΩ or higher
E2-25 (BCTY) - Body ground	W - Body ground	Back door courtesy light switch signal	Back door open	Below 1 Ω
			Engine switch off, and back door closed	10 kΩ or higher
E1-23 (TAIL) - Body ground	V - W-B	Light control switch TAIL signal	Light control switch tail	Below 1 Ω
			Light control switch except tail	10 kΩ or higher
E2-17 (HEAD) - Body ground	R - Body ground	Light control switch HEAD signal	Light control switch head	Below 1 Ω
			Light control switch off	10 kΩ or higher
E1-21 (A) - Body ground	G - Body ground	Light control switch AUTO signal	Light control switch AUTO	Below 1 Ω
			Light control switch off	10 kΩ or higher
2D-13 (HU) - Body ground	R - Body ground	Dimmer switch high signal	Dimmer switch high	Below 1 Ω
			Dimmer switch high	10 kΩ or higher
E1-13 (HF) - Body ground	GR - Body ground	Dimmer switch flash signal	Dimmer switch flash	Below 1 Ω
			Dimmer switch flash	10 kΩ or higher
E2-28 (FFOG) - Body ground	R - Body ground	Front fog light switch signal	Front fog light switch on	Below 1 Ω
			Front fog light switch off	10 kΩ or higher
E2-9 (RFOG) - Body ground	R - Body ground	Rear fog light switch signal	Rear fog light switch on	Below 1 Ω
			Rear fog light switch off	10 kΩ or higher
2B-22 (STOP) - Body ground	R - Body ground	Stop light switch signal	Brake pedal depressed	Below 1 Ω
			Brake pedal released	10 kΩ or higher
E3-11 (FSPT) - Body ground	L - Body ground	Interior foot light signal	Engine switch on (IG), and door open	Below 1 Ω
			Engine switch on (IG), and door closed	10 kΩ or higher

*1: for LHD
*2: for RHD
If the result is not as specified, there may be a malfunction on the wire harness side.

c. Reconnect the E1 and 2B ECU connectors.

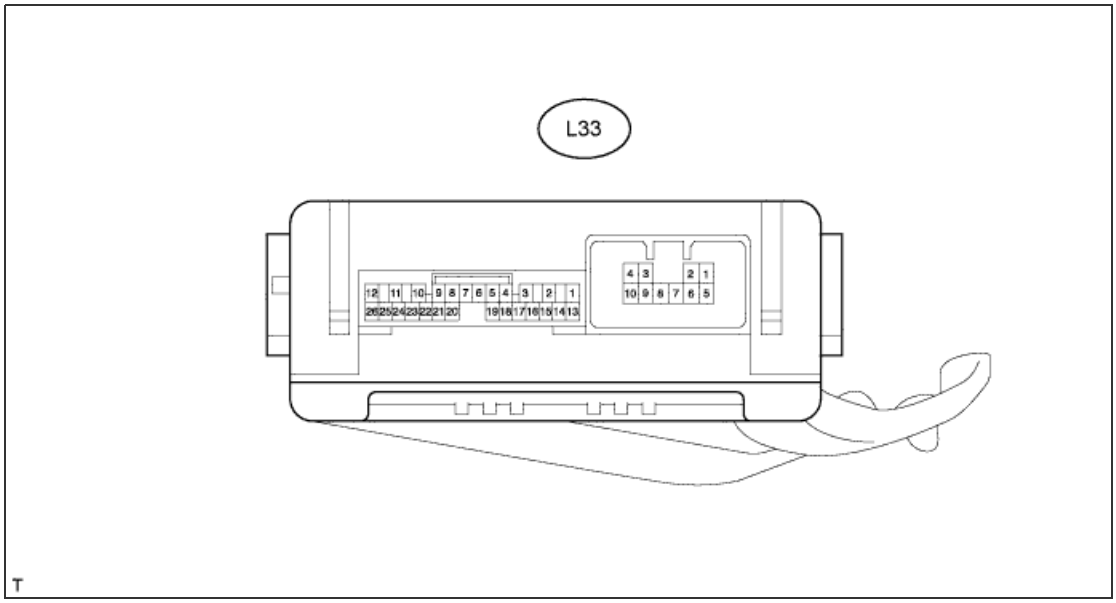
d. Measure the voltage according to the value(s) in the table below.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
2B-16 (DIM) - Body ground	R-G - Body ground	Lo-beam circuit	Light control switch head, dimmer switch high	Below 1 V
			Light control switch head, dimmer switch	11 to 14 V

			except high	
2B-18 (HRLY) - Body ground	L - Body ground	Lo-beam circuit	Light control switch head, dimmer switch low	Below 1 V
			Light control switch head, dimmer switch except low	11 to 14 V
E1-4 (FFGO) - Body ground	R - Body ground	Fog light circuit	Light control switch tail, front fog light switch on	Below 1 V
			Light control switch tail, front fog light switch off	11 to 14 V
E3-14 (RFGO) - Body ground	R - Body ground	Rear fog light circuit	Light control switch tail, rear fog light switch on	Below 1 V
			Light control switch tail, rear fog light switch off	11 to 14 V

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

CHECK NO. 2 MAIN BODY ECU



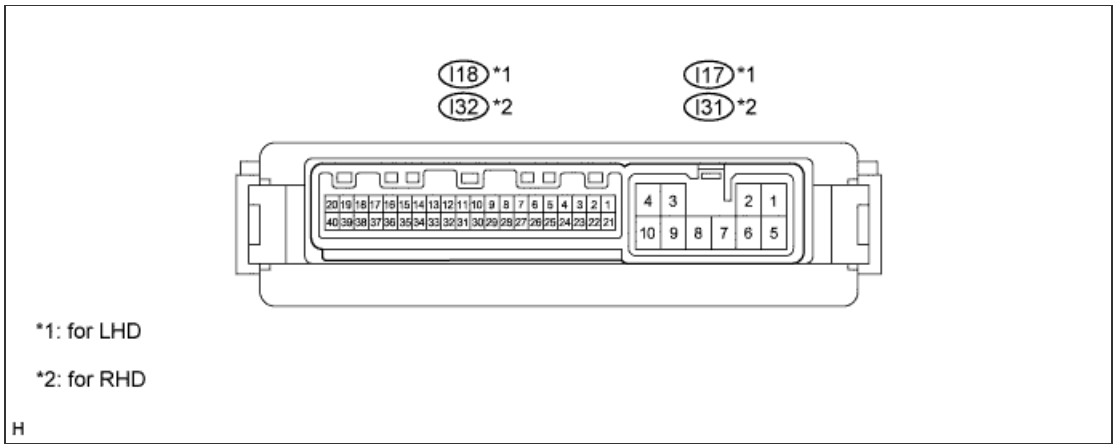
a. Disconnect the L33 ECU connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
L33-14 (BECU) - Body ground	R - Body ground	B power supply	Always	11 to 14 V
L33-13 (SIG) - Body ground	G - Body ground	SIG power supply	Engine switch on (IG)	11 to 14 V
L33-13 (SIG) - Body ground	G - Body ground	SIG power supply	Engine switch off	Below 1 V
L33-6 (LSPT) - Body ground	L - Body ground	Inside handle illumination signal	Engine switch on (IG), and door opened	11 to 14 V
			Engine switch on (IG), and door closed	Below 1 V
L33-9 (RBD1) - Body ground	L - Body ground	Side step light LH signal	Front door LH open	11 to 14 V
			Front door LH closed	Below 1 V
L33-21 (RBD2) - Body ground	L - Body ground	Side step light RH signal	Front door RH open	11 to 14 V
			Front door RH closed	Below 1 V

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

CHECK OUTER MIRROR CONTROL ECU



a. for LHD:

i. Disconnect the I17 ECU connector.

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
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	ACC power supply	Engine switch off	Below 2 V
			Engine switch on (ACC)	6 V or higher

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

iii. Reconnect the I17 ECU connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I18-17 (LPL) - I17-9 (GND)	P - W-B	Outer rear view mirror LH signal	Engine switch on (IG) and front door LH open	9 to 14 V
			Engine switch off and front door LH closed	Below 1 V
I18-37 (LPR) - I17-9 (GND)	P - W-B	Outer rear view mirror RH signal	Engine switch on (IG) and front door RH open	9 to 14 V
			Engine switch off and front door RH closed	Below 1 V

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

b. for RHD:

i. Disconnect the I31 ECU connector.

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
I31-9 (GND) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
I31-3 (B) - I31-9 (GND)	R - W-B	Battery (ECU power source)	Always	11 to 14 V
I31-4 (ACC) - I31-9 (GND)	GR - W-B	ACC power supply	Engine switch off	Below 2 V
			Engine switch on (ACC)	6 V or higher

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

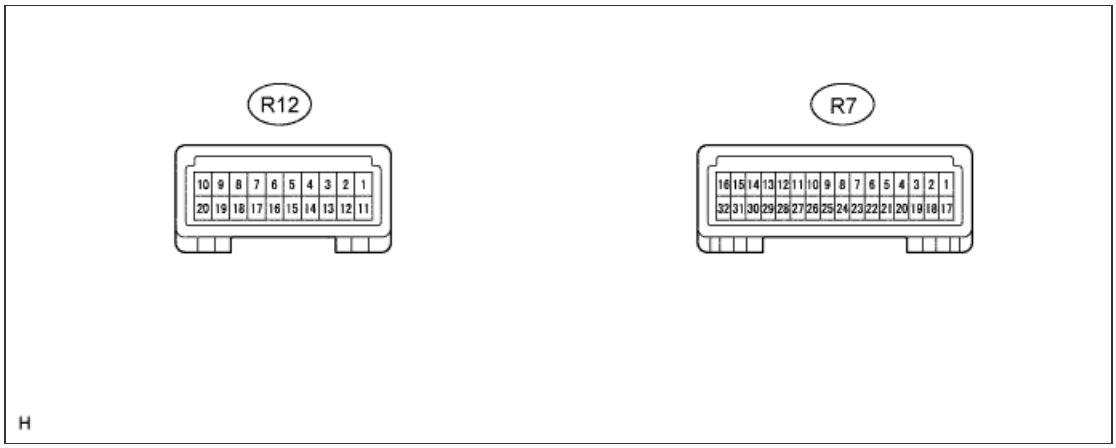
iii. Reconnect the I31 ECU connector.

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

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
I32-17 (LPL) - I31-9 (GND)	P - W-B	Outer rear view mirror LH signal	Engine switch on (IG) and front door LH open	9 to 14 V
			Engine switch off and front door LH closed	Below 1 V
I32-37 (LPR) - I31-9 (GND)	P - W-B	Outer rear view mirror RH signal	Engine switch on (IG) and front door RH open	9 to 14 V
			Engine switch off and front door RH closed	Below 1 V

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

CHECK MAP LIGHT ASSEMBLY



a. Disconnect the R7 and R12 light connectors.

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

Terminal No. (Symbols)	Wiring Color	Terminal Description	Condition	Specified Condition
R7-15 (RGND) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
R7-16 (GND9) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
R12-17 (GND7) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
R12-20 (GND5) - 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 R7 and R12 light connectors.

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

Terminal No. (Symbols)	Wiring Color	Terminal Description	Condition	Specified Condition
R7-3 (RLSW) - R7-16 (GND9)	V - W-B	Rear spot light switch LH signal	Rear spot light switch LH off	Below 1 V
			Rear spot light switch LH on	11 to 14 V
R7-4 (RRSW) - R7-16 (GND9)	Y - W-B	Rear spot light switch RH signal	Rear spot light switch RH off	Below 1 V
			Rear spot light switch RH off	11 to 14 V
R7-6 (+B) - R7-16 (GND9)	R - W-B	Battery power supply	Always	11 to 14 V
R7-11 (ILLB) - R7-16 (GND9)	R - W-B	Battery power supply	Engine switch on (ACC)	11 to 14 V
R7-27 (DOME) - R7-16				

(GND9)	R - W-B	Battery power supply	Always	11 to 14 V
R12-2 (LIN) - R7-16 (GND9)	B - W-B	LIN communication	Engine switch on (IG)	Pulse generation
R12-7 (RLMP) - R7-16 (GND9)	L - W-B	Rear spot light LH circuit	Always	11 to 14 V
R12-8 (RRMP) - R7-16 (GND9)	G - W-B	Rear spot light RH circuit	Always	11 to 14 V
R12-11 (ILL+) - R7-16 (GND9)	G - W-B	ACC power supply	Engine switch on (ACC)	11 to 14 V
R12-13 (ILL-) - R7-16 (GND9)	W - W-B	illumination circuit	• Engine switch on (ACC) • Headlight dimmer switch off	Below 1 V
			• Engine switch on (ACC) • Headlight dimmer switch TAIL	11 to 14 V
R12-14 (RRVT) - R7-16 (GND9)	G - W-B	Back door light signal	Back door close	Below 1 V
			Back door open	11 to 14 V
R12-18 (RILL) - R7-16 (GND9)	G - W-B	Rear dome light circuit	Rear dome light off	11 to 14 V
			Rear dome light on	Below 1 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 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

AFS ECU

If the AFS ECU detects a malfunction in the automatic headlight beam level control system or intelligent AFS, it will take the actions indicated in the table below.

Trouble Area	Leveling Fail-safe Control	Swivel Fail-safe Control	AFS OFF Indicator Light
Headlight Swivel Motor Malfunction	Continues to control with both headlight leveling motors lower than the current position by 0.7°.	Stops the malfunctioning swivel motor at the current position.	Flash
Steering Angle Sensor Signal Malfunction	Continues to control.	Returns both headlight swivel motors back to the front.	
Speed Sensor Signal Malfunction	Continues to control.	After 5 seconds, returns both headlight swivel motors back to the front.	
Height Control Sensor Signal Malfunction	• Stops operation after returning to the initial position (Fail at higher than the initial position). • Stops operation at the current position (Fail at lower than the initial position).	Returns both headlight swivel motors back to the front.	
Headlight Leveling Motor Malfunction	Normal side headlight leveling motor • Stops operation after returning to the initial position (Fail at higher than the initial position). • Stops at the current position (Fail at lower than the initial position).	Returns both headlight swivel motors back to the front.	
	Abnormal side headlight leveling motor • Stops at the current position.		
Communication Signal Malfunction	Skid control ECU: • Judges that the vehicle speed is 0 km/h (0 mph) and continues control.	Returns both headlight swivel motors back to the front.	
	Steering angle sensor: • Continues to control.		

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.

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
ACC SW	Engine switch/ON (ACC) or OFF	ON: Engine switch on (ACC) OFF: Engine switch off	-
IG SW	Engine switch/ON (IG) or OFF	ON: Engine switch on (IG) OFF: Engine switch off	-
Stop Light SW	Stop light switch/ON or OFF	ON: Brake pedal depressed OFF: Brake pedal released	-
D Door Courtesy SW	Front door courtesy light switch LH signal/ON or OFF	ON: Front door LH opened OFF: Front door LH closed	-
P Door Courtesy SW	Front door courtesy light switch RH signal/ON or OFF	ON: Front door RH opened OFF: Front door RH closed	-
RL Door Courtesy SW	Rear door courtesy light switch LH signal/ON or OFF	ON: Rear door LH opened OFF: Rear door LH closed	-
RR Door Courtesy SW	Rear door courtesy light switch RH signal/ON or OFF	ON: Rear door RH opened OFF: Rear door RH closed	-
Back Door Courtesy SW	Back door courtesy light switch signal/ON or OFF	ON: Back door opened OFF: Back door closed	-
Dimmer SW	Dimmer switch signal/ON or OFF	ON: Dimmer switch on OFF: Dimmer switch off	-
Passing Light SW	Passing light switch signal/ON or OFF	ON: Passing light switch on OFF: Passing light switch off	-
Front Fog Light SW	Front fog light switch signal/ON or OFF	ON: Front fog light switch on OFF: Front fog light switch off	-
Rear Fog Light SW	Rear fog light switch signal/ON or OFF	ON: Rear fog light switch on OFF: Rear fog light switch off	-
Auto Light SW	Headlight dimmer switch signal/ON or OFF	ON: Headlight dimmer switch AUTO position OFF: Headlight dimmer switch off	-
Head Light SW (Head)	Headlight switch signal/ON or OFF	ON: Headlight switch (Head) on OFF: Headlight switch (Head) off	-
Head Light SW (Tail)	Taillight switch signal/ON or OFF	ON: Headlight switch (Tail) on OFF: Headlight switch (Tail) on	-
Illumination Rate	Illuminance detected by automatic light control sensor/0 to 235600		

Info	lx	Illuminance value displayed	-
I/L ON W/Door Key Unlock	Interior light ON with unlock/ON or OFF	Customize setting displayed	-
Mirr-Foot-Lgt Approached	Door mirror foot light (when key enters key ID detection area) signal/ON or OFF	Customize setting displayed	-
Mirr-Foot-Lgt Unlocked	Door mirror foot light (when doors are unlocked with transmitter) signal/ON or OFF	Customize setting displayed	-
Mirr-Foot-Lgt w/Master SW	Door mirror foot light (when doors are unlocked with door lock master switch) signal/ON or OFF	Customize setting displayed	-
Mirror Foot Light Time	Door mirror foot light illumination duration signal/ON or OFF	Customize setting displayed	-
Lighting Time	Lighting Time/7.5s, 15s or 30s	Customize setting displayed	-
Room Light when Aprchd	Dome light illumination signal/ON or OFF	Customize setting displayed	-
Inside Foot Light	Interior foot light illumination signal/ON or OFF	Customize setting displayed	-
Center Console Spot Light	Center console spot light signal/ON or OFF	Customize setting displayed	-
I/L when ACC OFF	Setting for illuminating interior light when ACC off/ON or OFF	Customize setting displayed	-
Light Control	Light control/ON or OFF	ON: Light control system on OFF: Light control system off	-
Sensitivity	Turn on luminous intensity/DARK1, DARK2, NORMAL, LIGHT1 or LIGHT2	Customize setting displayed	-
DRL Function	DRL function/ON or OFF	Customize setting displayed	-
Disp Ex ON Sen	Display extinction luminous intensity/DARK1, DARK2, NORMAL, LIGHT1 or LIGHT2	Customize setting displayed	-
Disp Ex OFF Sen	Display extinction release luminous intensity/DARK1, DARK2, NORMAL, LIGHT1 or LIGHT2	Customize setting displayed	-
Light Auto OFF Delay	Light auto OFF delay/OFF, 30s, 60s or 90s	Customize setting displayed	-

AFS

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
AFS OFF Switch	AFS OFF switch signal / ON or OFF	ON: AFS OFF switch on OFF: ASF OFF switch off	-
Traveling Direction	Traveling direction / Fwd or Not Fwd	Fwd: Forward Not Fwd: Except forward	-
Headlight Low Beam State	Headlight (Lo) condition / ON or OFF	ON: Headlight (Lo) on OFF: Headlight (Lo) off	-
Headlight High Beam State	Headlight (Hi) condition / ON or OFF	ON: Headlight (Hi) on OFF: Headlight (Hi) off	-
Engine	Engine condition / Run or Stop	Run: Engine running Stop: Engine stopped	-
+B	AFS ECU power source voltage / Min.: 0 V, Max.: 19.75 V	11 to 14 V	-
Height Sens Pw Supply Val	Height control sensor power supply value / Min.: 0 V, Max.: 5 V	Power supply voltage to height control sensor	-
Fr Height Sens Signal Val	Front height control sensor signal / Min.: 0 V, Max.: 5 V	Height control sensor vehicle height value	-
Rr Height Sens Signal Val	Rear height control sensor signal / Min.: 0 V, Max.: 5 V	Height control sensor vehicle height value	-
Steering Sens Signal	Steering angle / Min.: -384 deg., Max.: 382.5 deg.	Current steering position	-
Steering Sens Center Pos	Steering sensor memory / Min.: - 3072 deg., Max.: 3070.5 deg.	Steering position stored in steering sensor	-
VGRS Relative Angle	VGRS relative angle / Min.: -3072 deg., Max.: 3070.5 deg.	Steering position stored in VGRS ECU	-
FR Wheel Speed	Front wheel RH speed / Min.: 0 km/h (0 mph), Max.: 327.67 km/h (196.60 mph)	Current front wheel RH speed	-
FL Wheel Speed	Front wheel LH speed / Min.: 0 km/h (0 mph), Max.: 327.67 km/h (196.60 mph)	Current front wheel LH speed	-
Vehicle Speed	Vehicle speed / Min.: 0 km/h (0 mph), Max.: 327.67 km/h (196.60 mph)	Almost same as actual vehicle speed (When driving)	-

Number Of Trouble Codes	Number of diagnostic trouble codes / Min.: 0, Max.: 255	-	-

ACTIVE TEST

NOTICE:

When a No. 2 Main Body ECU related vehicle switch is on, Active Test items related to the vehicle switch are prohibited (double operation prohibition). Check that the vehicle switches are off before performing Active Tests.

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.

Main Body

Tester Display	Test Part	Control Range	Diagnostic Note
Hazard	Hazard signal	OFF/ON	-
Illuminated Entry System	illumination light operation	OFF/ON	-
Indicator for Lighting	Illumination of switch indicator operation	OFF/ON	-
Step Light Operation	Interior foot light illumination light operation	OFF/ON	-
Taillight Relay	Taillight	OFF/ON	-
Headlight Relay	Headlight	OFF/ON	-
Head Light Hi	Headlight (Hi)	OFF/ON	-
Front Fog Light Relay	Front fog light	OFF/ON	-
Rear Fog Light Relay	Rear fog light	OFF/ON	-
Dimmer Signal	Illumination dimming operation	OFF/ON	-

Body No. 4

Tester Display	Test Part	Control Range	Diagnostic Note
Rear Step Light	Step light operation	OFF/ON	-
Inside Handle Illumination	Inside handle illumination light operation	OFF/ON	-

Mirror

Tester Display	Test Part	Control Range	Diagnostic Note
Foot light	Door mirror foot light illumination operation	OFF/ON	-

AFS

Tester Display	Test Part	Control Range	Diagnostic Note
Drive The Leveling Motor UP	Leveling motor upward operation	OFF/UP	-
Drive The Leveling Motor DOWN	Leveling motor downward operation	OFF/DOWN	-
Drive Swivel Motor RH	Swivel motor RH right direction rotation	OFF/RIGHT	-
Drive Swivel Motor RH	Swivel motor RH left direction rotation	OFF/LEFT	-
Drive Swivel Motor LH	Swivel motor LH right direction rotation	OFF/RIGHT	-
Drive Swivel Motor LH	Swivel motor LH left direction rotation	OFF/LEFT	-
AFS OFF Indicator	AFS OFF light illumination operation	OFF/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.

Lighting System

DTC Code	Detection Item	Trouble Area	See page
B1244	Light Sensor Circuit Malfunction	- Automatic light control sensor - Main body ECU - Harness or connector	Click here
B2410	Headlight Swivel Motor LH Communication Malfunction	- AFS ECU - Headlight swivel motor LH - Harness or connector	Click here
B2411	Headlight Swivel Motor RH Communication Malfunction	- AFS ECU - Headlight swivel motor RH - Harness or connector	Click here
B2412	Headlight Swivel Motor LH Malfunction	- Headlight swivel motor LH - Harness or connector - AFS ECU	Click here
B2413	Headlight Swivel Motor RH Malfunction	- Headlight swivel motor RH - Harness or connector - AFS ECU	Click here
B2414	Steering Position Sensor Malfunction	- Steering angle sensor - AFS ECU	Click here
B2415	Vehicle Speed Sensor Malfunction	- Skid control ECU - AFS ECU	Click here
B2416	Height Control Sensor Malfunction	- Suspension control ECU - Harness or connector - AFS ECU	Click here
B2417	Headlight Beam Level Control Motor LH Malfunction	- Headlight leveling motor LH - Harness or connector - AFS ECU	Click here
B2418	Headlight Beam Level Control Motor RH Malfunction	- Headlight leveling motor RH - Harness or connector - AFS ECU	Click here
B2420	AFS ECU Malfunction	AFS ECU	Click here
B2423	AFS ECU Installation Error	AFS ECU	Click here
B2424	Headlight Leveling Motor LH Communication Malfunction	- Headlight leveling motor LH - Harness or connector - AFS ECU	Click here
B2425	Headlight Leveling Motor RH Communication Malfunction	- Headlight leveling motor RH - Harness or connector - AFS ECU	Click here
B2427	CAN Communication Malfunction	- CAN communication system - AFS ECU	Click here
B2429	Steering Wheel Position Undecided	- Main body ECU - AFS ECU	Click here

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.

Lighting System

DTC Code	Detection Item	Trouble Area	See page
B1244	Light Sensor Circuit Malfunction	- Automatic light control sensor - Main body ECU - Harness or connector	Click here
B2410	Headlight Swivel Motor LH Communication Malfunction	- AFS ECU - Headlight swivel motor LH - Harness or connector	Click here
B2411	Headlight Swivel Motor RH Communication Malfunction	- AFS ECU - Headlight swivel motor RH - Harness or connector	Click here
B2412	Headlight Swivel Motor LH Malfunction	- Headlight swivel motor LH - Harness or connector - AFS ECU	Click here
B2413	Headlight Swivel Motor RH Malfunction	- Headlight swivel motor RH - Harness or connector - AFS ECU	Click here
B2414	Steering Position Sensor Malfunction	- Steering angle sensor - AFS ECU	Click here
B2415	Vehicle Speed Sensor Malfunction	- Skid control ECU - AFS ECU	Click here
B2416	Height Control Sensor Malfunction	- Suspension control ECU - Harness or connector - AFS ECU	Click here
B2417	Headlight Beam Level Control Motor LH Malfunction	- Headlight leveling motor LH - Harness or connector - AFS ECU	Click here
B2418	Headlight Beam Level Control Motor RH Malfunction	- Headlight leveling motor RH - Harness or connector - AFS ECU	Click here
B2420	AFS ECU Malfunction	AFS ECU	Click here
B2423	AFS ECU Installation Error	AFS ECU	Click here
B2424	Headlight Leveling Motor LH Communication Malfunction	- Headlight leveling motor LH - Harness or connector - AFS ECU	Click here
B2425	Headlight Leveling Motor RH Communication Malfunction	- Headlight leveling motor RH - Harness or connector - AFS ECU	Click here
B2427	CAN Communication Malfunction	- CAN communication system - AFS ECU	Click here
B2429	Steering Wheel Position Undecided	- Main body ECU - AFS ECU	Click here

DTC B1244 Light Sensor Circuit Malfunction

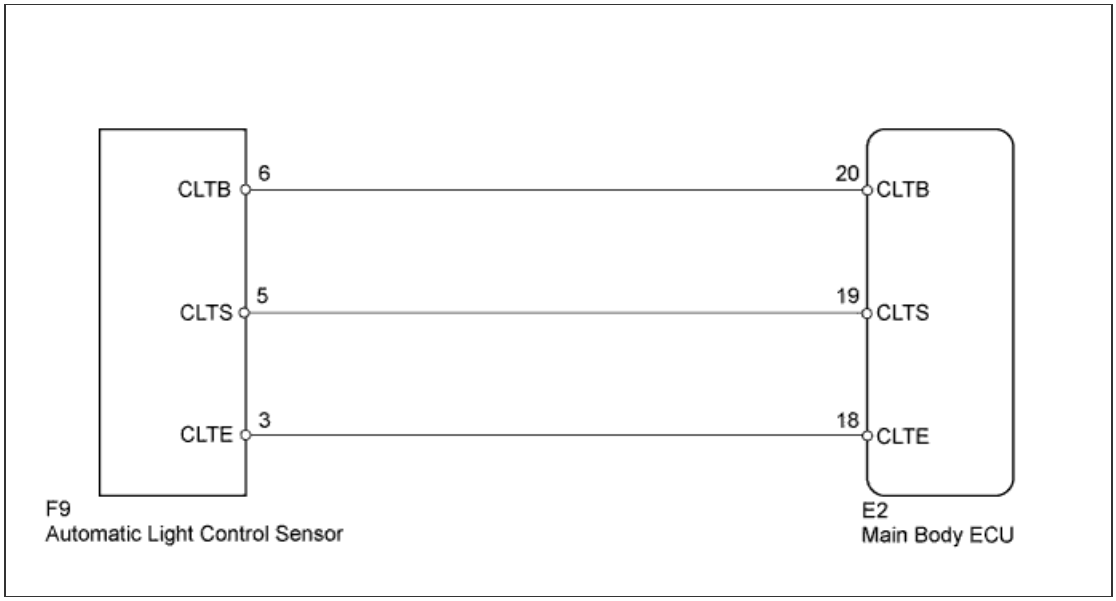
for Preparation Click here

DESCRIPTION

This DTC is stored when a failure of the automatic light control sensor circuit is detected.

DTC Code	DTC Detection Condition	Trouble Area
B1244	When either condition below is met: • Malfunction of the light sensor. • Open or short of the light sensor circuit.	• Automatic light control sensor • Main body ECU • Harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:

DTC B1244 output does not occur.

NG → Go to step 2

OK

USE SIMULATION METHOD TO CHECK (Click here)

2.READ VALUE USING INTELLIGENT TESTER (AUTOMATIC LIGHT CONTROL SENSOR)

a. Using the intelligent tester, read the Data List.

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Illumination Rate Info	Illuminance detected by automatic light control sensor/0 to 235600 lx	Illuminance value displayed	-

OK:

Illuminance value is displayed normally.

NG → Go to step 3

OK

REPLACE MAIN BODY ECU

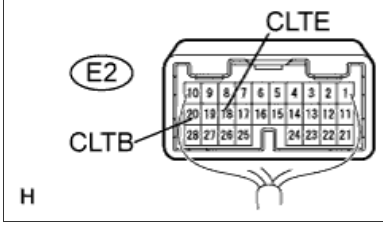
3.CHECK MAIN BODY ECU (CLTB - CLTE VOLTAGE)

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
E2-20 (CLTB) - E2-18 (CLTE)	Engine switch on (IG)	11 to 14 V

Component with harness connected:
(Main Body ECU)



NG → REPLACE MAIN BODY ECU

OK

4.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - AUTOMATIC LIGHT CONTROL SENSOR)

a. Disconnect the E2 ECU connector.

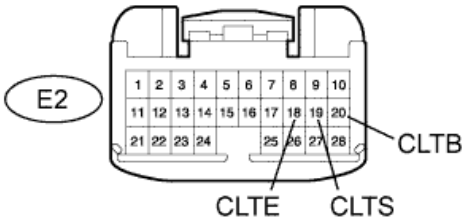
b. Disconnect the F9 sensor connector.

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

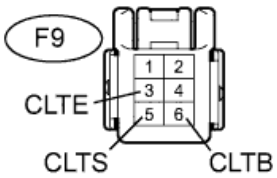
Standard Resistance:

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 AUTOMATIC LIGHT CONTROL SENSOR (Click here)

DTC B2417 Headlight Beam Level Control Motor LH Malfunction

DTC B2418 Headlight Beam Level Control Motor RH Malfunction

for Preparation Click here

DESCRIPTION

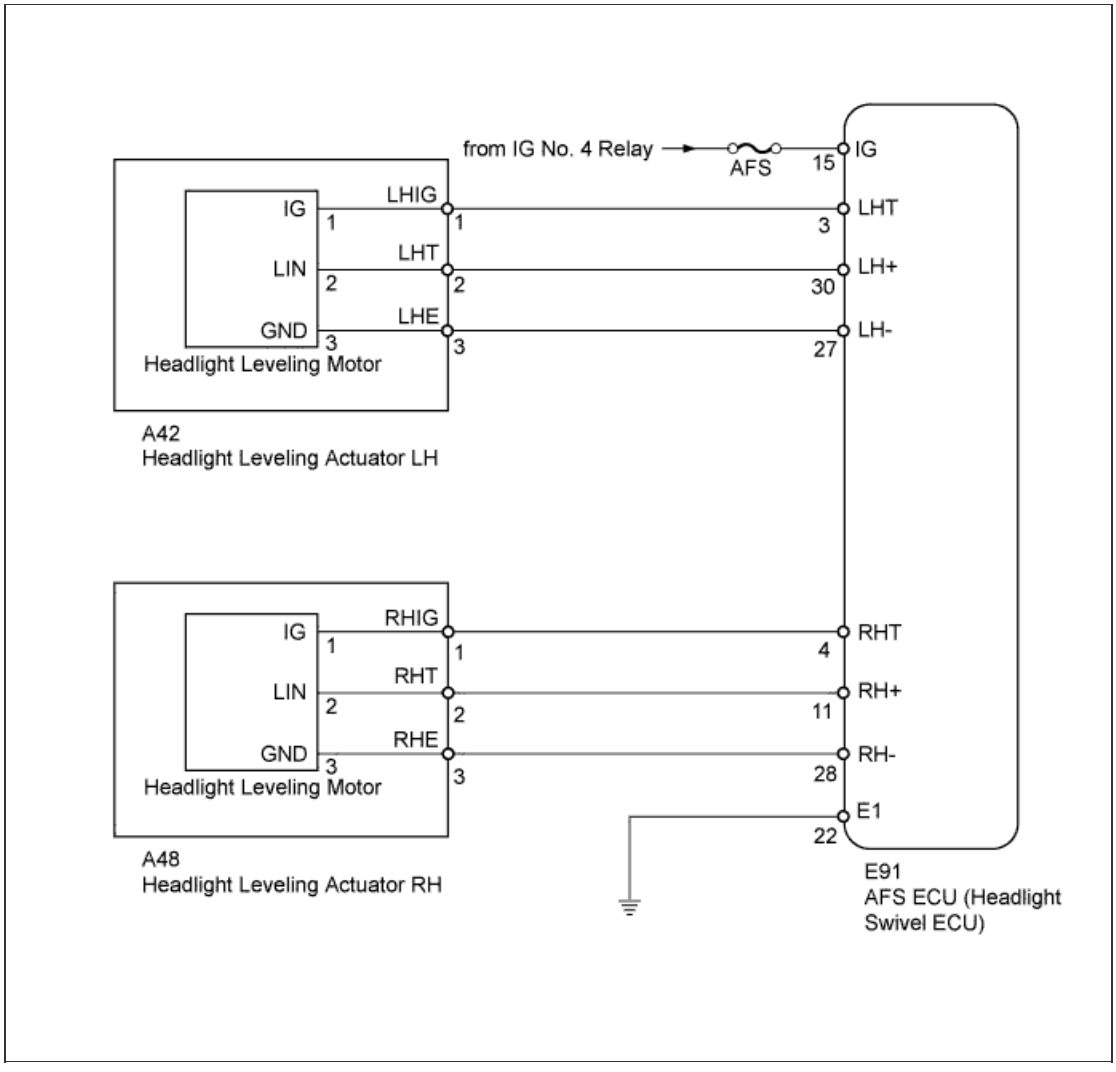
The headlight leveling motor receives a signal from the AFS ECU to operate. The AFS ECU receives a signal indicating the operating conditions of the headlight leveling motor.

DTC Code	DTC Detection Condition	Trouble Area
B2417	When either condition below is met: • Malfunction in the headlight leveling motor LH. • Open or short in the headlight leveling motor LH circuit.	• Headlight leveling motor LH • Harness or connector • AFS ECU
B2418	When either condition below is met: • Malfunction in the headlight leveling motor RH. • Open or short in the headlight leveling motor RH circuit.	• Headlight leveling motor RH • Harness or connector • AFS ECU

HINT:

Perform a visual check of the headlight leveling motor before replacing it.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2417 or B2418 output does not occur.

NG → Go to step 2

OK ↓

USE SIMULATION METHOD TO CHECK (Click here)

2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (HEADLIGHT LEVELING MOTOR)

a. Using the intelligent tester, perform the Active Test.

AFS

Tester Display	Test Part	Control Range	Diagnostic Note
Drive The Leveling Motor UP	Leveling motor upward operation	OFF/UP	-
Drive The Leveling Motor DOWN	Leveling motor downward operation	OFF/DOWN	-

OK:
Headlight leveling motors operate normally.

NG → Go to step 4

OK ↓

3.CHECK HEADLIGHT LEVELING MOTOR (OPERATION)

a. Temporarily replace the headlight with a new or normally functioning one.

b. Check for DTCs (Click here).

OK:
DTC B2417 or B2418 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (Click here)

C → REPLACE AFS ECU (Click here)

A ↓

END (HEADLIGHT IS DEFECTIVE)

4.READ VALUE USING INTELLIGENT TESTER (AFS ECU)

a. Using the intelligent tester, read the Data List.

AFS

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
+B	AFS ECU power source voltage/Min.: 0 V, Max.: 19.75 V	11 to 14 V	-

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR (AFS ECU - BATTERY AND BODY GROUND)

OK

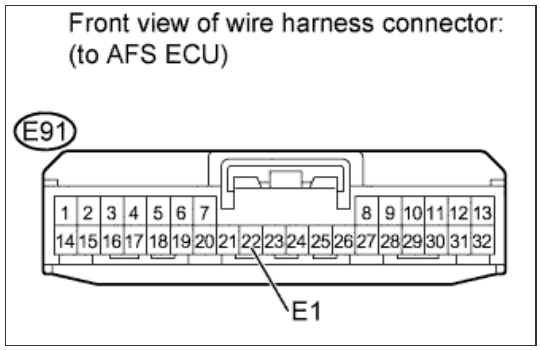
5.CHECK HARNESS AND CONNECTOR (AFS ECU - BODY GROUND)

a. Disconnect the E91 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E91-22 (E1) - Body ground	Always	Below 1 Ω



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

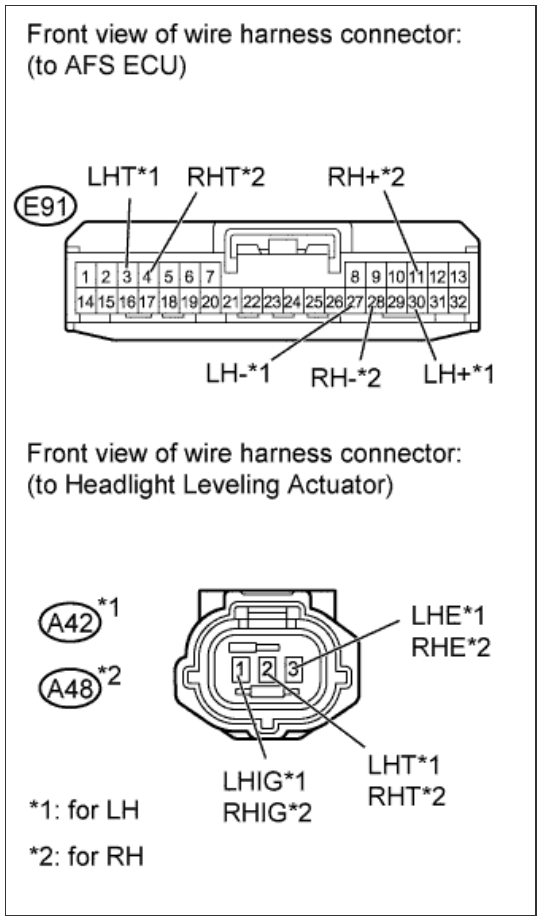
OK

6.CHECK HARNESS AND CONNECTOR (AFS ECU - HEADLIGHT LEVELING ACTUATOR)

a. Disconnect the E91 ECU connector.

b. Disconnect the A42 and A48 actuator connectors.

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



Standard Resistance:

for LH:

Tester Connection	Condition	Specified Condition
E91-3 (LHT) - A42-1 (LHIG)	Always	Below 1 Ω
E91-27 (LH-) - A42-3 (LHE)		
E91-30 (LH+) - A42-2 (LHT)		

E91-3 (LHT) - Body ground	Always	10 kΩ or higher
E91-27 (LH-) - Body ground		
E91-30 (LH+) - Body ground		

for RH:

Tester Connection	Condition	Specified Condition
E91-4 (RHT) - A48-1 (RHIG)	Always	Below 1 Ω
E91-28 (RH-) - A48-3 (RHE)		
E91-11 (RH+) - A48-2 (RHT)		
E91-4 (RHT) - Body ground	Always	10 kΩ or higher
E91-28 (RH-) - Body ground		
E91-11 (RH+) - Body ground		

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

7.CHECK HEADLIGHT LEVELING MOTOR (OPERATION)

a. Temporarily replace the headlight with a new or normally functioning one.

b. Check for DTCs (Click here).

OK:

DTC B2417 or B2418 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (Click here)

C → REPLACE AFS ECU (Click here)

A

END (HEADLIGHT IS DEFECTIVE)

DTC B2410 Headlight Swivel Motor LH Communication Malfunction

DTC B2411 Headlight Swivel Motor RH Communication Malfunction

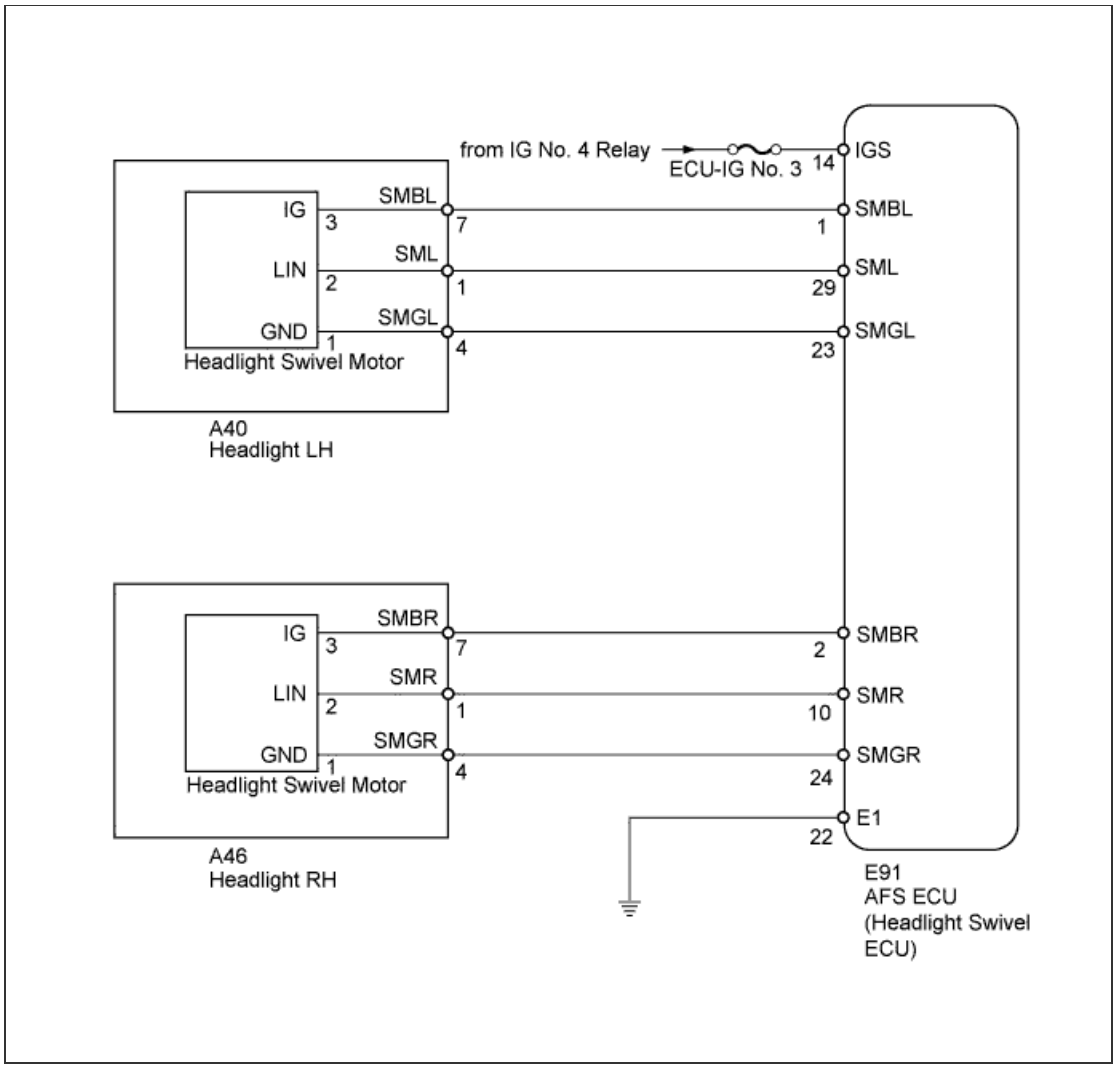
for Preparation Click here

DESCRIPTION

These DTCs are stored when the AFS ECU detects errors in its own communications with the headlight (headlight swivel motor).

DTC Code	DTC Detection Condition	Trouble Area
B2410	The AFS ECU detects errors in its own communications with the headlight swivel motor LH.	• AFS ECU • Headlight swivel motor LH • Headlight LH • Harness or connector
B2411	The AFS ECU detects errors in its own communications with the headlight swivel motor RH.	• AFS ECU • Headlight swivel motor RH • Headlight RH • Harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

Perform a visual check of the headlight (swivel motor) before replacing it.

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2410 or B2411 output does not occur.

NG → Go to step 2

OK ↓

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

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

a. Disconnect the E91 ECU connector.

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

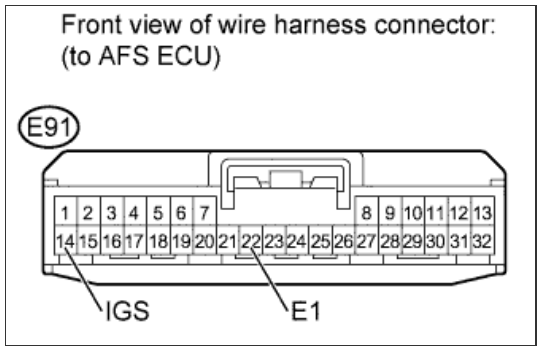
Standard Voltage:

Tester Connection	Condition	Specified Condition
E91-14 (IGS) - Body ground	Engine switch on (IG)	11 to 14 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E91-22 (E1) - Body ground	Always	Below 1 Ω



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

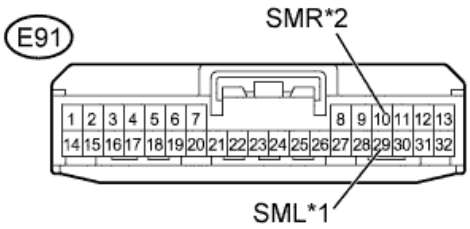
3.CHECK HARNESS AND CONNECTOR (AFS ECU - HEADLIGHT)

a. Disconnect the E91 ECU connector.

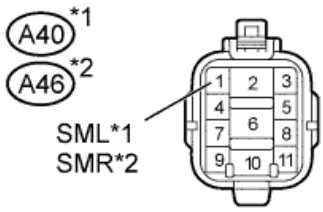
b. Disconnect the A40 and A46 light connectors.

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

Front view of wire harness connector:
(to AFS ECU)



Front view of wire harness connector:
(to Headlight)



*1: for LH

*2: for RH

Standard Resistance:

for LH:

Tester Connection	Condition	Specified Condition
E91-29 (SML) - A40-1 (SML)	Always	Below 1 Ω
E91-29 (SML) - Body ground	Always	10 kΩ or higher

for RH:

Tester Connection	Condition	Specified Condition
E91-10 (SMR) - A46-1 (SMR)	Always	Below 1 Ω
E91-10 (SMR) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

4.CHECK HEADLIGHT SWIVEL MOTOR (OPERATION)

a. Temporarily replace the headlight with a new or normally functioning one.

b. Check for DTCs (Click here).

OK:

DTC B2410 or B2411 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (Click here)

C → REPLACE AFS ECU (Click here)

A

END (HEADLIGHT IS DEFECTIVE)

DTC B2420 AFS ECU Malfunction

for Preparation Click here

DESCRIPTION

When the AFS ECU detects a malfunction in itself, this DTC is stored.

DTC Code	DTC Detection Condition	Trouble Area
B2420	Malfunction of the AFS ECU.	AFS ECU

INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:

DTC B2420 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (Click here)

C → REPLACE AFS ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

DTC B2410 Headlight Swivel Motor LH Communication Malfunction

DTC B2411 Headlight Swivel Motor RH Communication Malfunction

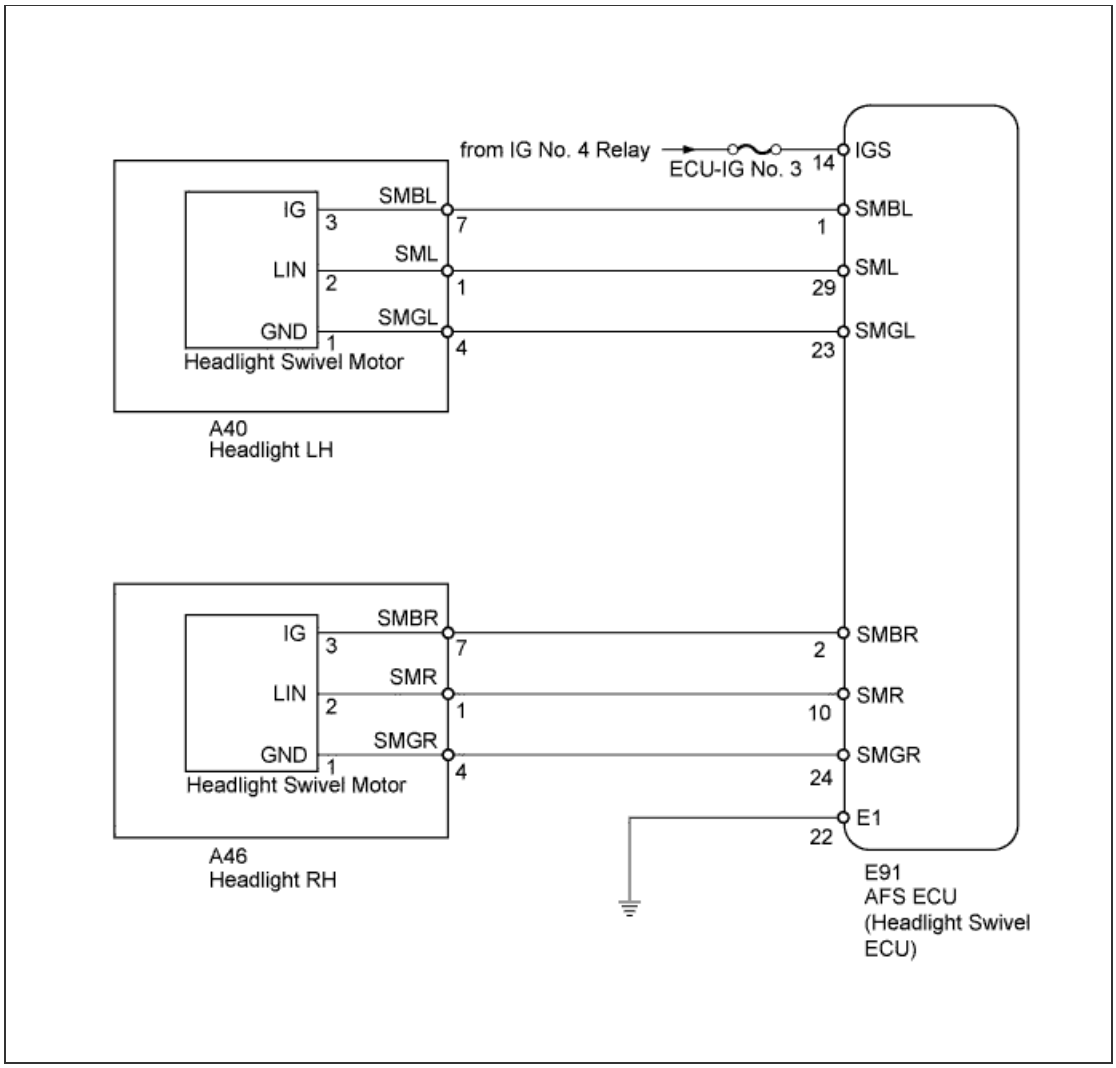
for Preparation Click here

DESCRIPTION

These DTCs are stored when the AFS ECU detects errors in its own communications with the headlight (headlight swivel motor).

DTC Code	DTC Detection Condition	Trouble Area
B2410	The AFS ECU detects errors in its own communications with the headlight swivel motor LH.	• AFS ECU • Headlight swivel motor LH • Headlight LH • Harness or connector
B2411	The AFS ECU detects errors in its own communications with the headlight swivel motor RH.	• AFS ECU • Headlight swivel motor RH • Headlight RH • Harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

Perform a visual check of the headlight (swivel motor) before replacing it.

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2410 or B2411 output does not occur.

NG → Go to step 2

OK ↓

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

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

a. Disconnect the E91 ECU connector.

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

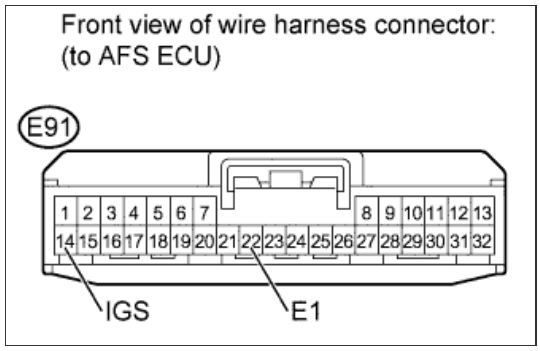
Standard Voltage:

Tester Connection	Condition	Specified Condition
E91-14 (IGS) - Body ground	Engine switch on (IG)	11 to 14 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E91-22 (E1) - Body ground	Always	Below 1 Ω



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

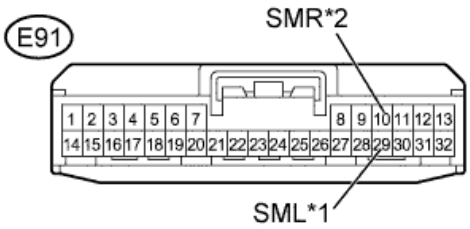
3.CHECK HARNESS AND CONNECTOR (AFS ECU - HEADLIGHT)

a. Disconnect the E91 ECU connector.

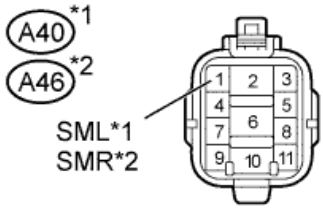
b. Disconnect the A40 and A46 light connectors.

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

Front view of wire harness connector:
(to AFS ECU)



Front view of wire harness connector:
(to Headlight)



*1: for LH

*2: for RH

Standard Resistance:

for LH:

Tester Connection	Condition	Specified Condition
E91-29 (SML) - A40-1 (SML)	Always	Below 1 Ω
E91-29 (SML) - Body ground	Always	10 kΩ or higher

for RH:

Tester Connection	Condition	Specified Condition
E91-10 (SMR) - A46-1 (SMR)	Always	Below 1 Ω
E91-10 (SMR) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

4.CHECK HEADLIGHT SWIVEL MOTOR (OPERATION)

a. Temporarily replace the headlight with a new or normally functioning one.

b. Check for DTCs (Click here).

OK:

DTC B2410 or B2411 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (Click here)

C → REPLACE AFS ECU (Click here)

A

END (HEADLIGHT IS DEFECTIVE)

DTC B2423 AFS ECU Installation Error

for Preparation Click here

DESCRIPTION

This DTC is stored if the AFS ECU is not installed properly.

DTC Code	DTC Detection Condition	Trouble Area
B2423	AFS ECU installation error.	AFS ECU

INSPECTION PROCEDURE

1.REPLACE AFS ECU

a. for LHD:
Check if the AFS ECU is properly installed (Click here).

b. for RHD:
Check if the AFS ECU is properly installed (Click here).

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (Click here)

C → REPLACE AFS ECU (Click here)

A

USE SIMULATION METHOD TO CHECK (Click here)

DTC B2412 Headlight Swivel Motor LH Malfunction

DTC B2413 Headlight Swivel Motor RH Malfunction

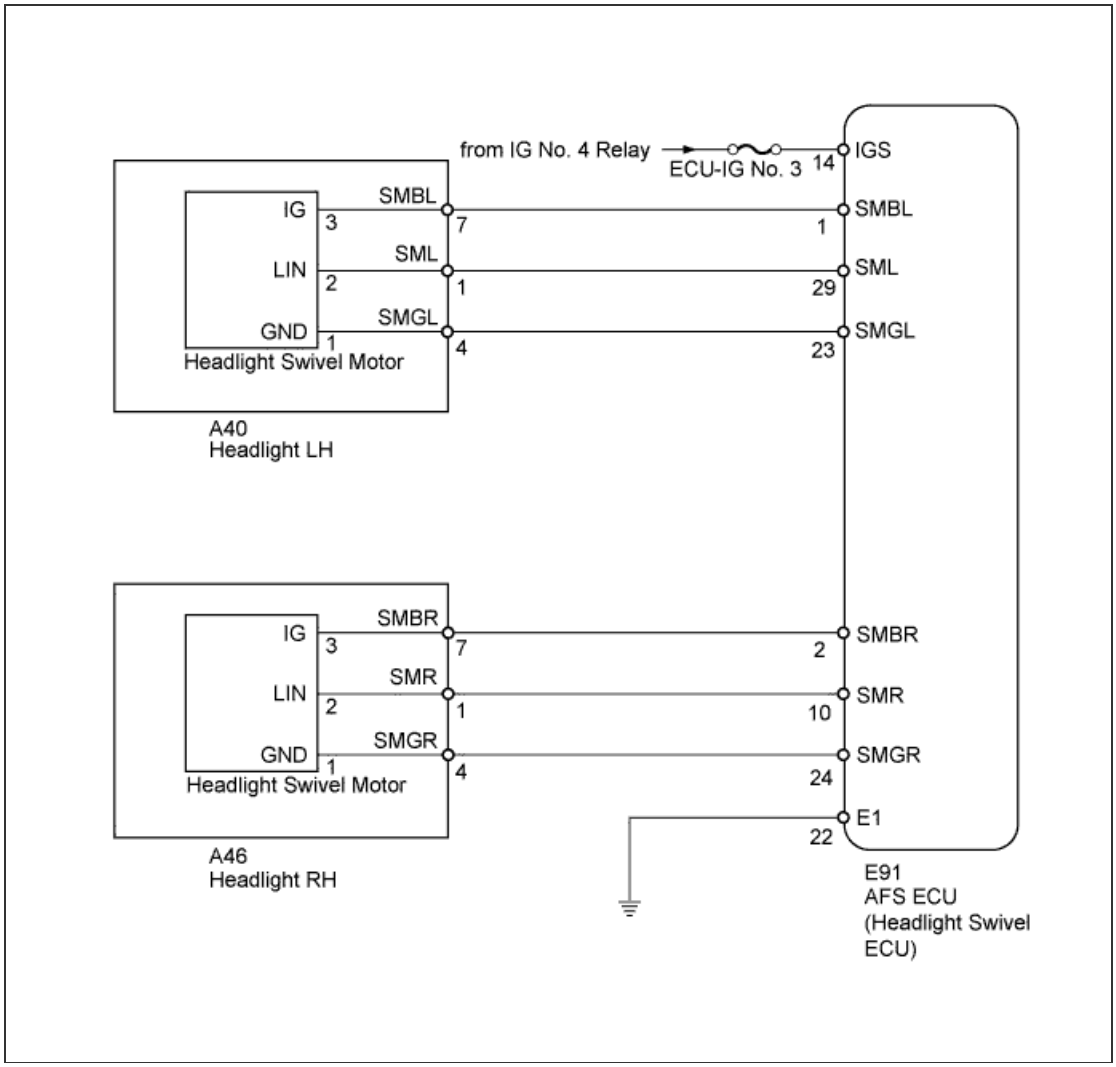
for Preparation Click here

DESCRIPTION

The swivel motor receives a signal from the AFS ECU to operate and sends a signal indicating the direction of the headlight and condition of the headlight swivel motor to the AFS ECU.

DTC Code	DTC Detection Condition	Trouble Area
B2412	When either condition below is met: • Malfunction in the headlight swivel motor LH. • Open or short in the headlight swivel motor LH circuit.	• Headlight swivel motor LH • Harness or connector • AFS ECU
B2413	When either condition below is met: • Malfunction in the headlight swivel motor RH. • Open or short in the headlight swivel motor RH circuit.	• Headlight swivel motor RH • Harness or connector • AFS ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

Perform a visual check of the headlight (swivel motor) before replacing it.

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2412 or B2413 output does not occur.

NG → Go to step 2

OK ↓

USE SIMULATION METHOD TO CHECK (Click here)

2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (SWIVEL MOTOR)

a. Using the intelligent tester, perform the Active Test.

AFS

Tester Display	Test Part	Control Range	Diagnostic Note
Drive Swivel Motor RH	Swivel motor RH right direction rotation	OFF/RIGHT	-
Drive Swivel Motor RH	Swivel motor RH left direction rotation	OFF/LEFT	-
Drive Swivel Motor LH	Swivel motor LH right direction rotation	OFF/RIGHT	-
Drive Swivel Motor LH	Swivel motor LH left direction rotation	OFF/LEFT	-

OK:
Swivel motors operate normally.

NG → Go to step 4

OK ↓

3.CHECK HEADLIGHT SWIVEL MOTOR (OPERATION)

a. Temporarily replace the headlight with a new or normally functioning one.

b. Check for DTCs (Click here).

OK:
DTC B2412 or B2413 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (Click here)

C → REPLACE AFS ECU (Click here)

A ↓

END (HEADLIGHT IS DEFECTIVE)

4.CHECK HARNESS AND CONNECTOR (AFS ECU - BATTERY AND BODY GROUND)

a. Disconnect the E91 ECU connector.

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

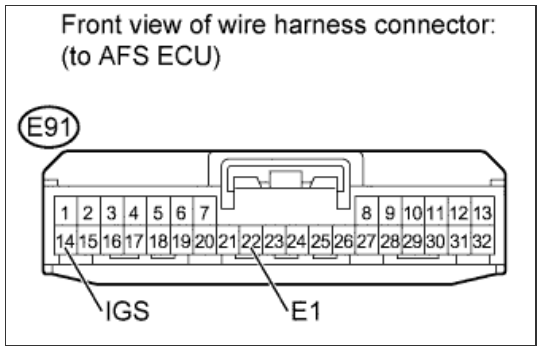
Standard Voltage:

Tester Connection	Condition	Specified Condition
E91-14 (IGS) - 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
E91-22 (E1) - Body ground	Always	Below 1 Ω



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

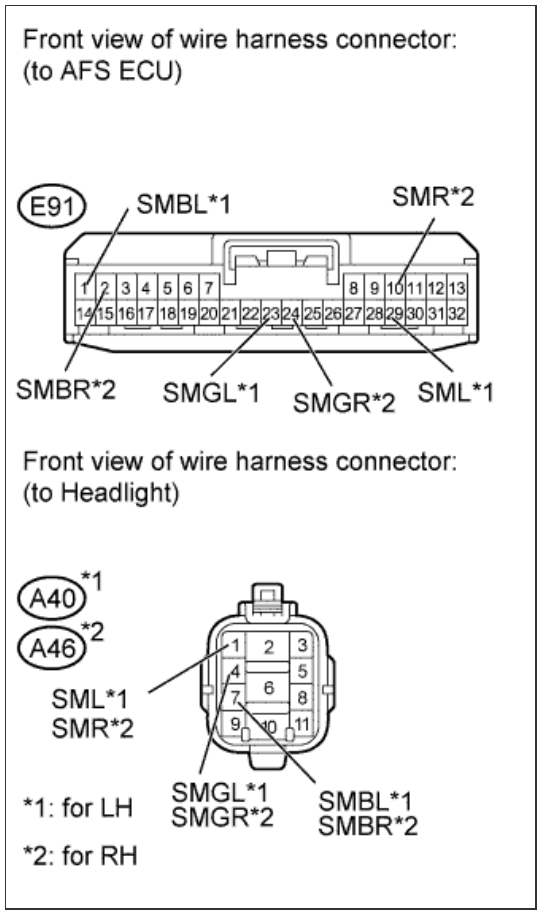
OK

5.CHECK HARNESS AND CONNECTOR (AFS ECU - HEADLIGHT)

a. Disconnect the E91 ECU connector.

b. Disconnect the A40 and A46 light connectors.

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



Standard Resistance:
for LH:

Tester Connection	Condition	Specified Condition
E91-1 (SMBL) - A40-7 (SMBL)	Always	Below 1 Ω
E91-29 (SML) - A40-1 (SML)		
E91-23 (SMGL) - A40-4 (SMGL)		
E91-1 (SMBL) - Body ground	Always	10 kΩ or higher
E91-29 (SML) - Body ground		
E91-23 (SMGL) - Body ground		

for RH:

Tester Connection	Condition	Specified Condition
E91-2 (SMBR) - A46-7 (SMBR)	Always	Below 1 Ω
E91-10 (SMR) - A46-1 (SMR)		
E91-24 (SMGR) - A46-4 (SMGR)		
E91-2 (SMBR) - Body ground	Always	10 kΩ or higher
E91-10 (SMR) - Body ground		
E91-24 (SMGR) - Body ground		

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

6.CHECK HEADLIGHT SWIVEL MOTOR (OPERATION)

a. Temporarily replace the headlight with a new or normally functioning one.

b. Check for DTCs (Click here).

OK:
DTC B2412 or B2413 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (**Click here**)

C → REPLACE AFS ECU (**Click here**)

A

END (HEADLIGHT IS DEFECTIVE)

DTC B2424 Headlight Leveling Motor LH Communication Malfunction

DTC B2425 Headlight Leveling Motor RH Communication Malfunction

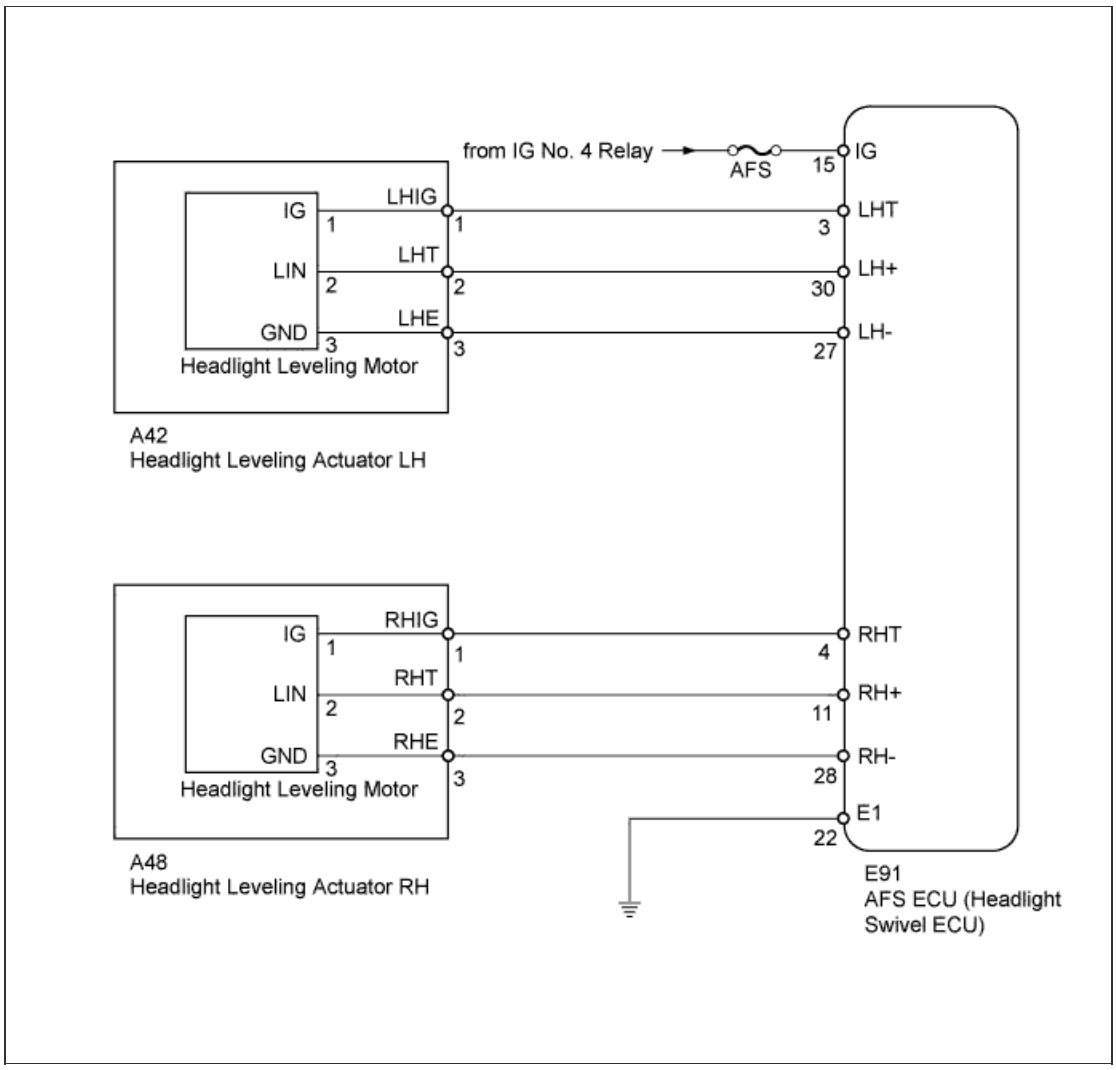
for Preparation Click here

DESCRIPTION

The headlight leveling motor operates by receiving the signal from the AFS ECU. The AFS ECU detects the headlight leveling motor status using the signal from headlight leveling motor.

DTC Code	DTC Detection Condition	Trouble Area
B2424	When either condition below is met: • Malfunction in the headlight leveling motor LH. • Open or short in the headlight leveling motor LH communication circuit.	• Headlight leveling motor LH • Headlight LH • Harness or connector • AFS ECU
B2425	When either condition below is met: • Malfunction in the headlight leveling motor RH. • Open or short in the headlight leveling motor RH communication circuit.	• Headlight leveling motor RH • Headlight RH • Harness or connector • AFS ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2424 or B2425 output does not occur.

NG → Go to step 2

OK ↓

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

2.READ VALUE USING INTELLIGENT TESTER (AFS ECU)

a. Using the intelligent tester, read the Data List.

AFS

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
+B	AFS ECU power source voltage/Min.: 0 V, Max.: 19.75 V	11 to 14 V	-

OK:
Power supply voltage is 11 to 14V.

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR (AFS ECU - BATTERY AND BODY GROUND)

OK ↓

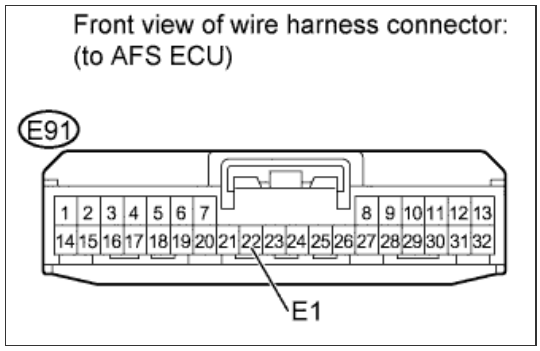
3.CHECK HARNESS AND CONNECTOR (AFS ECU - BODY GROUND)

a. Disconnect the E91 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E91-22 (E1) - Body ground	Always	Below 1 Ω



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

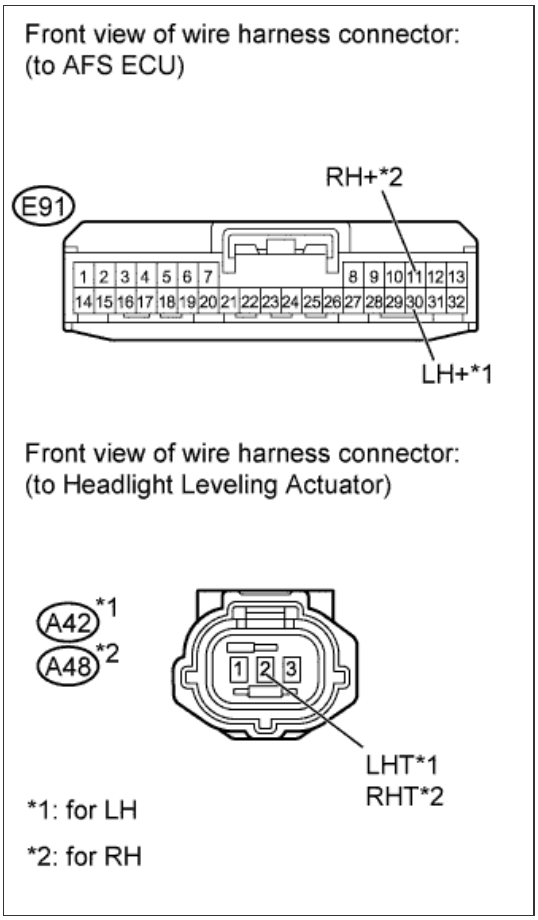
OK ↓

4.CHECK HARNESS AND CONNECTOR (AFS ECU - HEADLIGHT)

a. Disconnect the E91 ECU connector.

b. Disconnect the A42 and A48 actuator connectors.

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



Standard Resistance:

for LH:

Tester Connection	Condition	Specified Condition
E91-30 (LH+) - A42-2 (LHT)	Always	Below 1 Ω
E91-30 (LH+) - Body ground	Always	10 kΩ or higher

for RH:

Tester Connection	Condition	Specified Condition
E91-11 (RH+) - A48-2 (RHT)	Always	Below 1 Ω
E91-11 (RH+) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5.CHECK HEADLIGHT LEVELING MOTOR (OPERATION)

a. Temporarily replace the headlight with a new or normally functioning one.

b. Check for DTCs (Click here).

OK:

DTC B2424 or B2425 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (Click here)

C → REPLACE AFS ECU (Click here)

A

END (HEADLIGHT IS DEFECTIVE)

DTC B2412 Headlight Swivel Motor LH Malfunction

DTC B2413 Headlight Swivel Motor RH Malfunction

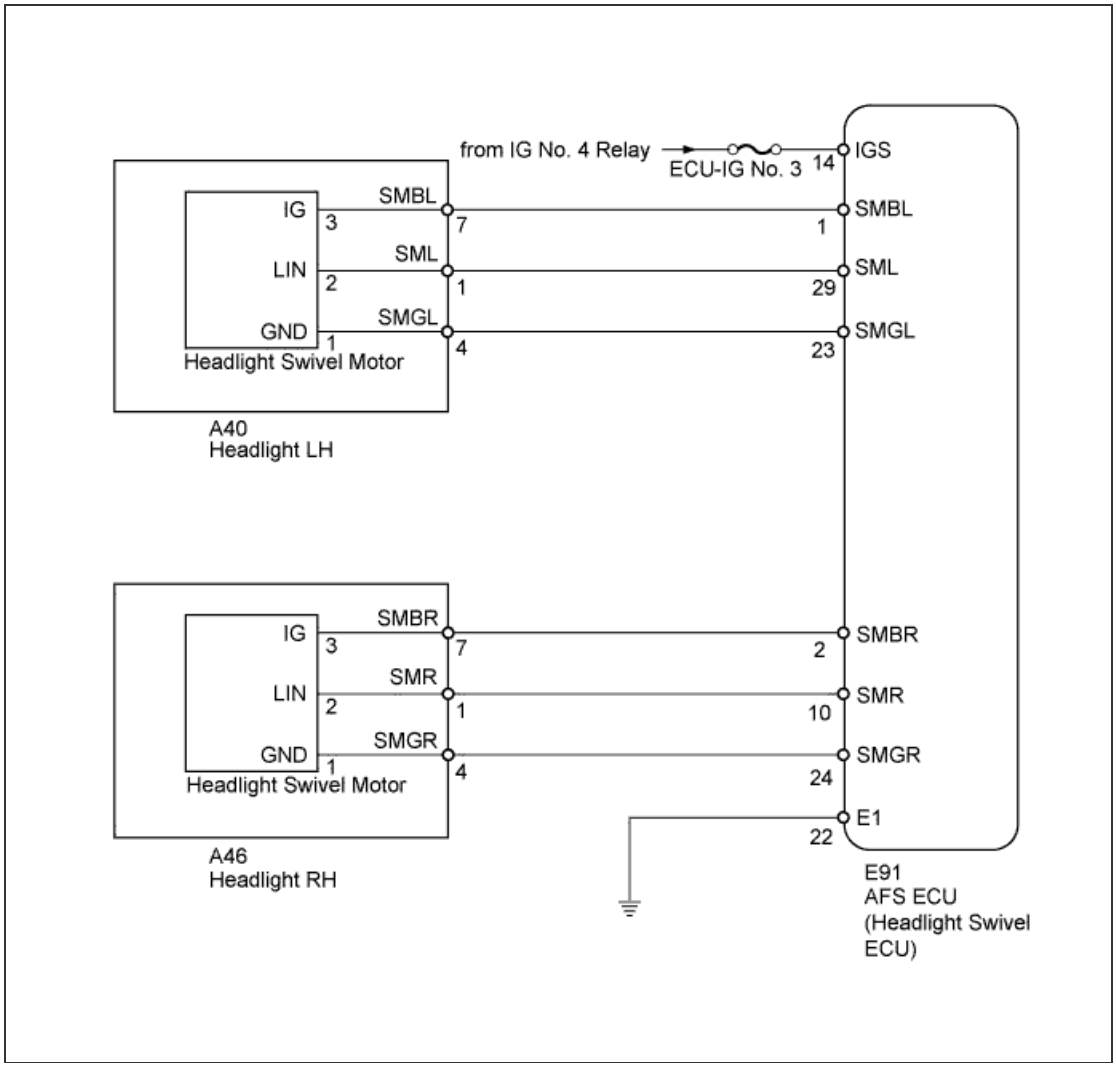
for Preparation Click here

DESCRIPTION

The swivel motor receives a signal from the AFS ECU to operate and sends a signal indicating the direction of the headlight and condition of the headlight swivel motor to the AFS ECU.

DTC Code	DTC Detection Condition	Trouble Area
B2412	When either condition below is met: • Malfunction in the headlight swivel motor LH. • Open or short in the headlight swivel motor LH circuit.	• Headlight swivel motor LH • Harness or connector • AFS ECU
B2413	When either condition below is met: • Malfunction in the headlight swivel motor RH. • Open or short in the headlight swivel motor RH circuit.	• Headlight swivel motor RH • Harness or connector • AFS ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

Perform a visual check of the headlight (swivel motor) before replacing it.

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2412 or B2413 output does not occur.

NG → Go to step 2

OK ↓

USE SIMULATION METHOD TO CHECK (Click here)

2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (SWIVEL MOTOR)

a. Using the intelligent tester, perform the Active Test.

AFS

Tester Display	Test Part	Control Range	Diagnostic Note
Drive Swivel Motor RH	Swivel motor RH right direction rotation	OFF/RIGHT	-
Drive Swivel Motor RH	Swivel motor RH left direction rotation	OFF/LEFT	-
Drive Swivel Motor LH	Swivel motor LH right direction rotation	OFF/RIGHT	-
Drive Swivel Motor LH	Swivel motor LH left direction rotation	OFF/LEFT	-

OK:
Swivel motors operate normally.

NG → Go to step 4

OK ↓

3.CHECK HEADLIGHT SWIVEL MOTOR (OPERATION)

a. Temporarily replace the headlight with a new or normally functioning one.

b. Check for DTCs (Click here).

OK:
DTC B2412 or B2413 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (Click here)

C → REPLACE AFS ECU (Click here)

A ↓

END (HEADLIGHT IS DEFECTIVE)

4.CHECK HARNESS AND CONNECTOR (AFS ECU - BATTERY AND BODY GROUND)

a. Disconnect the E91 ECU connector.

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

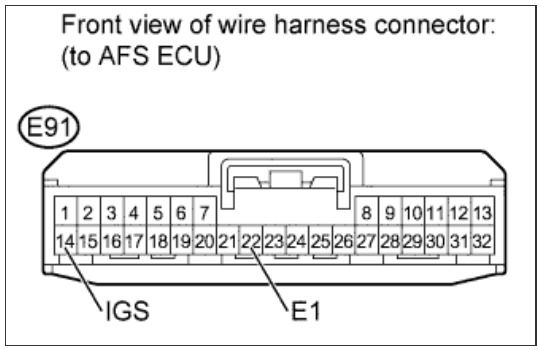
Standard Voltage:

Tester Connection	Condition	Specified Condition
E91-14 (IGS) - 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
E91-22 (E1) - Body ground	Always	Below 1 Ω



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

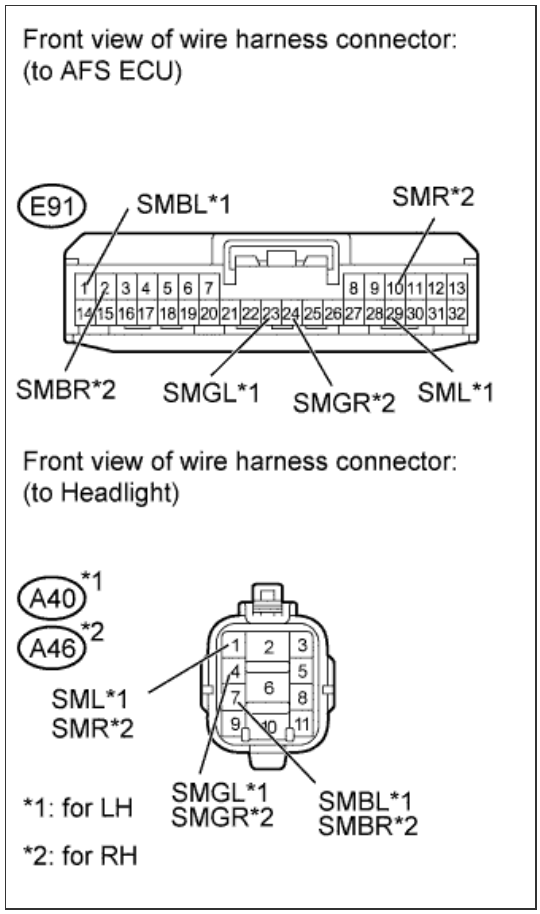
OK

5.CHECK HARNESS AND CONNECTOR (AFS ECU - HEADLIGHT)

a. Disconnect the E91 ECU connector.

b. Disconnect the A40 and A46 light connectors.

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



Standard Resistance:
for LH:

Tester Connection	Condition	Specified Condition
E91-1 (SMBL) - A40-7 (SMBL)	Always	Below 1 Ω
E91-29 (SML) - A40-1 (SML)		
E91-23 (SMGL) - A40-4 (SMGL)		
E91-1 (SMBL) - Body ground	Always	10 kΩ or higher
E91-29 (SML) - Body ground		
E91-23 (SMGL) - Body ground		

for RH:

Tester Connection	Condition	Specified Condition
E91-2 (SMBR) - A46-7 (SMBR)	Always	Below 1 Ω
E91-10 (SMR) - A46-1 (SMR)		
E91-24 (SMGR) - A46-4 (SMGR)		
E91-2 (SMBR) - Body ground	Always	10 kΩ or higher
E91-10 (SMR) - Body ground		
E91-24 (SMGR) - Body ground		

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

6.CHECK HEADLIGHT SWIVEL MOTOR (OPERATION)

a. Temporarily replace the headlight with a new or normally functioning one.

b. Check for DTCs (Click here).

OK:
DTC B2412 or B2413 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (**Click here**)

C → REPLACE AFS ECU (**Click here**)

A

END (HEADLIGHT IS DEFECTIVE)

DTC B2424 Headlight Leveling Motor LH Communication Malfunction

DTC B2425 Headlight Leveling Motor RH Communication Malfunction

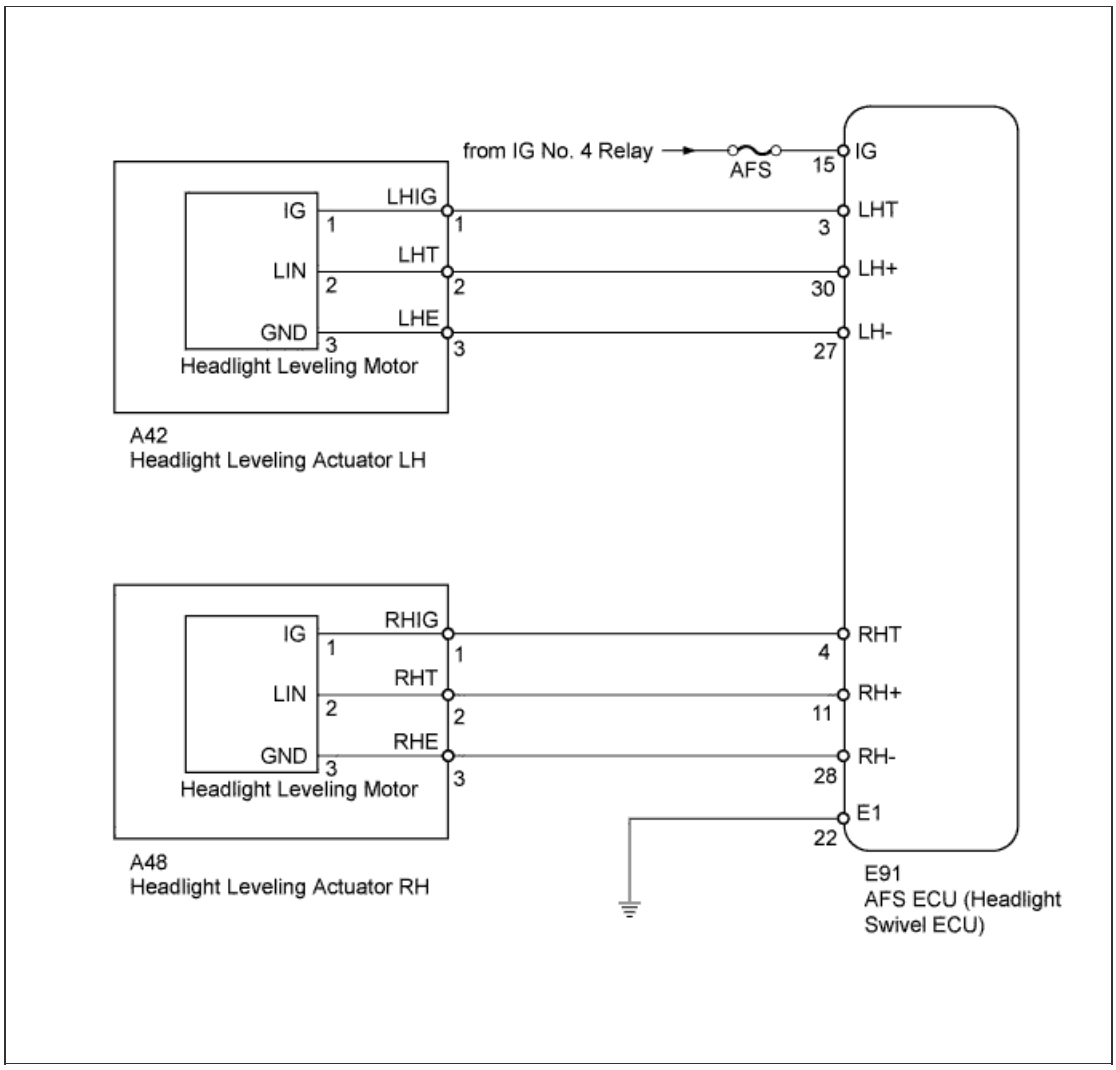
for Preparation Click here

DESCRIPTION

The headlight leveling motor operates by receiving the signal from the AFS ECU. The AFS ECU detects the headlight leveling motor status using the signal from headlight leveling motor.

DTC Code	DTC Detection Condition	Trouble Area
B2424	When either condition below is met: • Malfunction in the headlight leveling motor LH. • Open or short in the headlight leveling motor LH communication circuit.	• Headlight leveling motor LH • Headlight LH • Harness or connector • AFS ECU
B2425	When either condition below is met: • Malfunction in the headlight leveling motor RH. • Open or short in the headlight leveling motor RH communication circuit.	• Headlight leveling motor RH • Headlight RH • Harness or connector • AFS ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2424 or B2425 output does not occur.

NG → Go to step 2

OK ↓

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

2.READ VALUE USING INTELLIGENT TESTER (AFS ECU)

a. Using the intelligent tester, read the Data List.

AFS

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
+B	AFS ECU power source voltage/Min.: 0 V, Max.: 19.75 V	11 to 14 V	-

OK:
Power supply voltage is 11 to 14V.

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR (AFS ECU - BATTERY AND BODY GROUND)

OK ↓

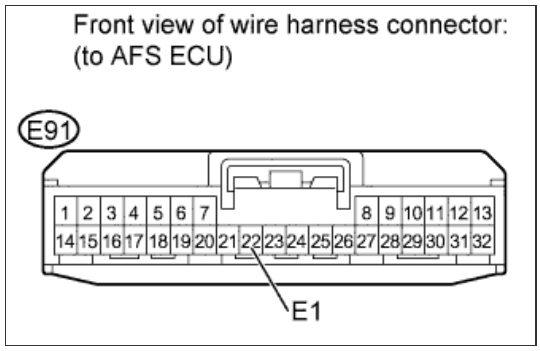
3.CHECK HARNESS AND CONNECTOR (AFS ECU - BODY GROUND)

a. Disconnect the E91 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E91-22 (E1) - Body ground	Always	Below 1 Ω



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

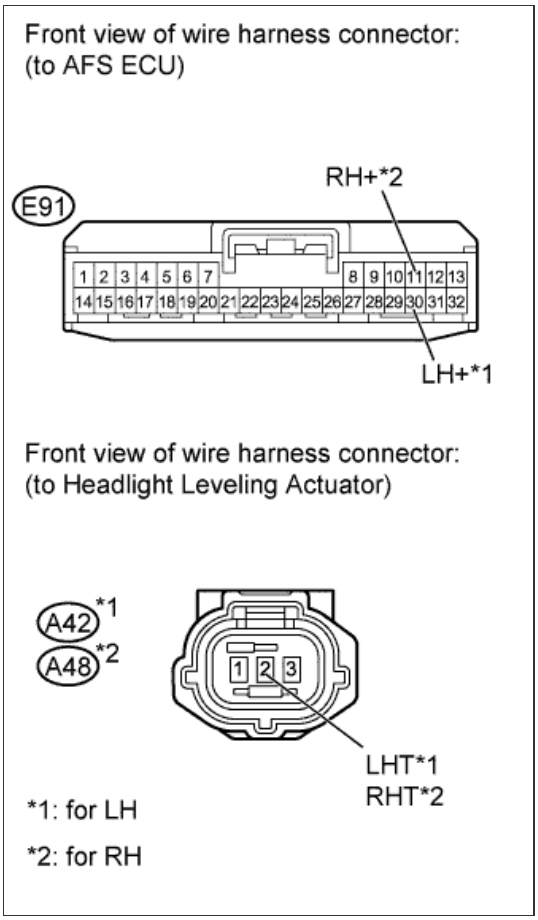
OK ↓

4.CHECK HARNESS AND CONNECTOR (AFS ECU - HEADLIGHT)

a. Disconnect the E91 ECU connector.

b. Disconnect the A42 and A48 actuator connectors.

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



Standard Resistance:

for LH:

Tester Connection	Condition	Specified Condition
E91-30 (LH+) - A42-2 (LHT)	Always	Below 1 Ω
E91-30 (LH+) - Body ground	Always	10 kΩ or higher

for RH:

Tester Connection	Condition	Specified Condition
E91-11 (RH+) - A48-2 (RHT)	Always	Below 1 Ω
E91-11 (RH+) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5.CHECK HEADLIGHT LEVELING MOTOR (OPERATION)

a. Temporarily replace the headlight with a new or normally functioning one.

b. Check for DTCs (Click here).

OK:

DTC B2424 or B2425 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (Click here)

C → REPLACE AFS ECU (Click here)

A

END (HEADLIGHT IS DEFECTIVE)

DTC B2414 Steering Position Sensor Malfunction

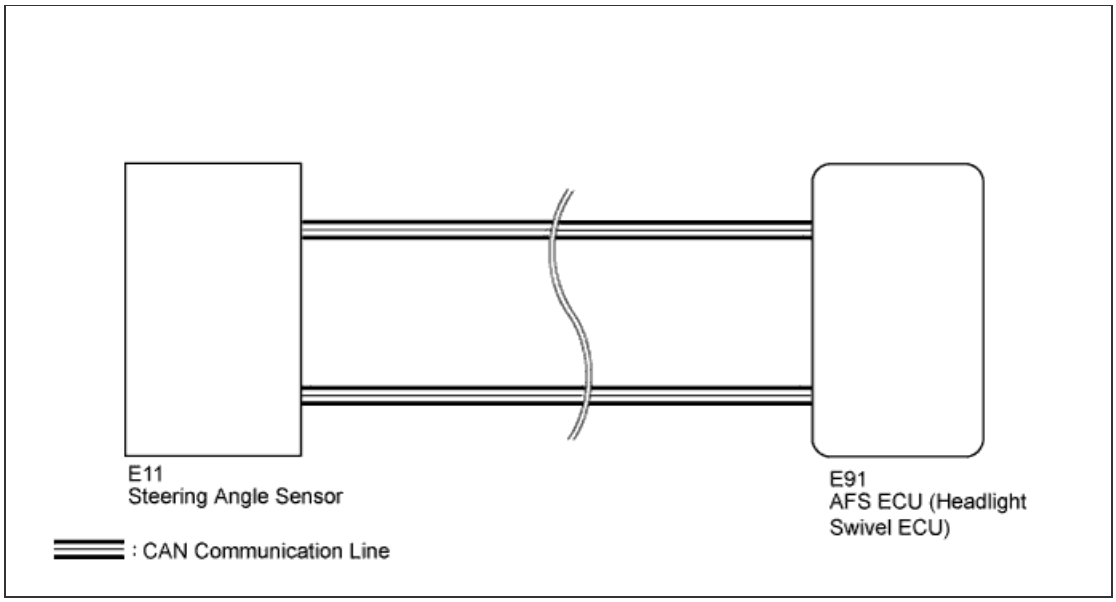
for Preparation Click here

DESCRIPTION

The AFS ECU receives signals indicating the steering angle from the steering angle sensor using CAN communication.

DTC Code	DTC Detection Condition	Trouble Area
B2414	Malfunction in the steering angle sensor.	• Steering angle sensor • AFS ECU

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 FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2414 output does not occur.

NG → Go to step 2

OK

USE SIMULATION METHOD TO CHECK (Click here)

2.REPLACE STEERING ANGLE SENSOR

a. Temporarily replace the steering angle sensor with a new or normally functioning one (Click here).

NEXT

3.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Recheck for DTCs (Click here).

OK:

DTC B2414 output does not reoccur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (**Click here**)

C → REPLACE AFS ECU (**Click here**)

A

END (STEERING ANGLE SENSOR IS DEFECTIVE)

DTC B2427 CAN Communication Malfunction

for Preparation Click here

DESCRIPTION

- The AFS ECU receives an engine running status signal and shift position signal from the ECM using CAN communication.
- The AFS ECU receives front speed sensor LH and RH signals from the skid control ECU using CAN communication.
- The AFS ECU receives the headlight status signal from the main body ECU using CAN communication.
- The AFS ECU sends an AFS OFF indicator light on or off demand signal to the combination meter ECU using CAN communication.

DTC Code	DTC Detection Condition	Trouble Area
B2427	When either condition below is met: • Malfunction in the CAN communication system. • Malfunction in the AFS ECU.	• CAN communication system • AFS ECU

INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2427 output does not occur.

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

USE SIMULATION METHOD TO CHECK (Click here)

DTC B2415 Vehicle Speed Sensor Malfunction

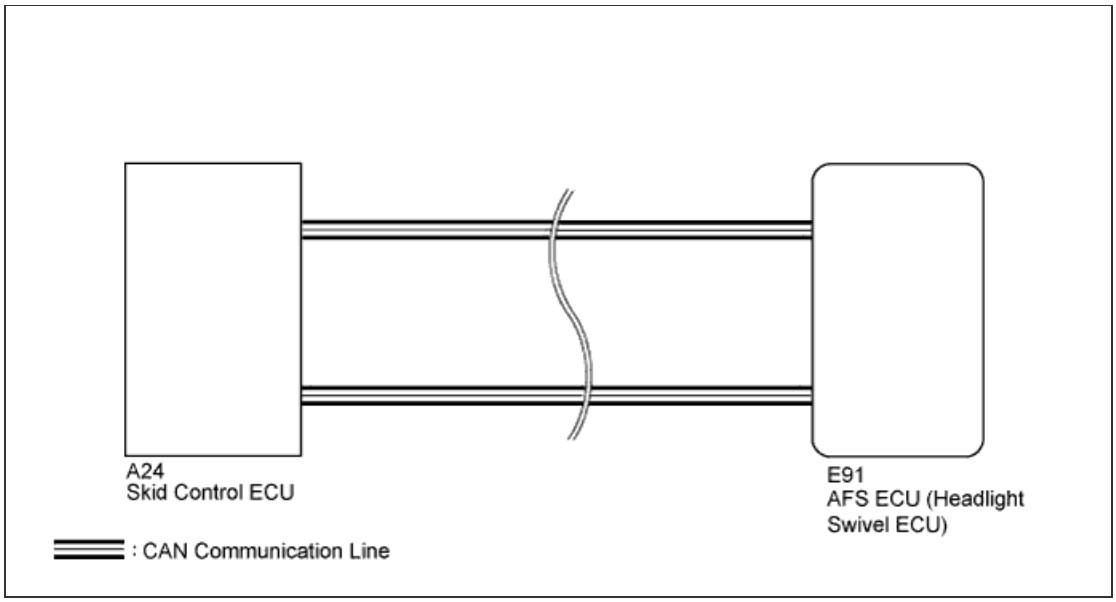
for Preparation Click here

DESCRIPTION

The AFS ECU receives signals indicating the front wheel speed from the skid control ECU using CAN communication.

DTC Code	DTC Detection Condition	Trouble Area
B2415	Malfunction in the vehicle speed sensor.	• Skid control ECU • AFS ECU

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 FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2415 output does not occur.

NG → Go to step 2

OK

USE SIMULATION METHOD TO CHECK (Click here)

2.CHECK FOR DTC (VEHICLE STABILITY CONTROL SYSTEM)

a. Check for DTCs (Click here).

OK:
DTC "C0200/31 Front Speed Sensor RH Circuit", "C0205/32 Front Speed Sensor LH Circuit", "C1235/35 Foreign Object is Attached on Top of Front Speed Sensor RH", and "C1236/36 Foreign Object is Attached on Top of Front Speed Sensor LH" output does not occur.

Result

Result	Proceed to
OK (for LHD)	A
OK (for RHD)	B
NG	C

B → REPLACE AFS ECU (Click here)

C → GO TO VEHICLE STABILITY CONTROL SYSTEM (Click here)

A

REPLACE AFS ECU (Click here)

DTC B2427 CAN Communication Malfunction

for Preparation Click here

DESCRIPTION

- The AFS ECU receives an engine running status signal and shift position signal from the ECM using CAN communication.
- The AFS ECU receives front speed sensor LH and RH signals from the skid control ECU using CAN communication.
- The AFS ECU receives the headlight status signal from the main body ECU using CAN communication.
- The AFS ECU sends an AFS OFF indicator light on or off demand signal to the combination meter ECU using CAN communication.

DTC Code	DTC Detection Condition	Trouble Area
B2427	When either condition below is met: • Malfunction in the CAN communication system. • Malfunction in the AFS ECU.	• CAN communication system • AFS ECU

INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2427 output does not occur.

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

USE SIMULATION METHOD TO CHECK (Click here)

DTC B2416 Height Control Sensor Malfunction

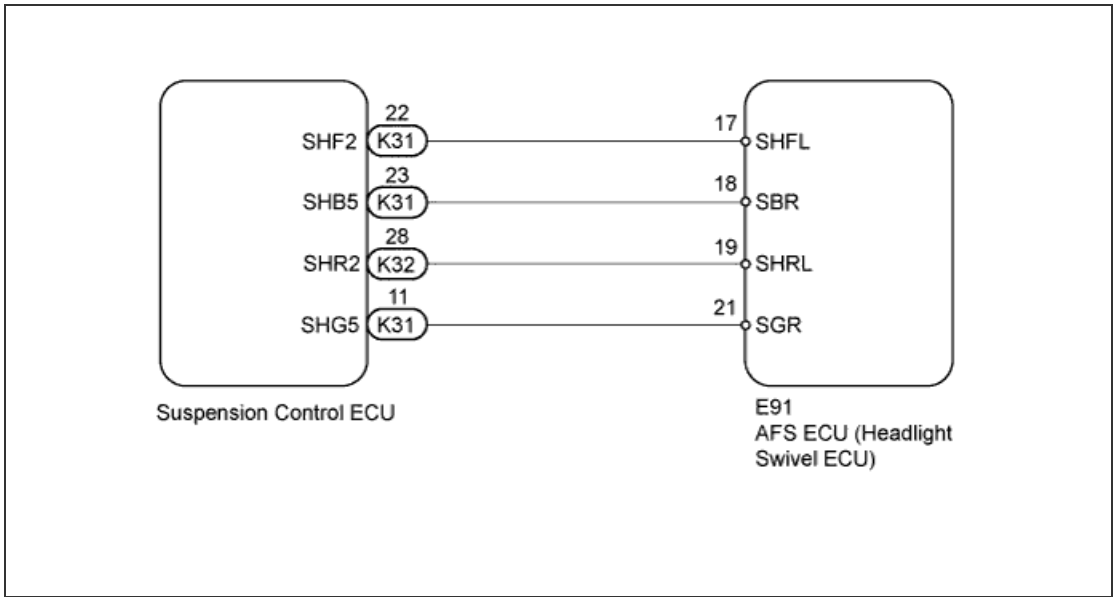
for Preparation Click here

DESCRIPTION

The AFS ECU receives signals indicating the height of the vehicle from the suspension control ECU.

DTC Code	DTC Detection Condition	Trouble Area
B2416	When either condition below is met: • Malfunction in the suspension control ECU. • Open or short in the suspension control ECU circuit.	• Suspension control ECU • Harness or connector • AFS ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2416 output does not occur.

NG → **Go to step 2**

OK

USE SIMULATION METHOD TO CHECK (Click here)

2.CHECK FOR DTC (AIR SUSPENSION SYSTEM)

a. Check for DTCs (Click here).

OK:
DTC "C1712/12 Front Height Control Sensor LH Circuit Malfunction" and "C1714/14 Rear Height Control Sensor LH Circuit Malfunction" output does not occur.

NG → **GO TO AIR SUSPENSION SYSTEM (Click here)**

OK

3.READ VALUE USING INTELLIGENT TESTER (AFS ECU)

a. Using the intelligent tester, read the Data List.

AFS

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Height Sens Pw Supply Val	Height control sensor power supply value / Min.: 0 V, Max.: 5 V	Power supply voltage to height control sensor	-
Fr Height Sens Signal Val	Front height control sensor signal / Min.: 0 V, Max.: 5 V	Height control sensor vehicle height value	-
Rr Height Sens Signal Val	Rear height control sensor signal / Min.: 0 V, Max.: 5 V	Height control sensor vehicle height value	-

OK:

Power supply voltage is approximately 5 V and height control sensor voltage changes when vehicle height is changed.

Result

Result	Proceed to
OK (for LHD)	A
OK (for RHD)	B
NG	C

B → REPLACE AFS ECU (Click here)

C → Go to step 4

A

REPLACE AFS ECU (Click here)

4.CHECK HARNESS AND CONNECTOR (AFS ECU - SUSPENSION CONTROL ECU)

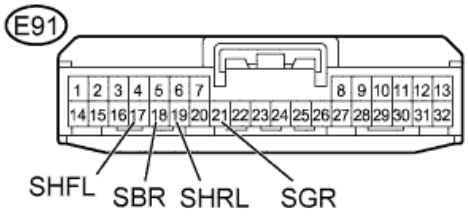
a. Disconnect the E91, K31 and K32 ECU connectors.

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

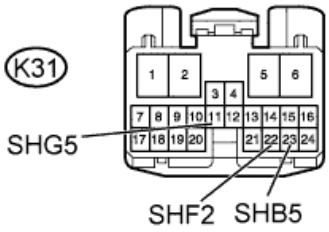
Standard Resistance:

Tester Connection	Condition	Specified Condition
E91-17 (SHFL) - K31-22 (SHF2)	Always	Below 1 Ω
E91-18 (SBR) - K31-23 (SHB5)		
E91-19 (SHRL) - K32-28 (SHR2)		
E91-21 (SGR) - K31-11 (SHG5)		
E91-17 (SHFL) - Body ground	Always	10 kΩ or higher
E91-18 (SBR) - Body ground		
E91-19 (SHRL) - Body ground		
E91-21 (SGR) - Body ground		

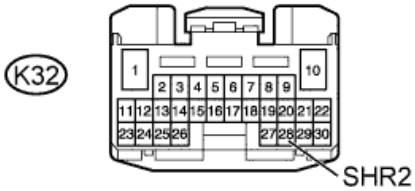
Front view of wire harness connector:
(to AFS ECU)



Front view of wire harness connector:
(to Suspension Control ECU)



Front view of wire harness connector:
(to Suspension Control ECU)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

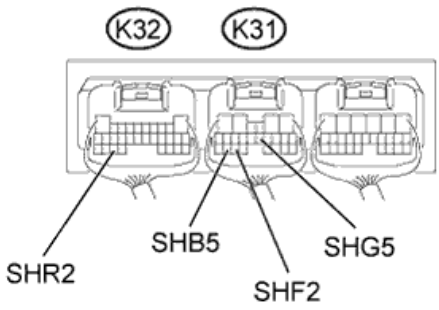
5.CHECK SUSPENSION CONTROL ECU

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
K31-23 (SHB5) - K31-11 (SHG5)	Engine switch on (IG)	4.5 to 5.5 V
K31-22 (SHF2) - K31-11 (SHG5)	While engine running, height control switch changed from HIGH to NORM, and vehicle height adjustment finished	2.20 to 2.80 V
K32-28 (SHR2) - K31-11 (SHG5)	While engine running, height control switch changed from HIGH to NORM, and vehicle height adjustment finished	2.21 to 2.80 V

Component with harness connected:
(Suspension Control ECU)



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

Standard Resistance:

Tester Connection	Condition	Specified Condition
K31-11 (SHG5) - Body ground	Always	Below 1 Ω

Result

Result	Proceed to
OK (for LHD)	A
OK (for RHD)	B
NG	C

B → REPLACE AFS ECU (Click here)

C → REPLACE SUSPENSION CONTROL ECU (Click here)

A

REPLACE AFS ECU (Click here)

DTC B2429 Steering Wheel Position Undecided

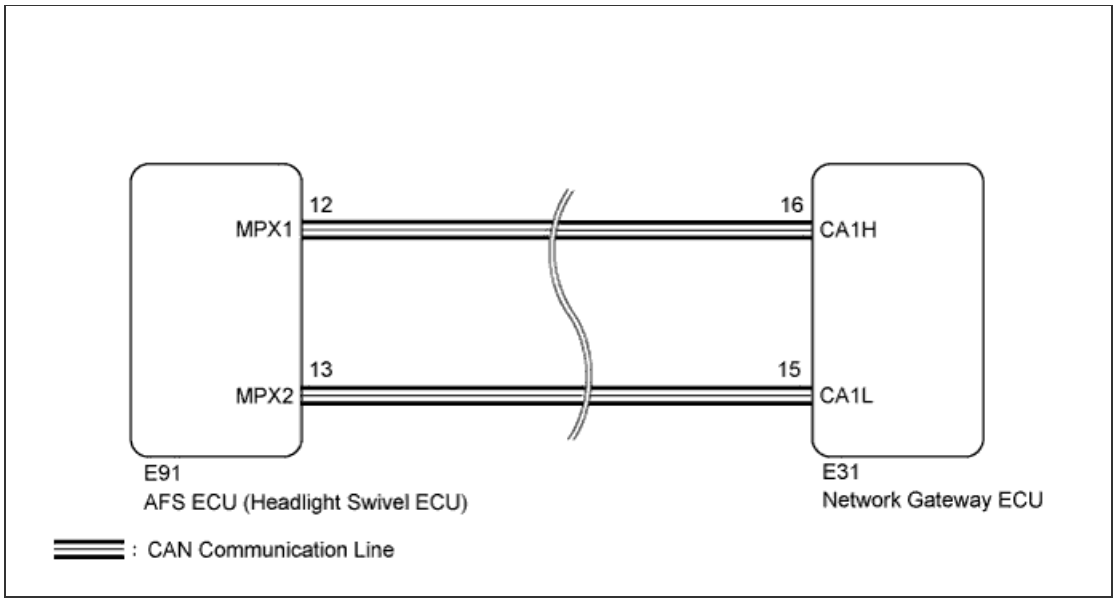
for Preparation Click here

DESCRIPTION

The AFS ECU receives steering wheel position information (turned to the right or left) from the main body ECU via CAN communication.

DTC Code	DTC Detection Condition	Trouble Area
B2429	Steering wheel position information malfunction.	• AFS ECU • Network Gateway ECU

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 FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2429 output does not occur.

NG → **Go to step 2**

OK

USE SIMULATION METHOD TO CHECK (Click here)

2.CHECK AFS ECU (OPERATION)

a. for LHD:
Temporarily replace the AFS ECU with a new or normally functioning one (Click here).

b. for RHD:
Temporarily replace the AFS ECU with a new or normally functioning one (Click here).

c. Check for DTCs (Click here).

OK:

DTC B2429 output does not occur.

Result

Result	Proceed to
OK (for LHD)	A
OK (for RHD)	B
NG	C

B → END (AFS ECU IS DEFECTIVE)

C → GO TO VARIABLE GEAR RATIO STEERING SYSTEM (Click here)

A

END (AFS ECU IS DEFECTIVE)

DTC B2417 Headlight Beam Level Control Motor LH Malfunction

DTC B2418 Headlight Beam Level Control Motor RH Malfunction

for Preparation Click here

DESCRIPTION

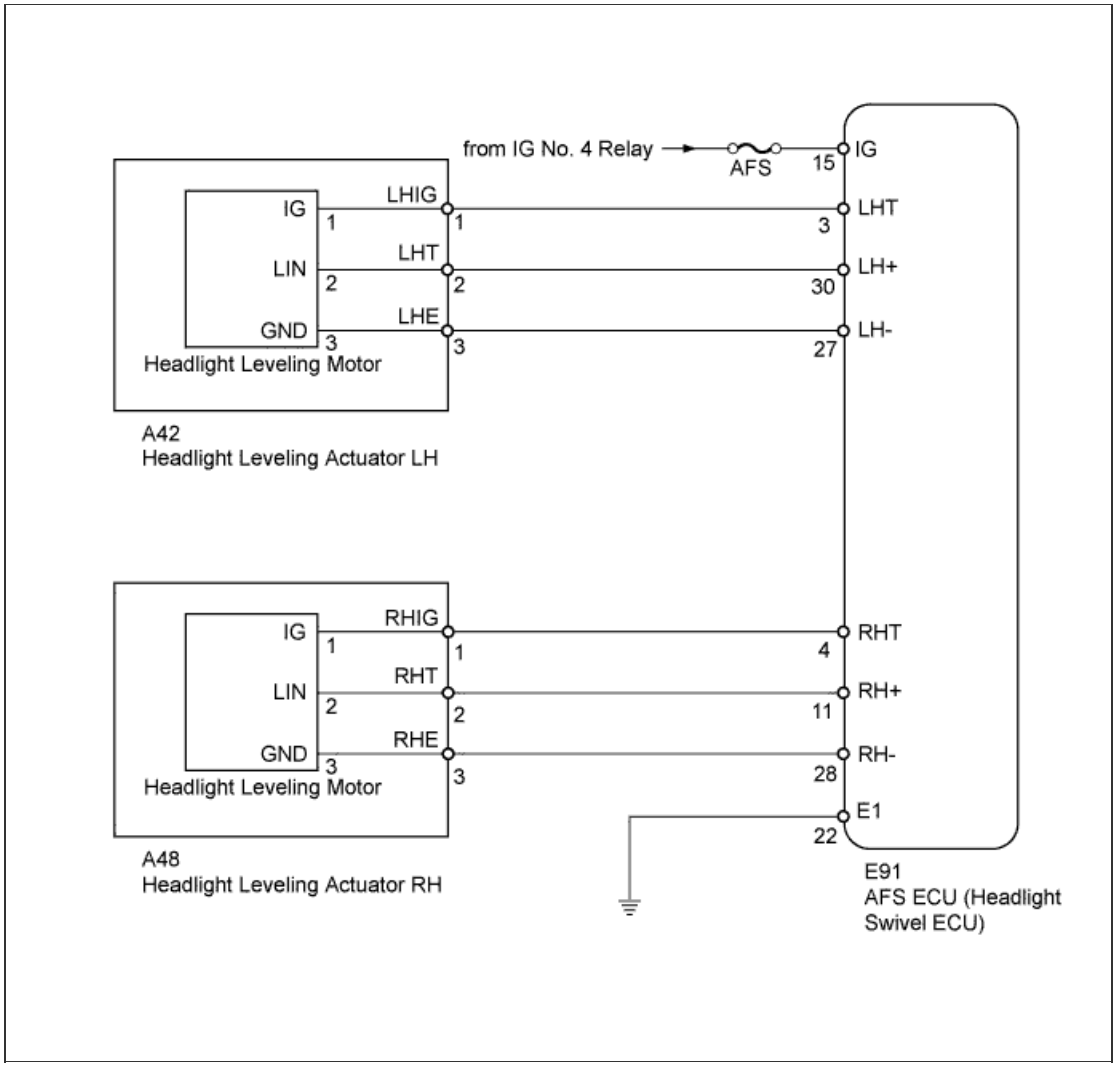
The headlight leveling motor receives a signal from the AFS ECU to operate. The AFS ECU receives a signal indicating the operating conditions of the headlight leveling motor.

DTC Code	DTC Detection Condition	Trouble Area
B2417	When either condition below is met: • Malfunction in the headlight leveling motor LH. • Open or short in the headlight leveling motor LH circuit.	• Headlight leveling motor LH • Harness or connector • AFS ECU
B2418	When either condition below is met: • Malfunction in the headlight leveling motor RH. • Open or short in the headlight leveling motor RH circuit.	• Headlight leveling motor RH • Harness or connector • AFS ECU

HINT:

Perform a visual check of the headlight leveling motor before replacing it.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Clear the DTCs (Click here).

b. Check for DTCs (Click here).

OK:
DTC B2417 or B2418 output does not occur.

NG → Go to step 2

OK ↓

USE SIMULATION METHOD TO CHECK (Click here)

2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (HEADLIGHT LEVELING MOTOR)

a. Using the intelligent tester, perform the Active Test.

AFS

Tester Display	Test Part	Control Range	Diagnostic Note
Drive The Leveling Motor UP	Leveling motor upward operation	OFF/UP	-
Drive The Leveling Motor DOWN	Leveling motor downward operation	OFF/DOWN	-

OK:
Headlight leveling motors operate normally.

NG → Go to step 4

OK ↓

3.CHECK HEADLIGHT LEVELING MOTOR (OPERATION)

a. Temporarily replace the headlight with a new or normally functioning one.

b. Check for DTCs (Click here).

OK:
DTC B2417 or B2418 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (Click here)

C → REPLACE AFS ECU (Click here)

A ↓

END (HEADLIGHT IS DEFECTIVE)

4.READ VALUE USING INTELLIGENT TESTER (AFS ECU)

a. Using the intelligent tester, read the Data List.

AFS

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
+B	AFS ECU power source voltage/Min.: 0 V, Max.: 19.75 V	11 to 14 V	-

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR (AFS ECU - BATTERY AND BODY GROUND)

OK

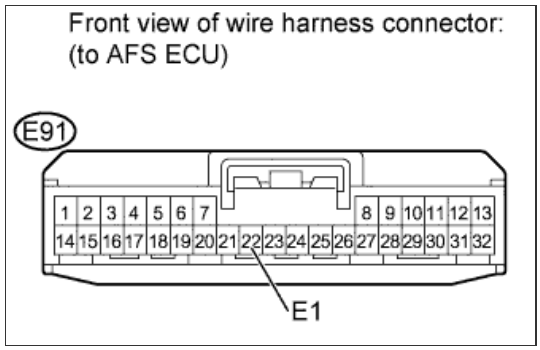
5.CHECK HARNESS AND CONNECTOR (AFS ECU - BODY GROUND)

a. Disconnect the E91 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E91-22 (E1) - Body ground	Always	Below 1 Ω



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

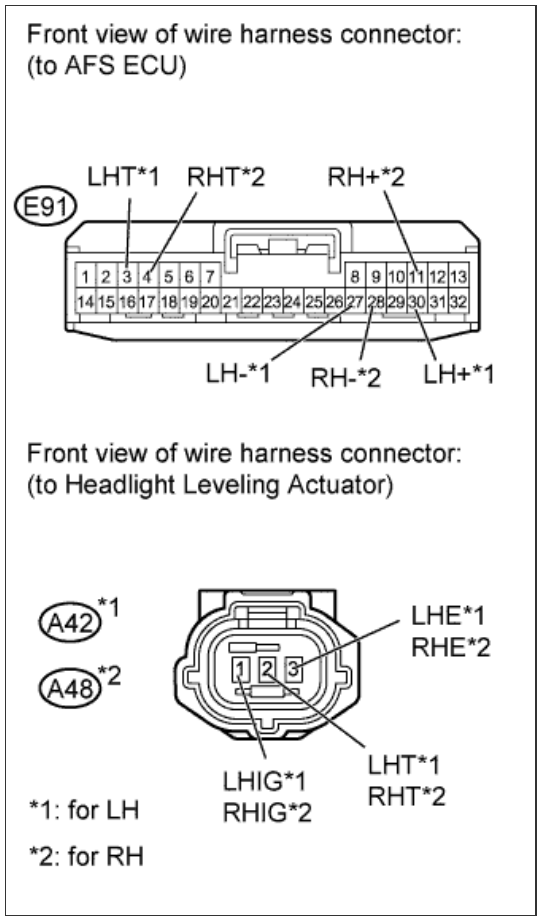
OK

6.CHECK HARNESS AND CONNECTOR (AFS ECU - HEADLIGHT LEVELING ACTUATOR)

a. Disconnect the E91 ECU connector.

b. Disconnect the A42 and A48 actuator connectors.

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



Standard Resistance:

for LH:

Tester Connection	Condition	Specified Condition
E91-3 (LHT) - A42-1 (LHIG)	Always	Below 1 Ω
E91-27 (LH-) - A42-3 (LHE)		
E91-30 (LH+) - A42-2 (LHT)		

E91-3 (LHT) - Body ground	Always	10 kΩ or higher
E91-27 (LH-) - Body ground		
E91-30 (LH+) - Body ground		

for RH:

Tester Connection	Condition	Specified Condition
E91-4 (RHT) - A48-1 (RHIG)	Always	Below 1 Ω
E91-28 (RH-) - A48-3 (RHE)		
E91-11 (RH+) - A48-2 (RHT)		
E91-4 (RHT) - Body ground	Always	10 kΩ or higher
E91-28 (RH-) - Body ground		
E91-11 (RH+) - Body ground		

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

7.CHECK HEADLIGHT LEVELING MOTOR (OPERATION)

a. Temporarily replace the headlight with a new or normally functioning one.

b. Check for DTCs (Click here).

OK:

DTC B2417 or B2418 output does not occur.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE AFS ECU (Click here)

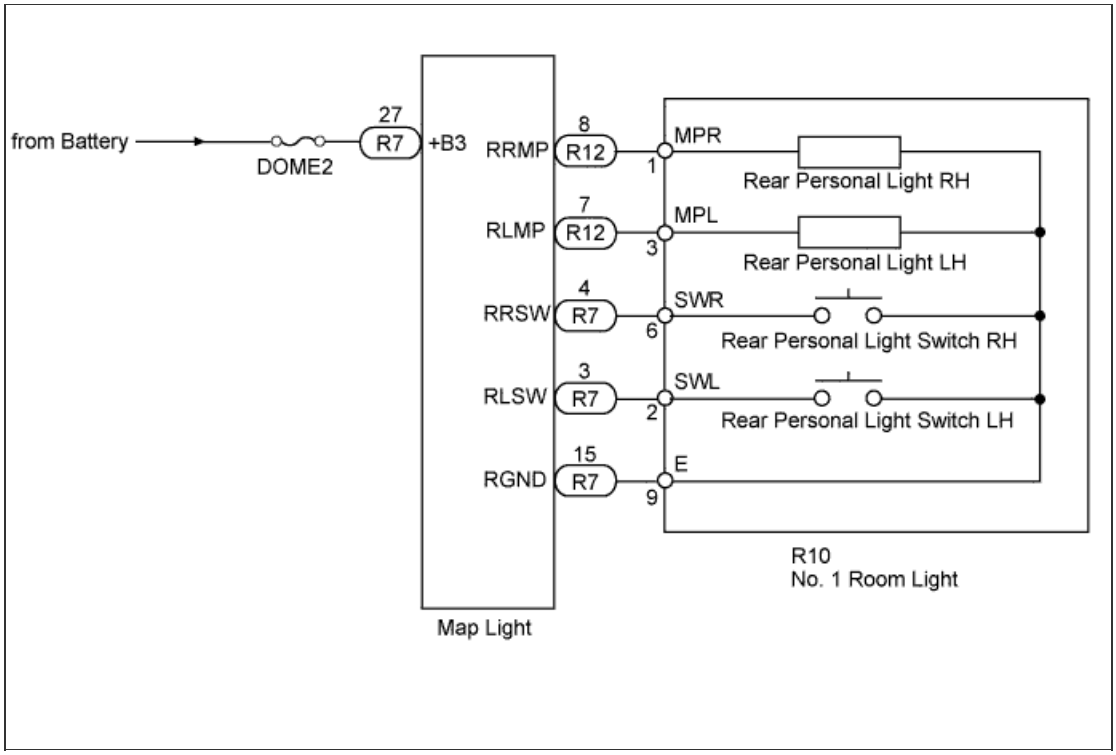
C → REPLACE AFS ECU (Click here)

A

END (HEADLIGHT IS DEFECTIVE)

for Preparation Click here

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CONFIRM LIGHT POSITION

a. Check the malfunctioning personal light.

Result

Result	Proceed to
Rear personal light	A
Front personal light	B

B → REPLACE MAP LIGHT (Click here)

A

2.CHECK HARNESS AND CONNECTOR (MAP LIGHT - BATTERY)

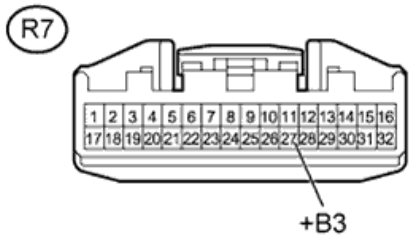
a. Disconnect the R7 light connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
R7-27 (+B3) - Body ground	Always	11 to 14 V

Front view of wire harness connector:
(to Map Light)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3.INSPECT ROOM NO. 1 LIGHT

a. Remove the room No. 1 light connector (Click here).

b. Apply battery voltage to the connector, and check the illumination condition.

Component without harness connected:
(No. 1 Room Light Assembly)



OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 (MPR) Battery negative (-) → Terminal 9 (E)	Illuminates
Battery positive (+) → Terminal 3 (MPL) Battery negative (-) → Terminal 9 (E)	Illuminates

Result	Proceed to
OK	A
NG (w/ Rear Seat Entertainment System)	B
NG (w/o Rear Seat Entertainment System)	C

B → REPLACE ROOM NO. 1 LIGHT (Click here)

C → REPLACE ROOM NO. 1 LIGHT (Click here)

A

4.CHECK HARNESS AND CONNECTOR (MAP LIGHT - ROOM NO. 1 LIGHT)

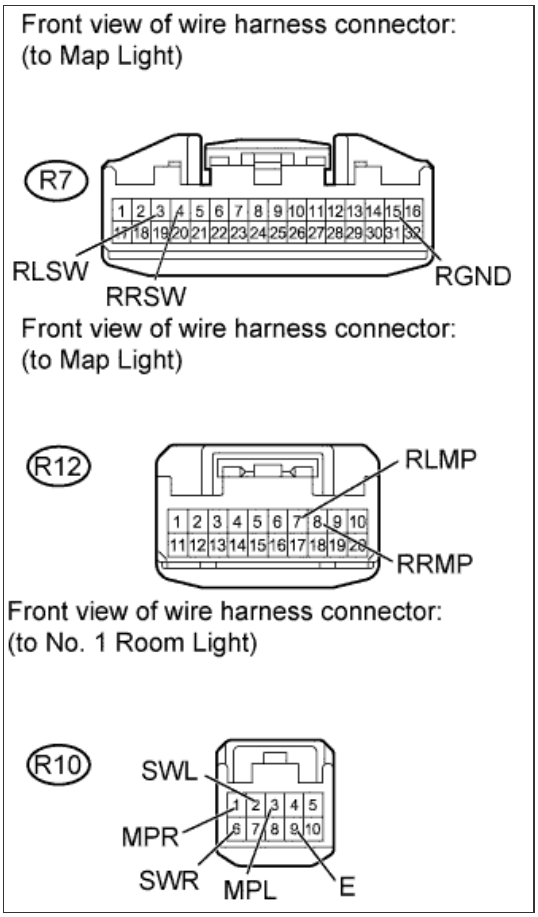
a. Disconnect the R7, R12 and R10 light connectors.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
R7-15 (RGND) - R10-9 (E)	Always	Below 1 Ω
R7-3 (RLSW) - R10-2 (SWL)		
R7-4 (RRSW) -		

R10-6 (SWR)		
R12-7 (RLMP) - R10-3 (MPL)		
R12-8 (RRMP) - R10-1 (MPR)		
R7-15 (RGND) - Body ground	Always	10 kΩ or higher
R7-3 (RLSW) - Body ground		
R7-4 (RRSW) - Body ground		
R12-7 (RLMP) - Body ground		
R12-8 (RRMP) - Body ground		



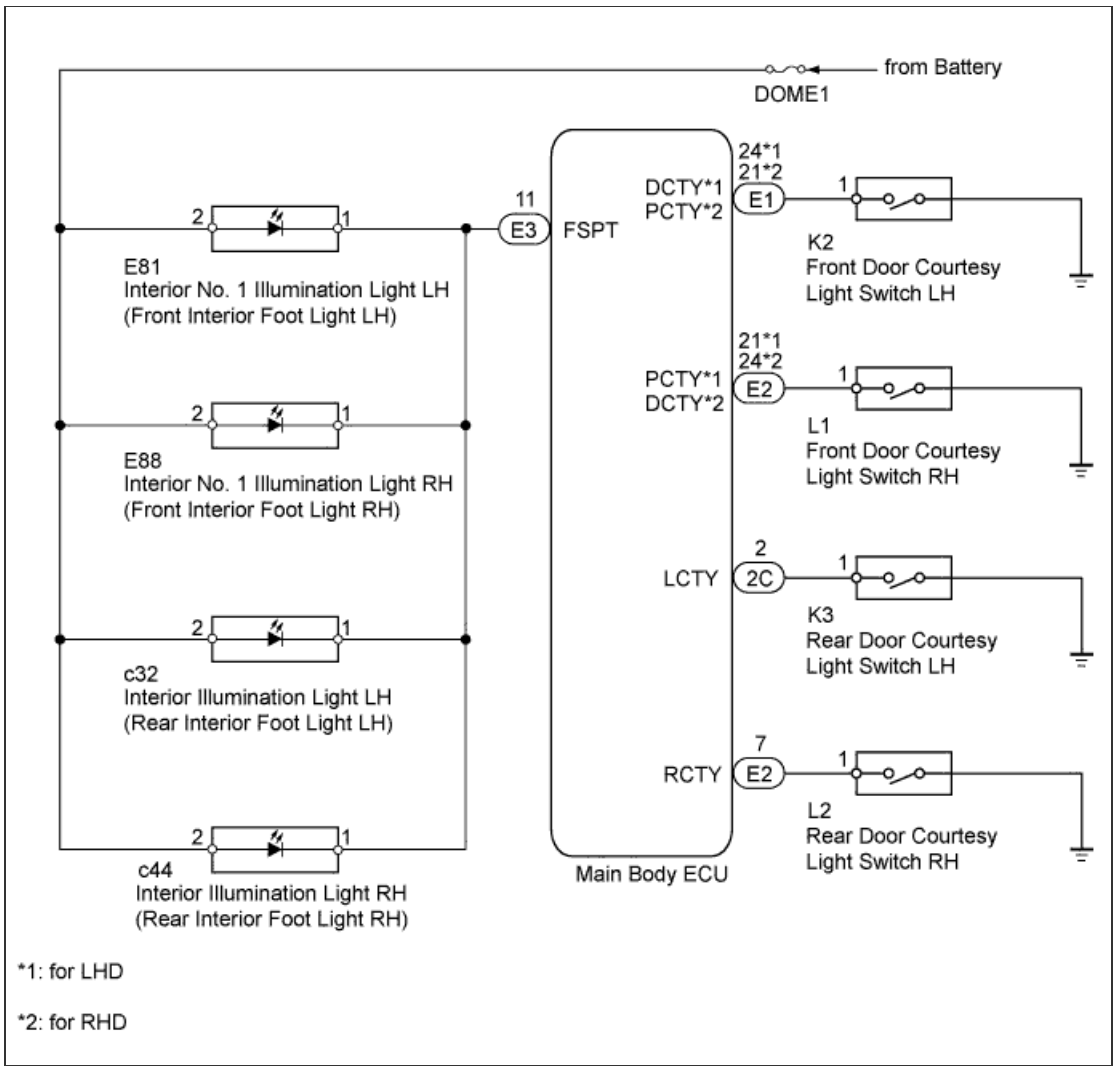
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

REPLACE MAP LIGHT (Click here)

for Preparation Click here

WIRING DIAGRAM



INSPECTION PROCEDURE

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

a. Using the intelligent tester, read the Data List.

Main Body

Tester Display	Test Part	Control Range	Diagnostic Note
D Door Courtesy SW	Front door courtesy light switch LH signal/ON or OFF	ON: Front Door LH open OFF: Front Door LH closed	-
P Door Courtesy SW	Front door courtesy light switch RH signal/ON or OFF	ON: Front Door RH open OFF: Front Door RH closed	-
RL Door Courtesy SW	Rear door courtesy light switch LH signal/ON or OFF	ON: Rear Door LH open OFF: Rear Door LH closed	-
RR Door Courtesy SW	Rear door courtesy light switch RH signal/ON or OFF	ON: Rear Door RH open OFF: Rear Door RH closed	-

OK:

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

Result

Result	Proceed to
OK	A
NG (D Door Courtesy SW)	B

NG (P Door Courtesy SW)	C
NG (RL Door Courtesy SW)	D
NG (RR Door Courtesy SW)	E

B → Go to step 16

C → Go to step 18

D → Go to step 20

E → Go to step 22

A

2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (FRONT INTERIOR FOOT LIGHT)

a. Using the intelligent tester, perform the Active Test.

Main Body

Tester Display	Test Part	Control Range	Diagnostic Note
Step Light Operation	Interior foot light illumination light operation	OFF/ON	-

OK:

Front interior foot light condition can be switched by Active Test.

NG → Go to step 3

OK

REPLACE MAIN BODY ECU

3.CONFIRM LIGHT POSITION

a. Check the malfunctioning interior illumination light.

Result

Result	Proceed to
Front interior foot light LH	A
Front interior foot light RH	B
Rear interior foot light LH	C
Rear interior foot light RH	D
All lights do not illuminate	E

B → Go to step 7

C → Go to step 10

D → Go to step 13

E → REPLACE MAIN BODY ECU

A

Go to step 2

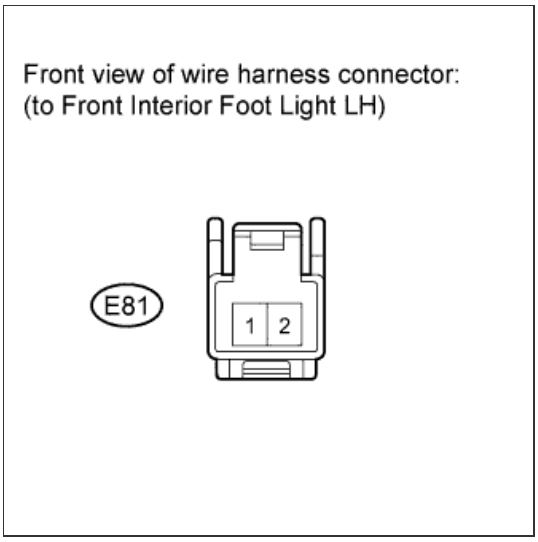
4.CHECK HARNESS AND CONNECTOR (FRONT INTERIOR FOOT LIGHT LH - BATTERY)

a. Disconnect the E81 light connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
E81-2 - Body ground	Always	11 to 14 V



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

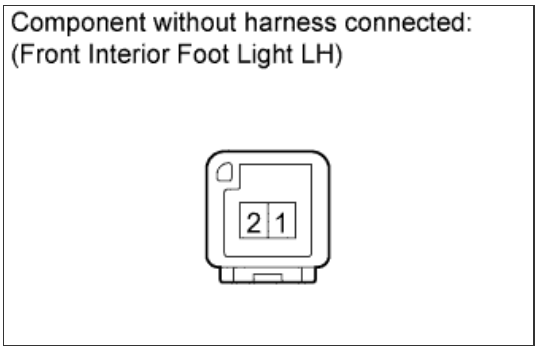
5.INSPECT NO. 1 INTERIOR ILLUMINATION LIGHT LH (FRONT INTERIOR FOOT LIGHT LH)

a. Remove the front interior foot light LH (Click here).

b. Apply battery voltage to the front interior foot light and check the light condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 2 Battery negative (-) → Terminal 1	Interior illumination light comes on



NG → REPLACE NO. 1 INTERIOR ILLUMINATION LIGHT LH (FRONT INTERIOR FOOT LIGHT LH) (Click here)

OK

6.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - FRONT INTERIOR FOOT LIGHT LH)

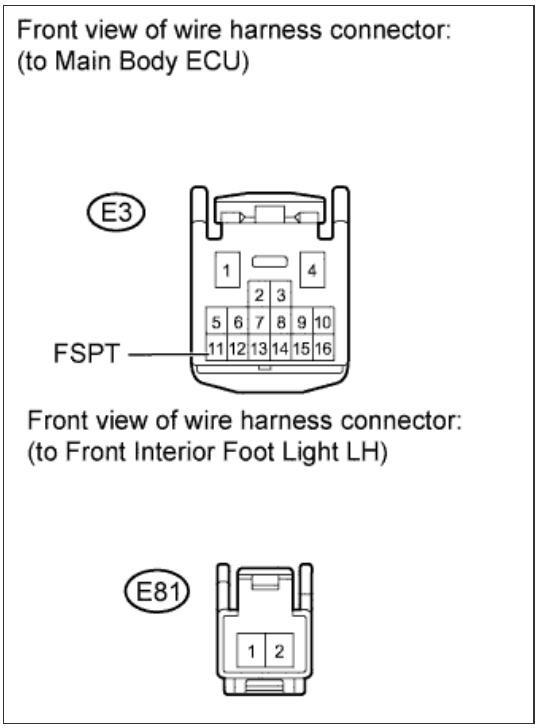
a. Disconnect the E3 ECU connector.

b. Disconnect the E81 light connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E3-11 (FSPT) - E81-1	Always	Below 1 Ω
E81-1 - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

7.CHECK HARNESS AND CONNECTOR (FRONT INTERIOR FOOT LIGHT RH - BATTERY)

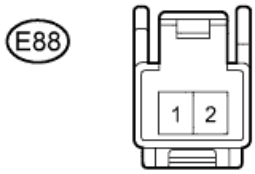
a. Disconnect the E88 light connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
E88-2 - Body ground	Always	11 to 14 V

Front view of wire harness connector:
(Front Interior Foot Light RH)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

8.INSPECT NO. 1 INTERIOR ILLUMINATION LIGHT RH (FRONT INTERIOR FOOT RH)

a. Remove the front interior foot light RH (Click here).

b. Apply battery voltage to the front interior foot light and check the light condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 2 Battery negative (-) → Terminal 1	Interior illumination light comes on

Component without harness connected:
(Front Interior Foot Light RH)



NG → REPLACE NO. 1 INTERIOR ILLUMINATION LIGHT RH (FRONT INTERIOR FOOT LIGHT RH) (Click here)

OK

9.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - FRONT INTERIOR FOOT LIGHT RH)

a. Disconnect the E3 ECU connector.

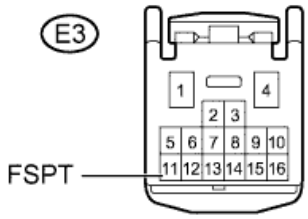
b. Disconnect the E88 light connector.

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

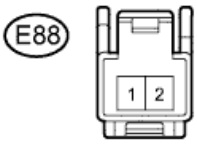
Standard Resistance:

Tester Connection	Condition	Specified Condition
E3-11 (FSPT) - E88-1	Always	Below 1 Ω
E88-1 - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Main Body ECU)



Front view of wire harness connector:
(to Front Interior Foot Light RH)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

10.CHECK HARNESS AND CONNECTOR (REAR INTERIOR FOOT LIGHT LH - BATTERY)

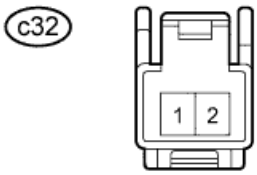
a. Disconnect the c32 light connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
c32-2 - Body ground	Always	11 to 14 V

Front view of wire harness connector:
(to Rear Interior Foot Light LH)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

11.INSPECT INTERIOR ILLUMINATION LIGHT LH (REAR INTERIOR FOOT LIGHT LH)

a. Remove the rear interior foot light LH (Click here).

b. Apply battery voltage to the rear interior foot light and check the light condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 2 Battery negative (-) → Terminal 1	Interior illumination light comes on

Component without harness connected:
(Rear Interior Foot Light LH)



NG → REPLACE INTERIOR ILLUMINATION LIGHT LH (REAR INTERIOR FOOT LIGHT LH) (Click here)

OK

12.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - REAR INTERIOR ILLUMINATION LIGHT LH)

a. Disconnect the E3 ECU connector.

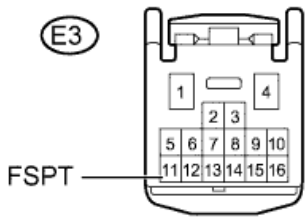
b. Disconnect the c32 light connector.

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

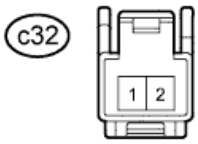
Standard Resistance:

Tester Connection	Condition	Specified Condition
E3-11 (FSPT) - c32-1	Always	Below 1 Ω
c32-1 - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Main Body ECU)



Front view of wire harness connector:
(to Rear Interior Foot Light LH)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

13.CHECK HARNESS AND CONNECTOR (REAR INTERIOR FOOT LIGHT RH - BATTERY)

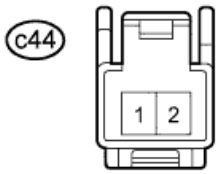
a. Remove the c44 ECU connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
c44-2 - Body ground	Always	11 to 14 V

Front view of wire harness connector:
(to Rear Interior Foot Light RH)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

14.INSPECT INTERIOR ILLUMINATION LIGHT RH (REAR INTERIOR FOOT LIGHT RH)

a. Remove the rear interior foot light RH (Click here).

b. Apply battery voltage to the rear interior foot light and check the light condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 2 Battery negative (-) → Terminal 1	Interior illumination light comes on

Component without harness connected:
(Rear Interior Foot Light RH)



NG → REPLACE INTERIOR ILLUMINATION LIGHT RH (REAR INTERIOR FOOT LIGHT RH) (Click here)

OK

15.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - REAR INTERIOR FOOT LIGHT RH)

a. Disconnect the E3 ECU connector.

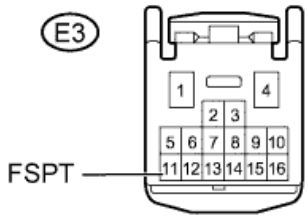
b. Disconnect the c44 light connector.

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

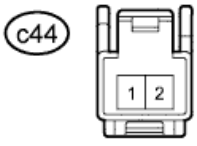
Standard Resistance:

Tester Connection	Condition	Specified Condition
E3-11 (FSPT) - c44-1	Always	Below 1 Ω
c44-1 - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Main Body ECU)



Front view of wire harness connector:
(to Rear Interior Foot Light RH)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

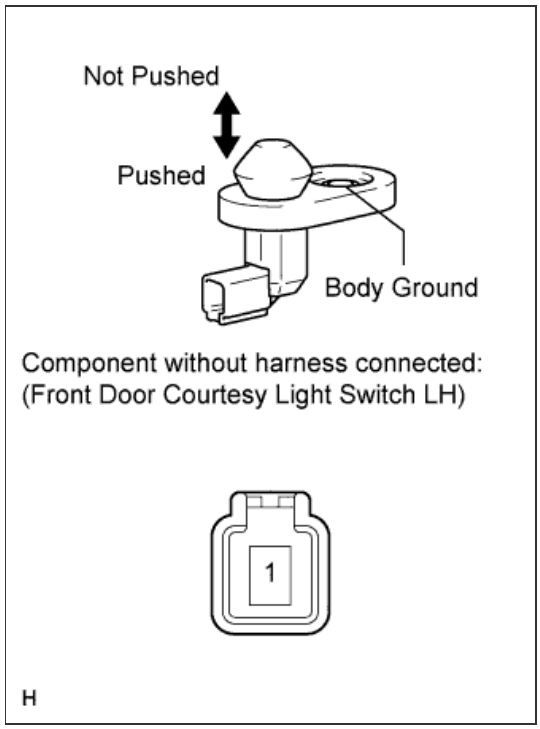
16.INSPECT FRONT DOOR COURTESY LIGHT SWITCH LH

a. Remove the front door courtesy light switch LH (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed	Below 1 Ω
	Pushed	10 kΩ or higher



NG → REPLACE FRONT DOOR COURTESY LIGHT SWITCH LH (Click here)

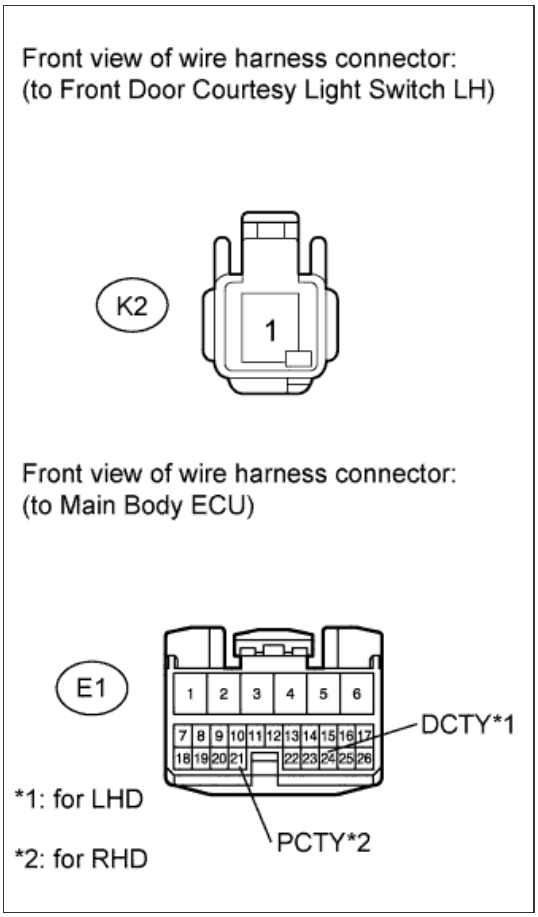
OK

17.CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY LIGHT SWITCH LH - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the K2 switch connector.

b. Disconnect the E1 ECU connector.

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



Standard Resistance:

for LHD:

Tester Connection	Condition	Specified Condition
K2-1 - E1-24 (DCTY)	Always	Below 1 Ω
K2-1 - Body ground	Always	10 kΩ or higher

for RHD:

Tester Connection	Condition	Specified Condition
K2-1 - E1-21 (PCTY)	Always	Below 1 Ω
K2-1 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

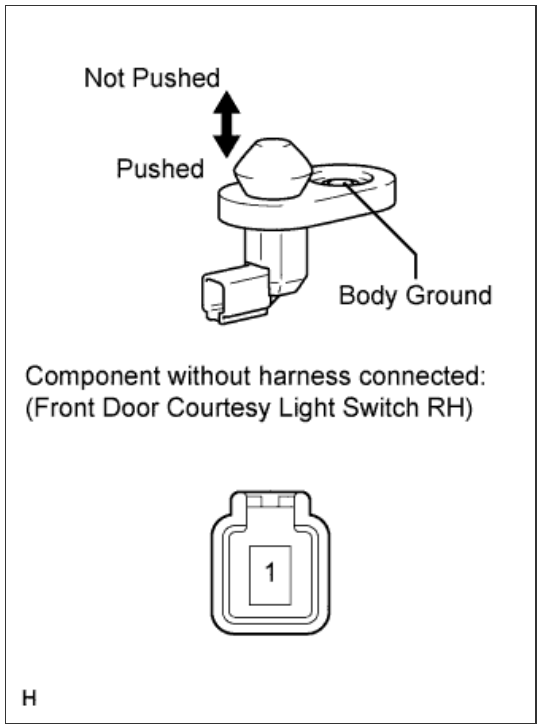
18.INSPECT FRONT DOOR COURTESY LIGHT SWITCH RH

a. Remove the front door courtesy light switch RH (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed	Below 1 Ω
	Pushed	10 kΩ or higher



NG → REPLACE FRONT DOOR COURTESY LIGHT SWITCH RH (Click here)

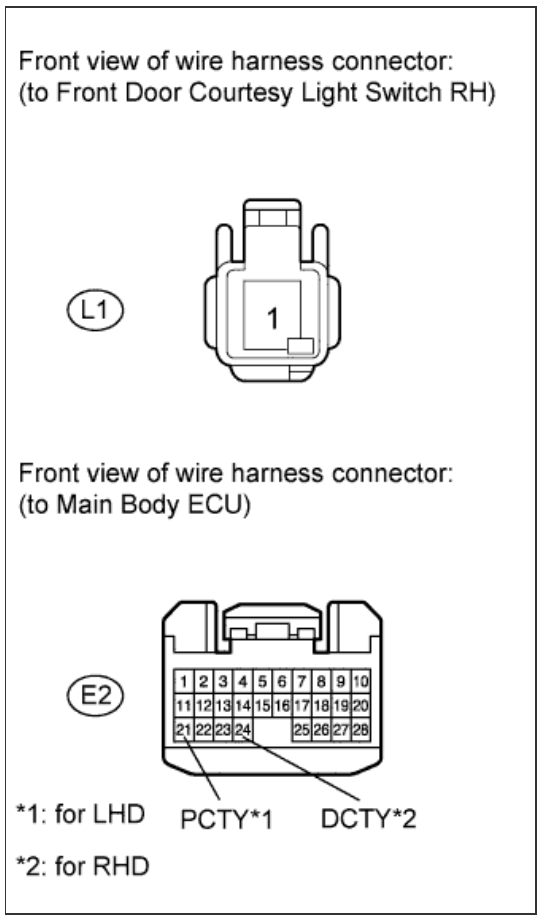
OK

19.CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY LIGHT SWITCH RH - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the L1 switch connector.

b. Disconnect the E2 ECU connector.

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



Standard Resistance:

for LHD:

Tester Connection	Condition	Specified Condition
L1-1 - E2-21		

(PCTY)	Always	Below 1 Ω
L1-1 - Body ground	Always	10 kΩ or higher

for RHD:

Tester Connection	Condition	Specified Condition
L1-1 - E2-24 (DCTY)	Always	Below 1 Ω
L1-1 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

REPLACE MAIN BODY ECU

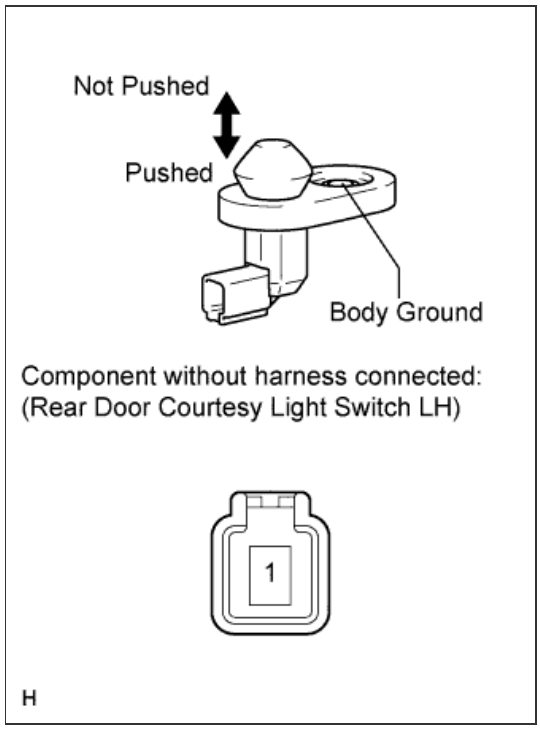
20.INSPECT REAR DOOR COURTESY LIGHT SWITCH LH

a. Remove the rear door courtesy light switch LH (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed	Below 1 Ω
	Pushed	10 kΩ or higher



NG → REPLACE REAR DOOR COURTESY LIGHT SWITCH LH (Click here)

OK →

21.CHECK HARNESS AND CONNECTOR (REAR DOOR COURTESY LIGHT SWITCH LH - MAIN BODY ECU AND BODY GROUND)

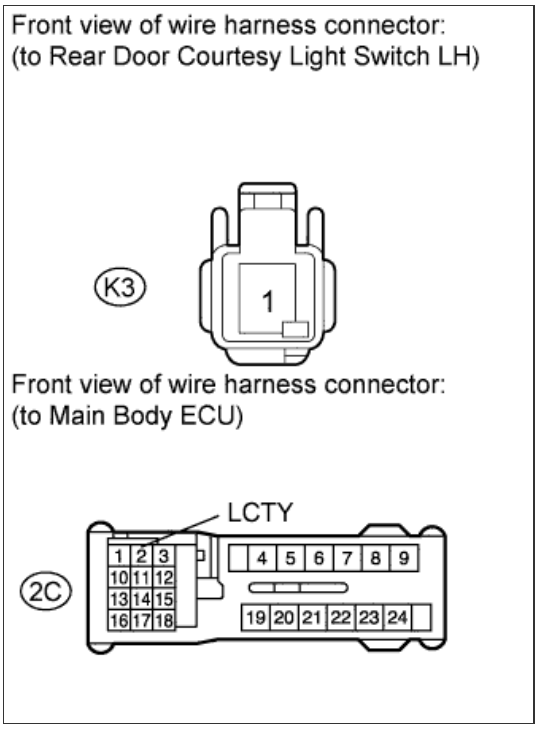
a. Disconnect the K3 switch connector.

b. Disconnect the 2C ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
K3-1 - 2C-2 (LCTY)	Always	Below 1 Ω
K3-1 - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

REPLACE MAIN BODY ECU

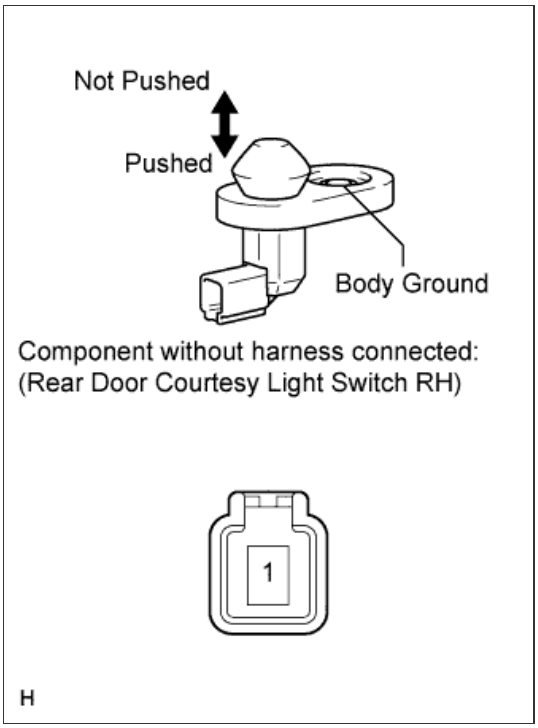
22.INSPECT REAR DOOR COURTESY LIGHT SWITCH RH

a. Remove the rear door courtesy light switch RH (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed	Below 1 Ω
	Pushed	10 kΩ or higher



NG → REPLACE REAR DOOR COURTESY LIGHT SWITCH RH (Click here)

OK →

23.CHECK HARNESS AND CONNECTOR (REAR DOOR COURTESY LIGHT SWITCH RH - MAIN BODY ECU AND BODY GROUND)

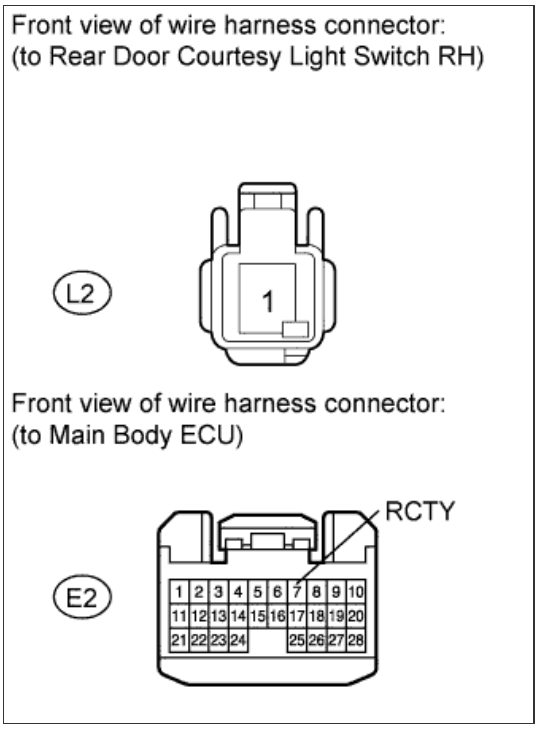
a. Disconnect the L2 switch connector.

b. Disconnect the E2 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
L2-1 - E2-7 (RCTY)	Always	Below 1 Ω
L2-1 - Body ground	Always	10 kΩ or higher

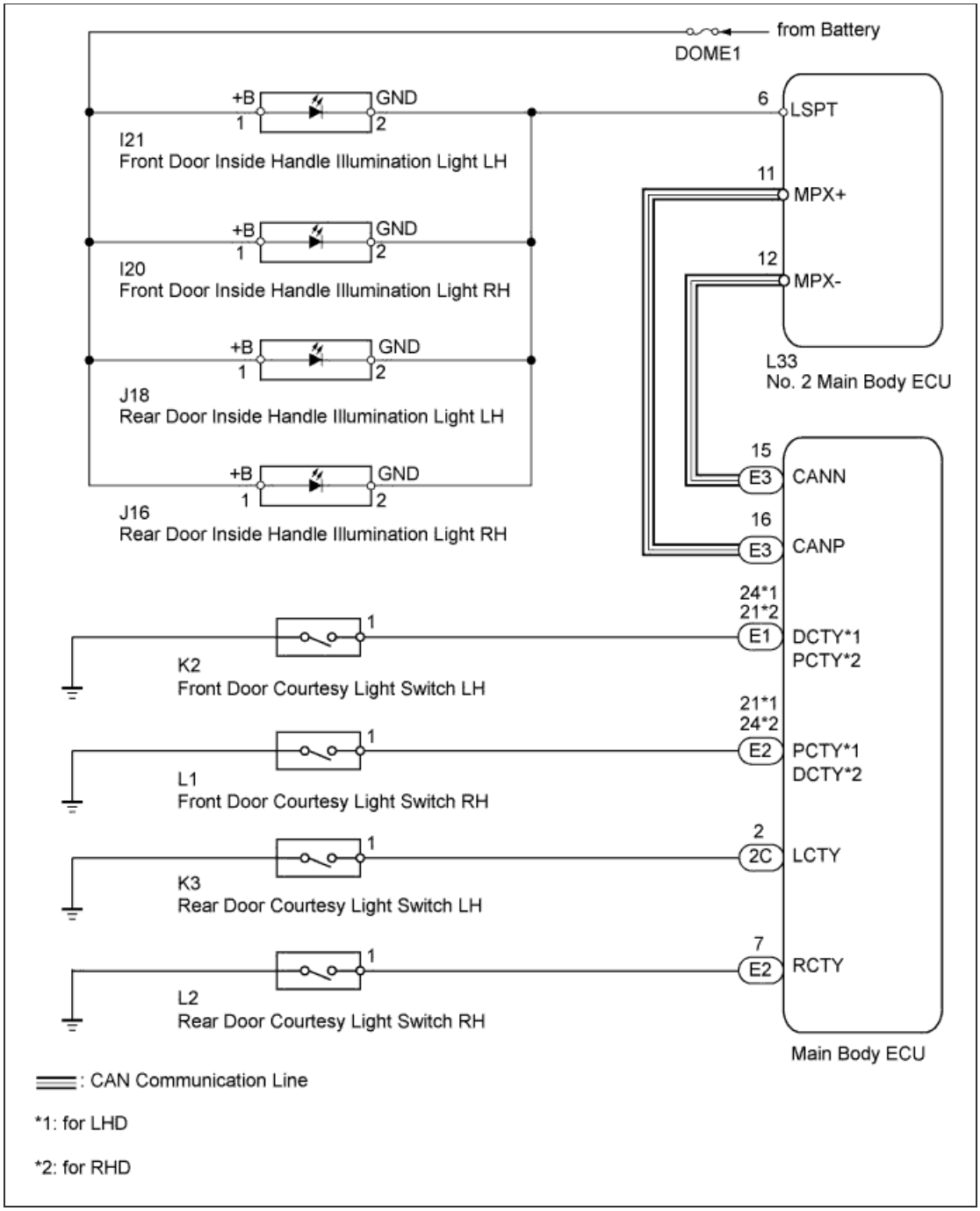


NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE MAIN BODY ECU

for Preparation Click here

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

a. Using the intelligent tester, read the Data List.

Main Body

Tester Display	Test Part	Control Range	Diagnostic Note
D Door Courtesy SW	Front door courtesy light switch LH signal/ON or OFF	ON: Front Door LH open	-

		OFF: Front Door LH closed	
P Door Courtesy SW	Front door courtesy light switch RH signal/ON or OFF	ON: Front Door RH open OFF: Front Door RH closed	-
RL Door Courtesy SW	Rear door courtesy light switch LH signal/ON or OFF	ON: Rear Door LH open OFF: Rear Door LH closed	-
RR Door Courtesy SW	Rear door courtesy light switch RH signal/ON or OFF	ON: Rear Door RH open OFF: Rear Door RH closed	-

OK:

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

Result

Result	Proceed to
OK	A
NG (D Door Courtesy SW)	B
NG (P Door Courtesy SW)	C
NG (RL Door Courtesy SW)	D
NG (RR Door Courtesy SW)	E

B → Go to step 16

C → Go to step 18

D → Go to step 20

E → Go to step 22

A

2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (INSIDE HANDLE ILLUMINATION LIGHT)

a. Using the intelligent tester, perform the Active Test.

Body No. 4

Tester Display	Test Part	Control Range	Diagnostic Note
Inside Handle Illumination	Inside handle illumination light operation	OFF/ON	-

OK:

Inside handle illumination light condition is switched by Active Test.

NG → Go to step 3

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

3.CONFIRM LIGHT POSITION

a. Check the malfunctioning inside handle illumination light.

Result

Result	Proceed to
Front door inside handle illumination light LH	A
Front door inside handle illumination light RH	B
Rear door inside handle illumination light LH	C
Rear door inside handle illumination light RH	D
All lights do not illuminate	E

B → Go to step 7

C → Go to step 10

D → Go to step 13

E → REPLACE NO. 2 MAIN BODY ECU (Click here)

A

4.CHECK HARNESS AND CONNECTOR (FRONT DOOR INSIDE HANDLE ILLUMINATION LIGHT LH - BATTERY)

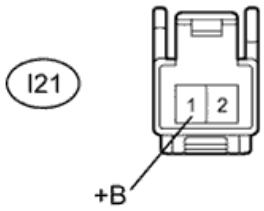
a. Disconnect the I21 light connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
I21-1 (+B) - Body ground	Always	11 to 14 V

Front view of wire harness connector:
(to Front Door Inside Handle Illumination Light LH)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5.INSPECT FRONT DOOR INSIDE HANDLE ILLUMINATION LIGHT LH

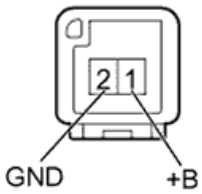
a. Remove the front door inside handle illumination light LH (Click here).

b. Apply battery voltage to the inside handle illumination light and check the illumination condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 (+B) Battery negative (-) → Terminal 2 (GND)	Inside handle illumination light on

Component without harness connected:
(Front Door Inside Handle Illumination Light LH)



NG → REPLACE FRONT DOOR INSIDE HANDLE ILLUMINATION LIGHT LH (Click here)

OK

6.CHECK HARNESS AND CONNECTOR (NO. 2 MAIN BODY ECU - FRONT DOOR INSIDE HANDLE ILLUMINATION LIGHT LH)

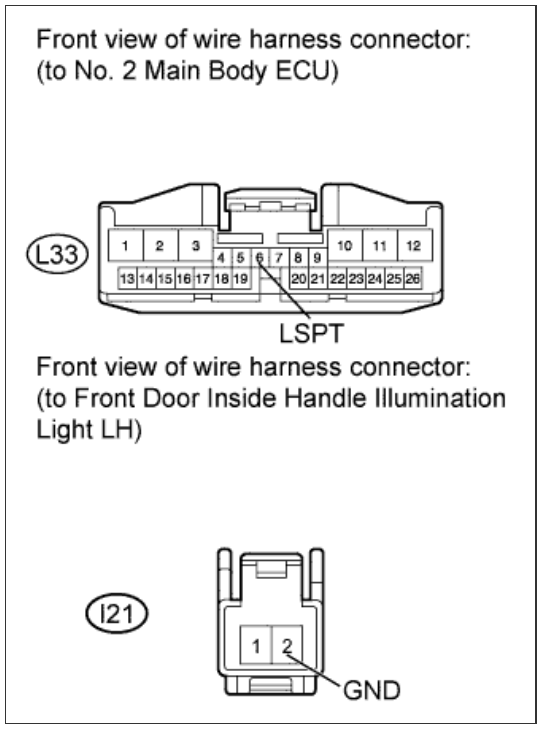
a. Disconnect the L33 ECU connector.

b. Disconnect the I21 light connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I21-2 (GND) - L33-6 (LSPT)	Always	Below 1 Ω
I21-2 (GND) - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

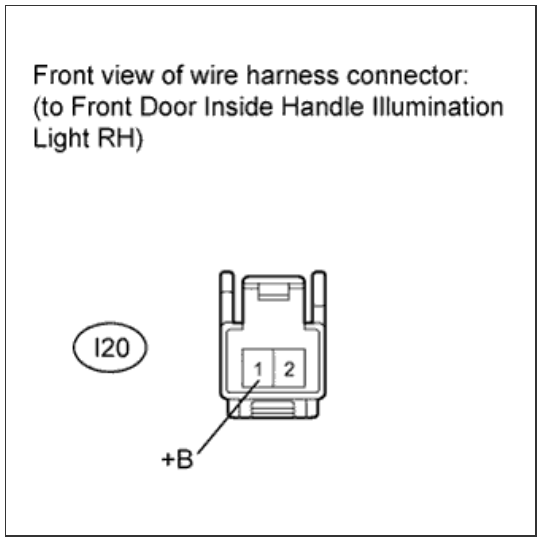
7.CHECK HARNESS AND CONNECTOR (FRONT DOOR INSIDE HANDLE ILLUMINATION LIGHT RH - BATTERY)

a. Disconnect the I20 light connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
I20-1 (+B) - Body ground	Always	11 to 14 V



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

8.INSPECT FRONT DOOR INSIDE HANDLE ILLUMINATION LIGHT RH

a. Remove the front door inside handle illumination light RH (Click here).

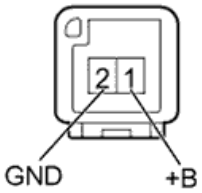
b. Apply battery voltage to the inside handle illumination light and check the illumination condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 (+B)	Inside handle illumination

Battery negative (-) → Terminal 2 (GND)	light on

Component without harness connected:
(Front Door Inside Handle Illumination Light RH)



NG → REPLACE FRONT DOOR INSIDE HANDLE ILLUMINATION LIGHT RH (Click here)

OK

9.CHECK HARNESS AND CONNECTOR (NO. 2 MAIN BODY ECU - FRONT DOOR INSIDE HANDLE ILLUMINATION LIGHT RH)

a. Disconnect the L33 ECU connector.

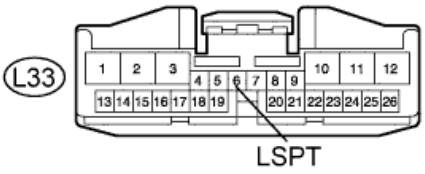
b. Disconnect the I20 light connector.

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

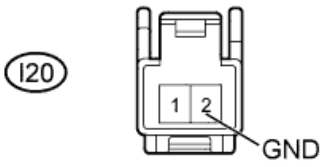
Standard Resistance:

Tester Connection	Condition	Specified Condition
I20-2 (GND) - L33-6 (LSPT)	Always	Below 1 Ω
I20-2 (GND) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to No. 2 Main Body ECU)



Front view of wire harness connector:
(to Front Door Inside Handle Illumination Light LH)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

10.CHECK HARNESS AND CONNECTOR (REAR DOOR INSIDE HANDLE ILLUMINATION LIGHT LH - BATTERY)

a. Disconnect the J18 light connector.

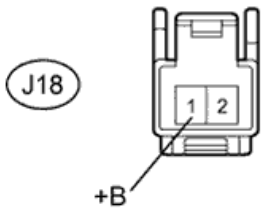
b. Measure the voltage according to the value(s) in the table below.

Standard Voltage:

Tester Connection	Condition	Specified Condition
J18-1 (+B) - Body		

ground	Always	11 to 14 V

Front view of wire harness connector:
(to Rear Door Inside Handle Illumination Light LH)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

11.INSPECT REAR DOOR INSIDE HANDLE ILLUMINATION LIGHT LH

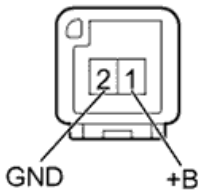
a. Remove the rear door inside handle illumination light LH (Click here).

b. Apply battery voltage to the inside handle illumination light and check the illumination condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 (+B) Battery negative (-) → Terminal 2 (GND)	Inside handle illumination light on

Component without harness connected:
(Rear Door Inside Handle Illumination Light LH)



NG → REPLACE REAR DOOR INSIDE HANDLE ILLUMINATION LIGHT LH (Click here)

OK

12.CHECK HARNESS AND CONNECTOR (NO. 2 MAIN BODY ECU - REAR DOOR INSIDE HANDLE ILLUMINATION LIGHT LH)

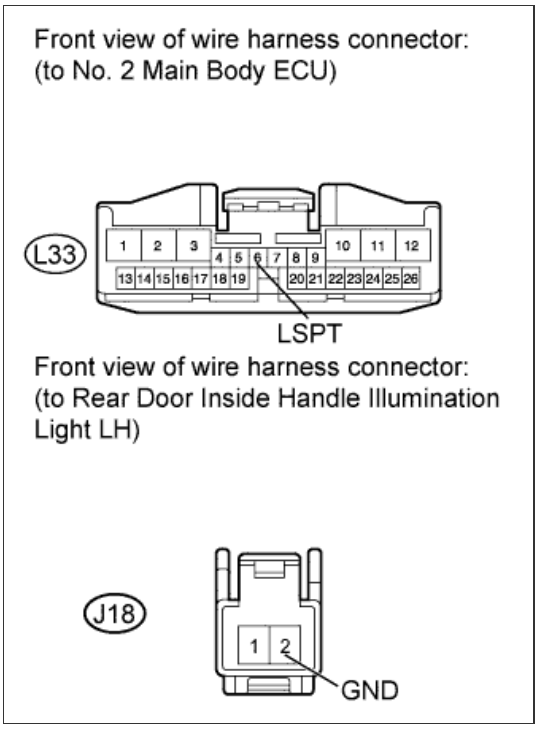
a. Disconnect the L33 ECU connector.

b. Disconnect the J18 light connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
J18-2 (GND) - L33-6 (LSPT)	Always	Below 1 Ω
J18-2 (GND) - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

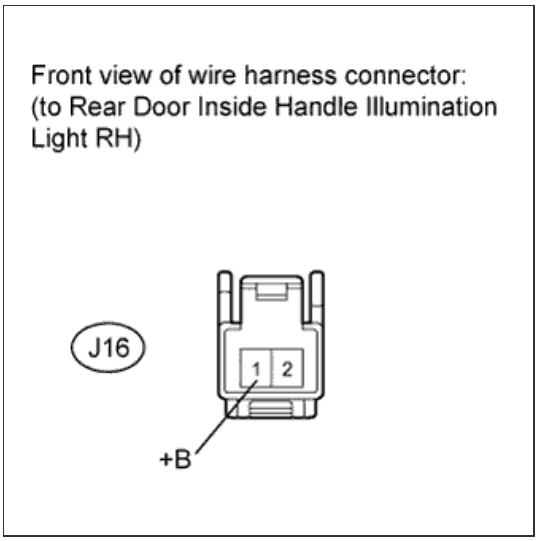
13.CHECK HARNESS AND CONNECTOR (REAR DOOR INSIDE HANDLE ILLUMINATION LIGHT RH - BATTERY)

a. Disconnect the J16 light connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
J16-1 (+B) - Body ground	Always	11 to 14 V



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

14.INSPECT REAR DOOR INSIDE HANDLE ILLUMINATION LIGHT RH

a. Remove the rear door inside handle illumination light RH (Click here).

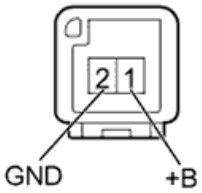
b. Apply battery voltage to the inside handle illumination light and check the illumination condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 (+B)	Inside handle illumination

Battery negative (-) → Terminal 2 (GND)	light on

Component without harness connected:
(Rear Door Inside Handle Illumination Light RH)



NG → REPLACE REAR DOOR INSIDE HANDLE ILLUMINATION LIGHT RH (Click here)

OK

15.CHECK WIRE HARNESS AND CONNECTOR (NO. 2 MAIN BODY ECU - REAR DOOR INSIDE HANDLE ILLUMINATION LIGHT RH)

a. Disconnect the L33 ECU connector.

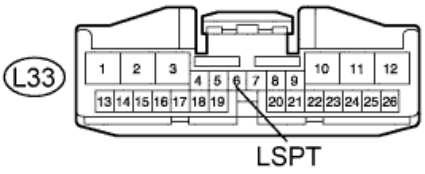
b. Disconnect the J16 light connector.

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

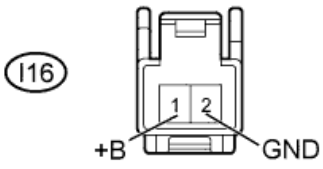
Standard Resistance:

Tester Connection	Condition	Specified Condition
J16-2 (GND) - L33-6 (LSPT)	Always	Below 1 Ω
J16-2 (GND) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to No. 2 Main Body ECU)



Front view of wire harness connector:
(to Rear Door Inside Handle Illumination Light RH)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

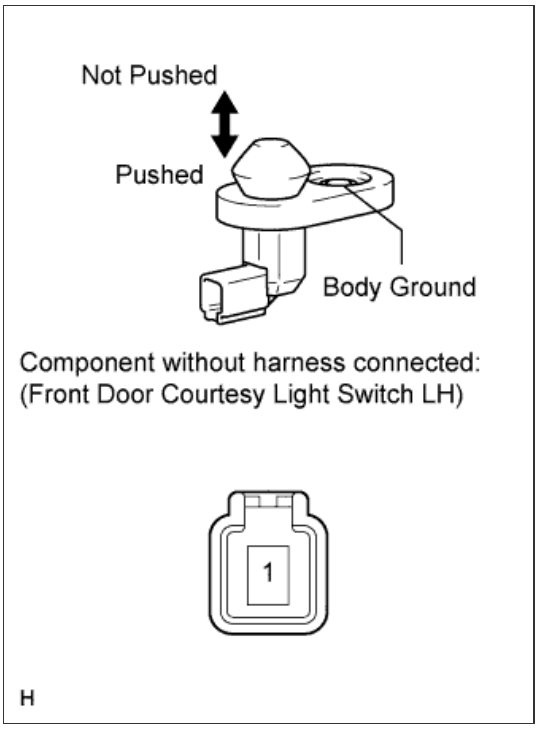
16.INSPECT FRONT DOOR COURTESY LIGHT SWITCH LH

a. Remove the front door courtesy light switch LH (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed	Below 1 Ω
	Pushed	10 kΩ or higher



NG → REPLACE FRONT DOOR COURTESY LIGHT SWITCH LH (Click here)

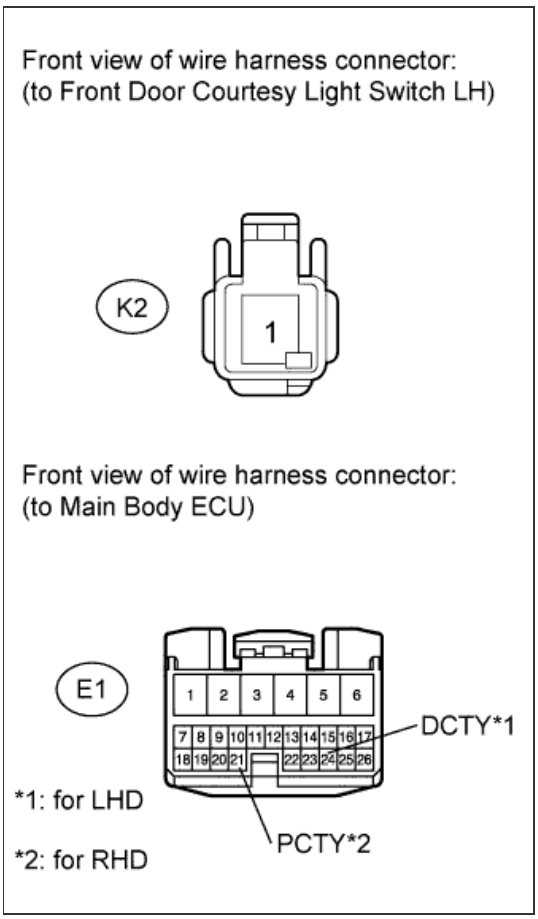
OK

17.CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY LIGHT SWITCH LH - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the K2 switch connector.

b. Disconnect the E1 ECU connector.

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



Standard Resistance:

for LHD:

Tester Connection	Condition	Specified Condition
K2-1 - E1-24		

(DCTY)	Always	Below 1 Ω
K2-1 - Body ground	Always	10 kΩ or higher

for RHD:

Tester Connection	Condition	Specified Condition
K2-1 - E1-21 (PCTY)	Always	Below 1 Ω
K2-1 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

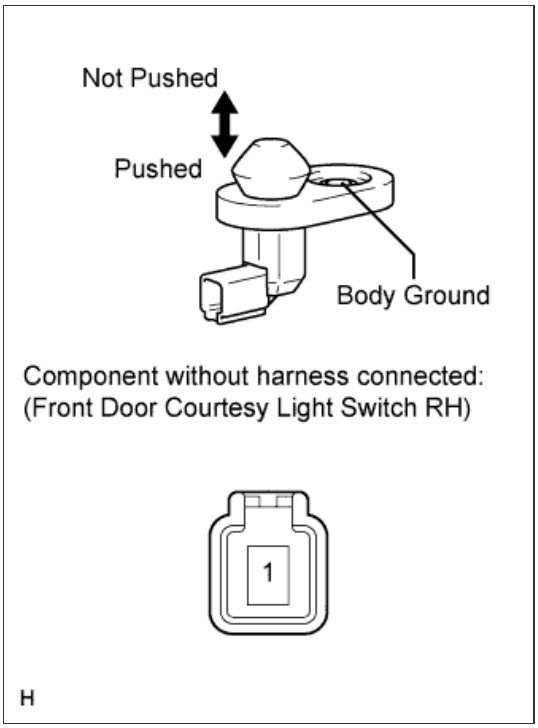
18.INSPECT FRONT DOOR COURTESY LIGHT SWITCH RH

a. Remove the front door courtesy light switch RH (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed	Below 1 Ω
	Pushed	10 kΩ or higher



NG → REPLACE FRONT DOOR COURTESY LIGHT SWITCH RH (Click here)

OK

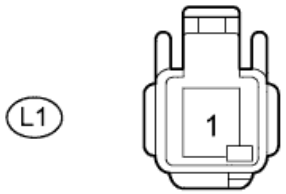
19.CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY LIGHT SWITCH RH - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the L1 switch connector.

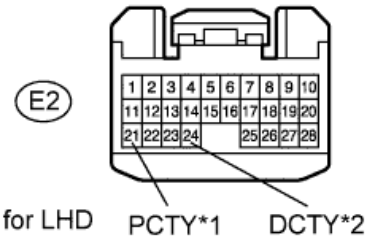
b. Disconnect the E2 ECU connector.

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

Front view of wire harness connector:
(to Front Door Courtesy Light Switch RH)



Front view of wire harness connector:
(to Main Body ECU)



Standard Resistance:

for LHD:

Tester Connection	Condition	Specified Condition
L1-1 - E2-21 (PCTY)	Always	Below 1 Ω
L1-1 - Body ground	Always	10 kΩ or higher

for RHD:

Tester Connection	Condition	Specified Condition
L1-1 - E2-24 (DCTY)	Always	Below 1 Ω
L1-1 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

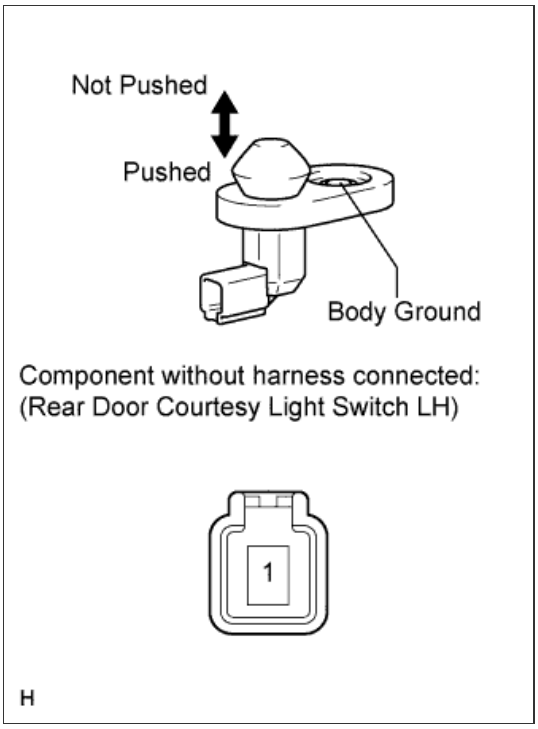
20.INSPECT REAR DOOR COURTESY LIGHT SWITCH LH

a. Remove the rear door courtesy light switch LH (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed	Below 1 Ω
	Pushed	10 kΩ or higher



NG → REPLACE REAR DOOR COURTESY LIGHT SWITCH LH (Click here)

OK →

21.CHECK HARNESS AND CONNECTOR (REAR DOOR COURTESY LIGHT SWITCH LH - MAIN BODY ECU AND BODY GROUND)

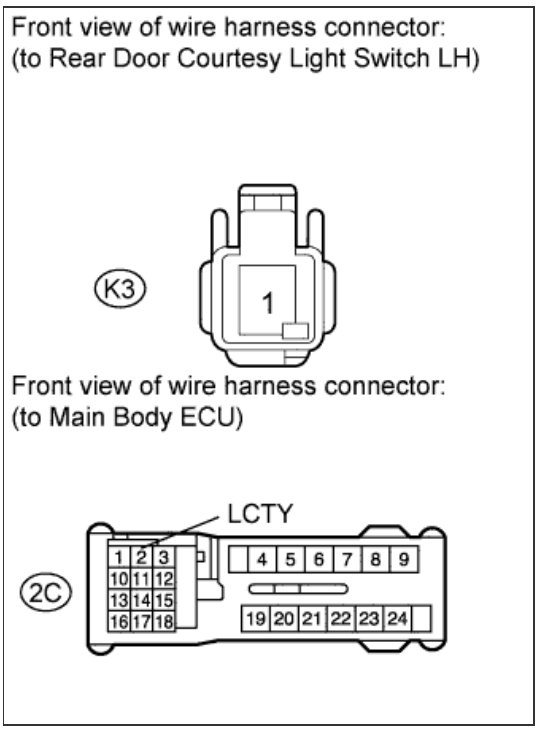
a. Disconnect the K3 switch connector.

b. Disconnect the 2C ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
K3-1 - 2C-2 (LCTY)	Always	Below 1 Ω
K3-1 - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

REPLACE MAIN BODY ECU

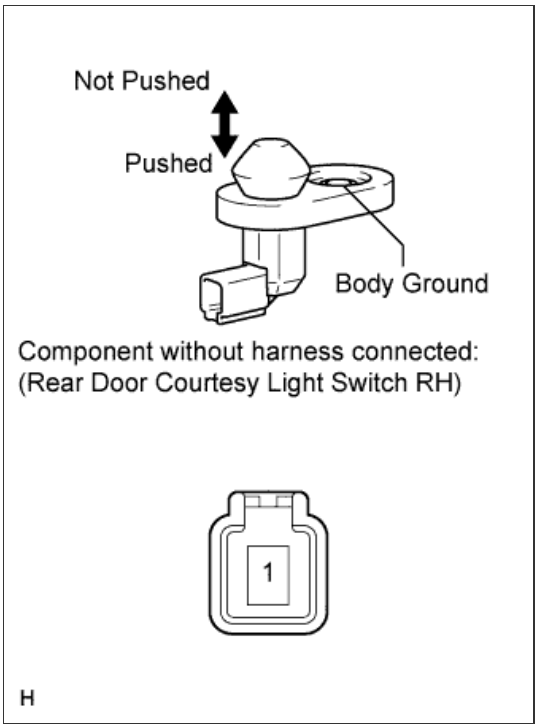
22.INSPECT REAR DOOR COURTESY LIGHT SWITCH RH

a. Remove the rear door courtesy light switch RH (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed	Below 1 Ω
	Pushed	10 kΩ or higher



NG → REPLACE REAR DOOR COURTESY LIGHT SWITCH RH (Click here)

OK →

23.CHECK HARNESS AND CONNECTOR (REAR DOOR COURTESY LIGHT SWITCH RH - MAIN BODY ECU AND BODY GROUND)

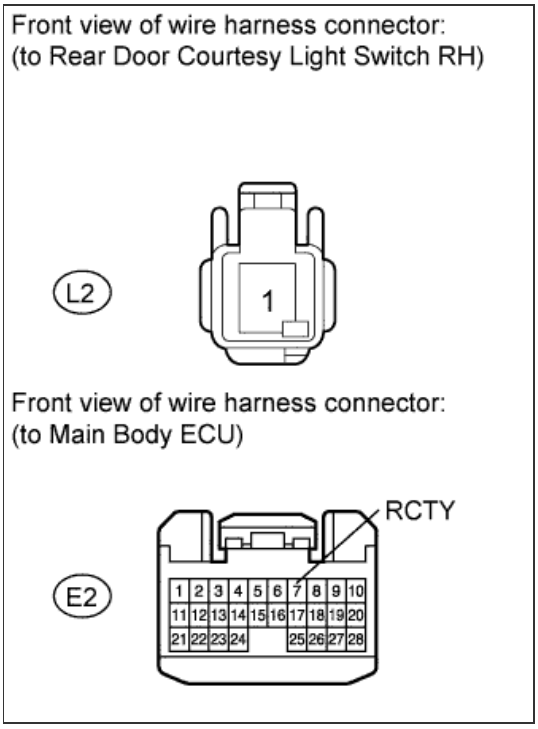
a. Disconnect the L2 switch connector.

b. Disconnect the E2 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
L2-1 - E2-7 (RCTY)	Always	Below 1 Ω
L2-1 - Body ground	Always	10 kΩ or higher



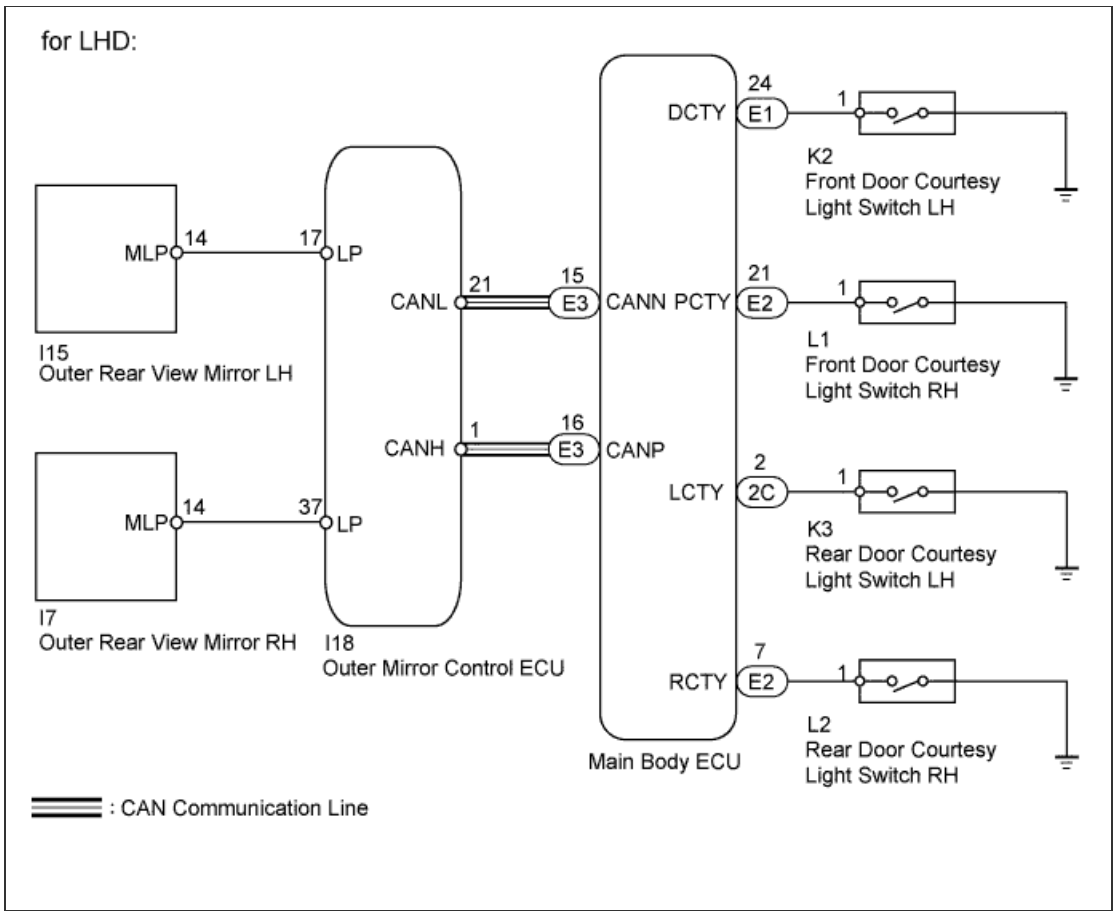
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

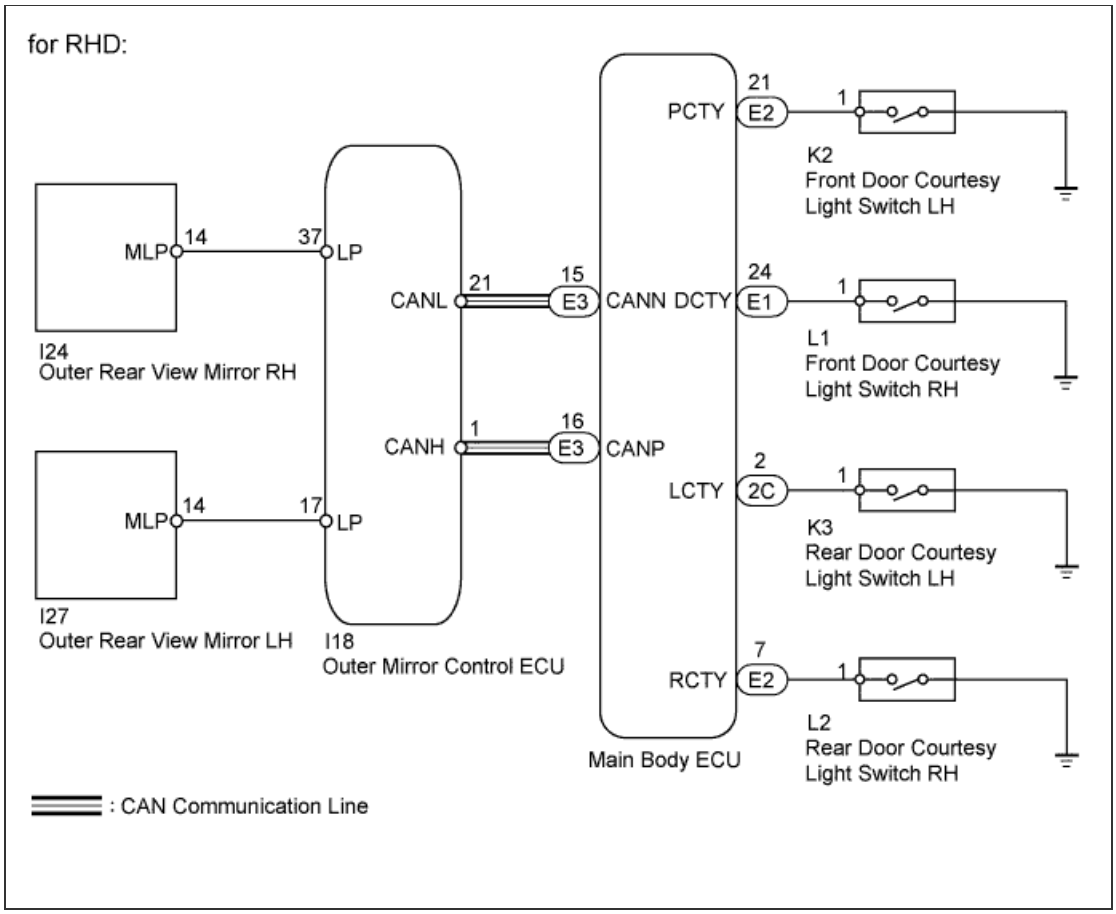
OK →

REPLACE MAIN BODY ECU

for Preparation Click here

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

a. Using the intelligent tester, read the Data List.

Main Body

Tester Display	Test Part	Control Range	Diagnostic Note
D Door Courtesy SW	Front door courtesy light switch LH signal/ON or OFF	ON: Front Door LH open OFF: Front Door LH closed	-
P Door Courtesy SW	Front door courtesy light switch RH signal/ON or OFF	ON: Front Door RH open OFF: Front Door RH closed	-
RL Door Courtesy SW	Rear door courtesy light switch LH signal/ON or OFF	ON: Rear Door LH open OFF: Rear Door LH closed	-
RR Door Courtesy SW	Rear door courtesy light switch RH signal/ON or OFF	ON: Rear Door RH open OFF: Rear Door RH closed	-

OK:

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

Result

Result	Proceed to
OK	A
NG (D Door Courtesy SW)	B
NG (P Door Courtesy SW)	C
NG (RL Door Courtesy SW)	D
NG (RR Door Courtesy SW)	E

B	Go to step 10

C	Go to step 12
D	Go to step 14
E	Go to step 16

A

2.CONFIRM LIGHT POSITION

a. Check the malfunctioning door mirror foot light.

Result

Result	Proceed to
Front LH	A
Front RH	B

B	Go to step 6

A

3.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (DOOR MIRROR FOOT LIGHT)

a. Using the intelligent tester, perform the Active Test.

Mirror

Tester Display	Test Part	Control Range	Diagnostic Note
Foot Light	Door mirror foot light illumination	OFF/ON	-

OK:

Door mirror foot light (for driver side) condition is switched by Active Test.

NG	Go to step 4

OK

REPLACE OUTER MIRROR CONTROL ECU (Click here)

4.CHECK HARNESS AND CONNECTOR (OUTER REAR VIEW MIRROR LH - OUTER MIRROR CONTROL ECU)

a. for LHD:

i. Disconnect the I18 ECU connector.

ii. Disconnect the I15 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I18-17 (LP) - I15-14 (MLP)	Always	Below 1 Ω
I18-17 (LP) - Body ground	Always	10 kΩ or higher

b. for RHD:

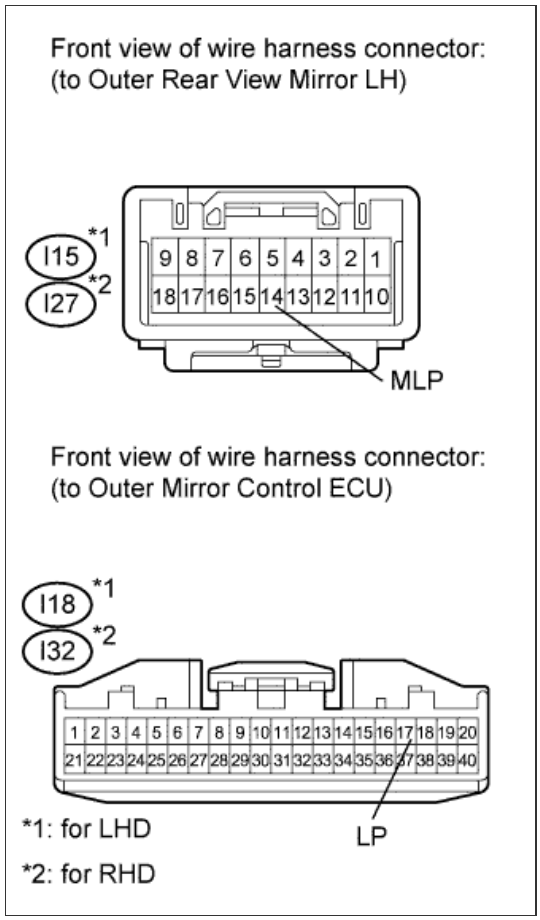
i. Disconnect the I32 ECU connector.

ii. Disconnect the I27 mirror connector.

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

Standard Resistance:

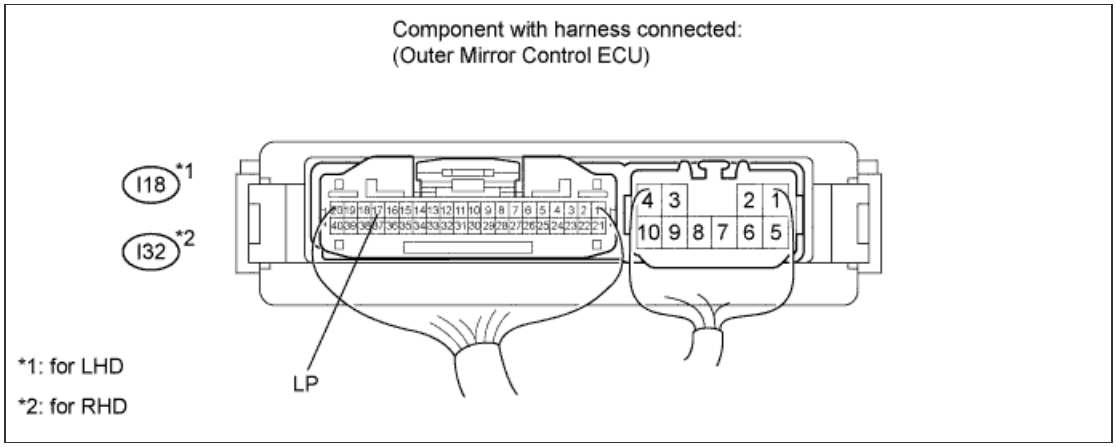
Tester Connection	Condition	Specified Condition
I32-17 (LP) - I27-14 (MLP)	Always	Below 1 Ω
I32-17 (LP) - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5.CHECK OUTER MIRROR CONTROL ECU



a. for LHD:

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
I18-17 (LP) - Body ground	Engine switch off and all doors closed and locked, unlock door.	9 to 14 V

b. for RHD:

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
I32-17 (LP) - Body ground	Engine switch off and all doors closed and locked, unlock door.	9 to 14 V

NG → REPLACE OUTER MIRROR CONTROL ECU (Click here)

OK

REPLACE OUTER REAR VIEW MIRROR LH (Click here)

6.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (DOOR MIRROR FOOT LIGHT)

a. Using the intelligent tester, perform the Active Test.

Mirror

Tester Display	Test Part	Control Range	Diagnostic Note
Foot Light	Door mirror foot light illumination	OFF/ON	-

OK:

Door mirror foot light (for front passenger side) condition is switched by Active Test.

NG → Go to step 7

OK

REPLACE OUTER MIRROR CONTROL ECU (Click here)

7.CHECK HARNESS AND CONNECTOR (OUTER REAR VIEW MIRROR RH - OUTER MIRROR CONTROL ECU)

a. for LHD:

i. Disconnect the I18 ECU connector.

ii. Disconnect the I7 mirror connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
I18-37 (LP) - I7-14 (MLP)	Always	Below 1 Ω
I18-37 (LP) - Body ground	Always	10 kΩ or higher

b. for RHD:

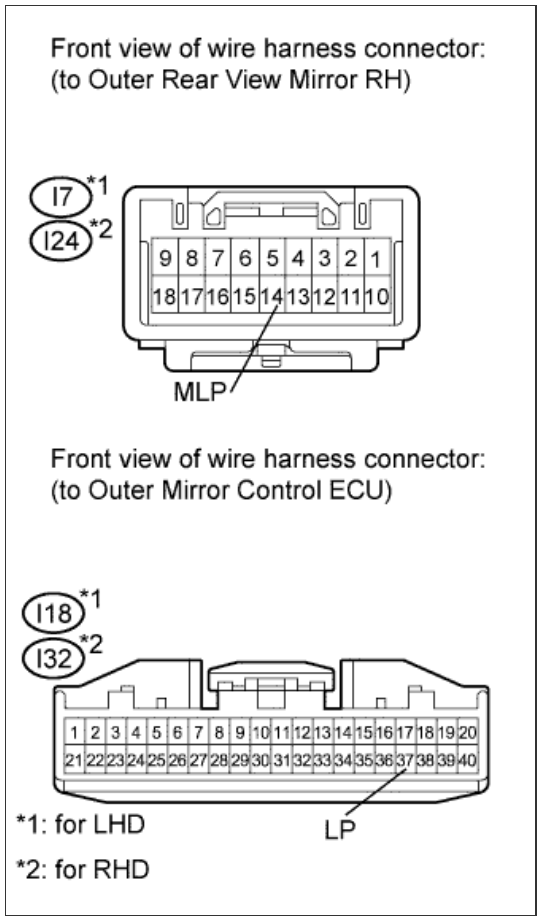
i. Disconnect the I32 ECU connector.

ii. Disconnect the I24 mirror connector.

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

Standard Resistance:

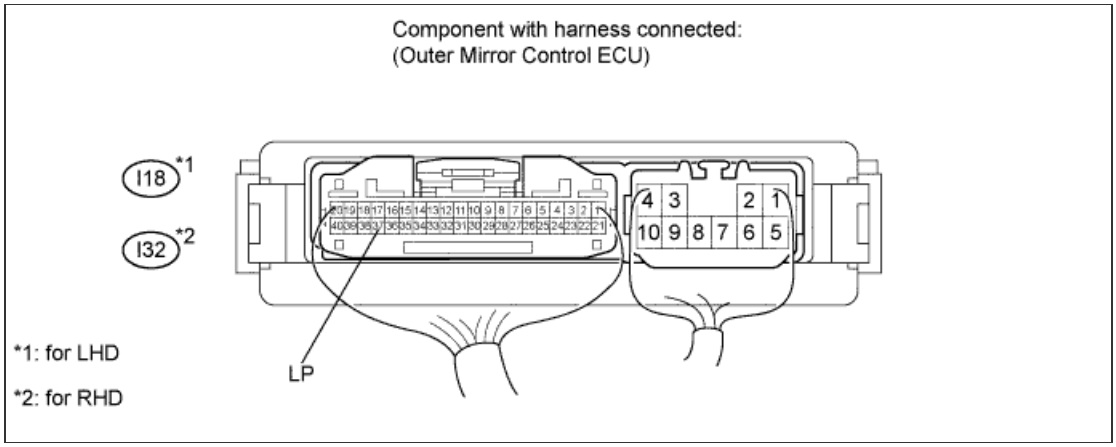
Tester Connection	Condition	Specified Condition
I32-37 (LP) - I24-14 (MLP)	Always	Below 1 Ω
I32-37 (LP) - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

8.CHECK OUTER MIRROR CONTROL ECU



a. for LHD:

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
I18-37 (LP) - Body ground	Engine switch off and all doors closed and locked, unlock door.	9 to 14 V

b. for RHD:

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
I32-37 (LP) - Body ground	Engine switch off and all doors closed and locked, unlock door.	9 to 14 V

NG → REPLACE OUTER MIRROR CONTROL ECU (Click here)

OK

REPLACE OUTER REAR VIEW MIRROR RH (Click here)

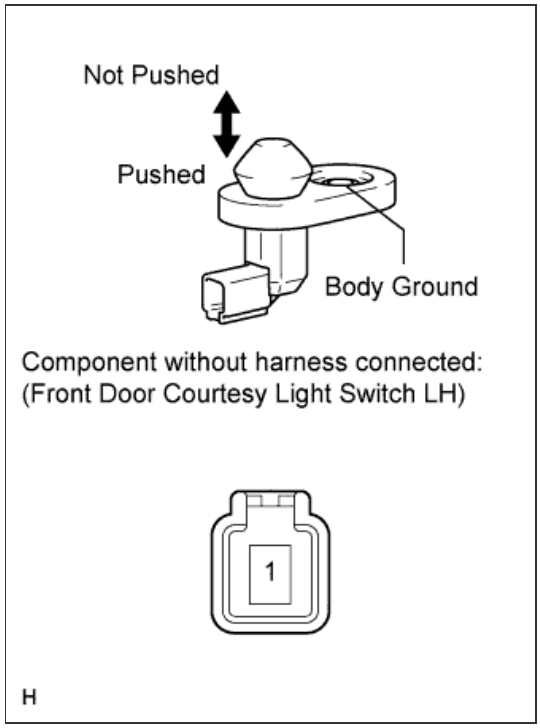
9.INSPECT FRONT DOOR COURTESY LIGHT SWITCH LH

a. Remove the front door courtesy light switch LH (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed	Below 1 Ω
	Pushed	10 kΩ or higher



NG → REPLACE FRONT DOOR COURTESY LIGHT SWITCH LH (Click here)

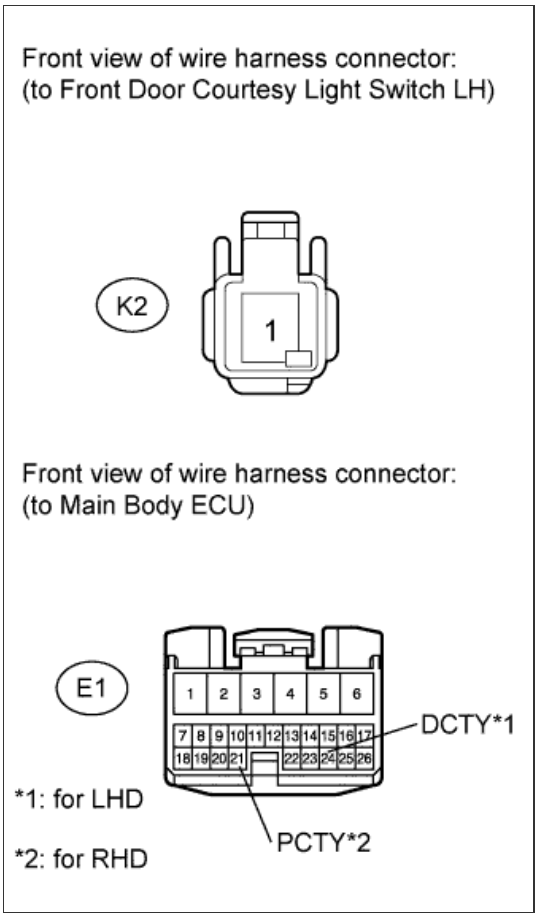
OK

10.CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY LIGHT SWITCH LH - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the K2 switch connector.

b. Disconnect the E1 ECU connector.

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



Standard Resistance:

for LHD:

Tester Connection	Condition	Specified Condition
K2-1 - E1-24 (DCTY)	Always	Below 1 Ω
K2-1 - Body ground	Always	10 kΩ or higher

for RHD:

Tester Connection	Condition	Specified Condition
K2-1 - E1-21 (PCTY)	Always	Below 1 Ω
K2-1 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

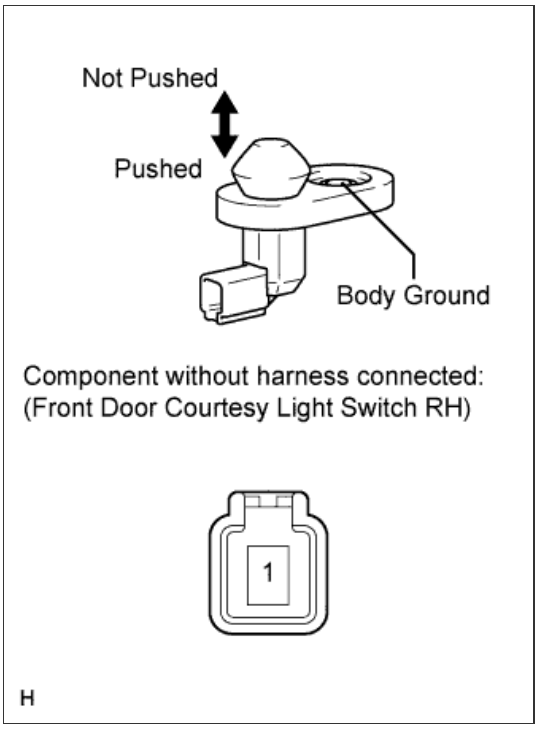
11.INSPECT FRONT DOOR COURTESY LIGHT SWITCH RH

a. Remove the front door courtesy light switch RH (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed	Below 1 Ω
	Pushed	10 kΩ or higher



NG → REPLACE FRONT DOOR COURTESY LIGHT SWITCH RH (Click here)

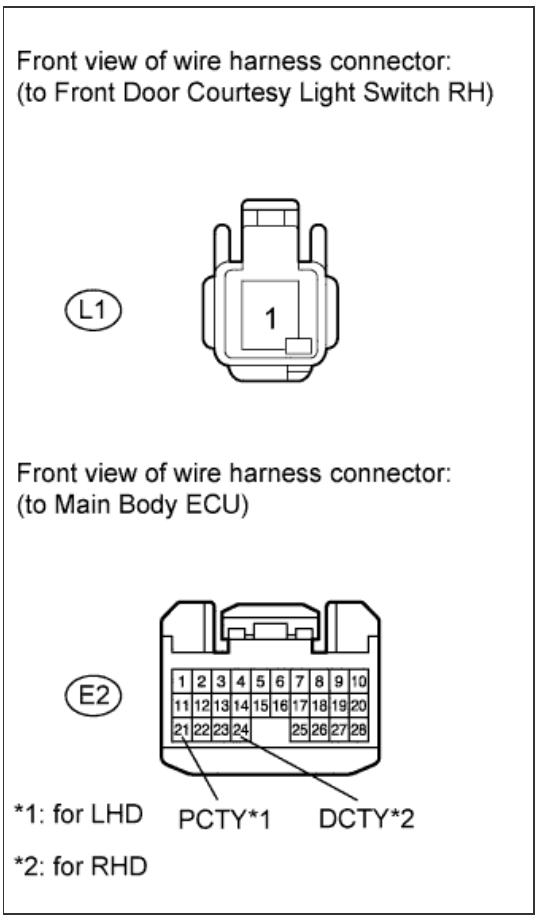
OK

12.CHECK HARNESS AND CONNECTOR (FRONT DOOR COURTESY LIGHT SWITCH RH - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the L1 switch connector.

b. Disconnect the E2 ECU connector.

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



Standard Resistance:

for LHD:

Tester Connection	Condition	Specified Condition
L1-1 - E2-21		

(PCTY)	Always	Below 1 Ω
L1-1 - Body ground	Always	10 kΩ or higher

for RHD:

Tester Connection	Condition	Specified Condition
L1-1 - E2-24 (DCTY)	Always	Below 1 Ω
L1-1 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

REPLACE MAIN BODY ECU

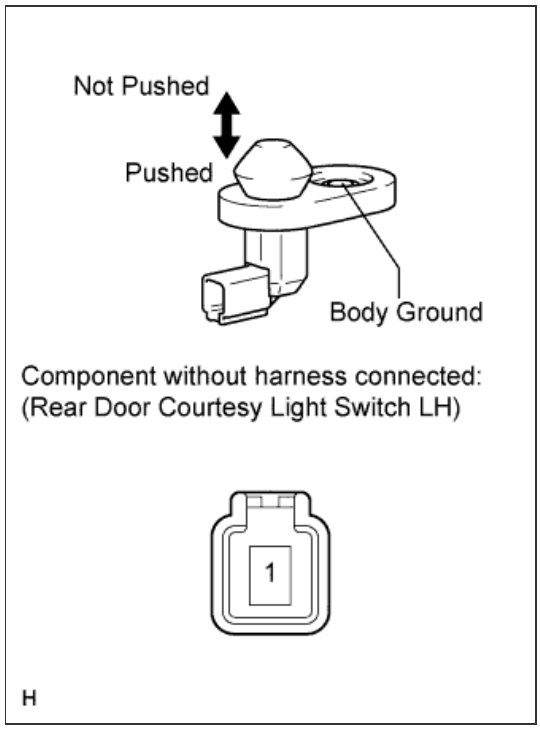
13.INSPECT REAR DOOR COURTESY LIGHT SWITCH LH

a. Remove the rear door courtesy light switch LH (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed	Below 1 Ω
	Pushed	10 kΩ or higher



NG → REPLACE REAR DOOR COURTESY LIGHT SWITCH LH (Click here)

OK →

14.CHECK HARNESS AND CONNECTOR (REAR DOOR COURTESY LIGHT SWITCH LH - MAIN BODY ECU AND BODY GROUND)

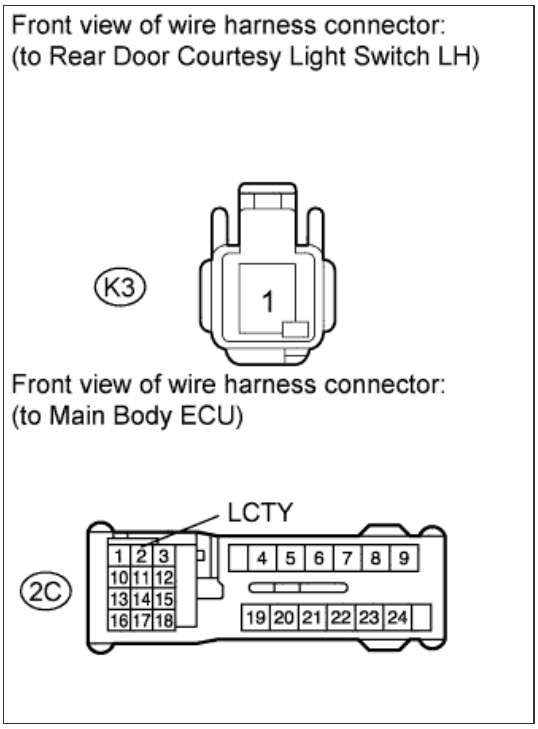
a. Disconnect the K3 switch connector.

b. Disconnect the 2C ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
K3-1 - 2C-2 (LCTY)	Always	Below 1 Ω
K3-1 - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK →

REPLACE MAIN BODY ECU

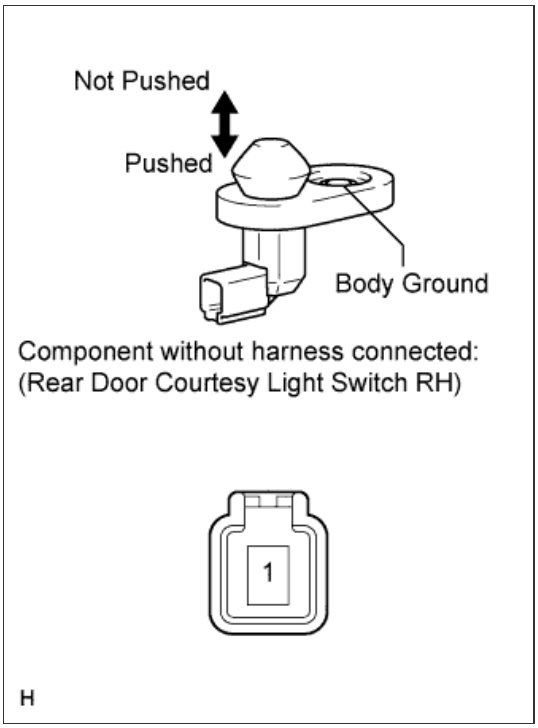
15.INSPECT REAR DOOR COURTESY LIGHT SWITCH RH

a. Remove the rear door courtesy light switch RH (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - Body ground	Not pushed	Below 1 Ω
	Pushed	10 kΩ or higher



NG → REPLACE REAR DOOR COURTESY LIGHT SWITCH RH (Click here)

OK →

16.CHECK HARNESS AND CONNECTOR (REAR DOOR COURTESY LIGHT SWITCH RH - MAIN BODY ECU AND BODY GROUND)

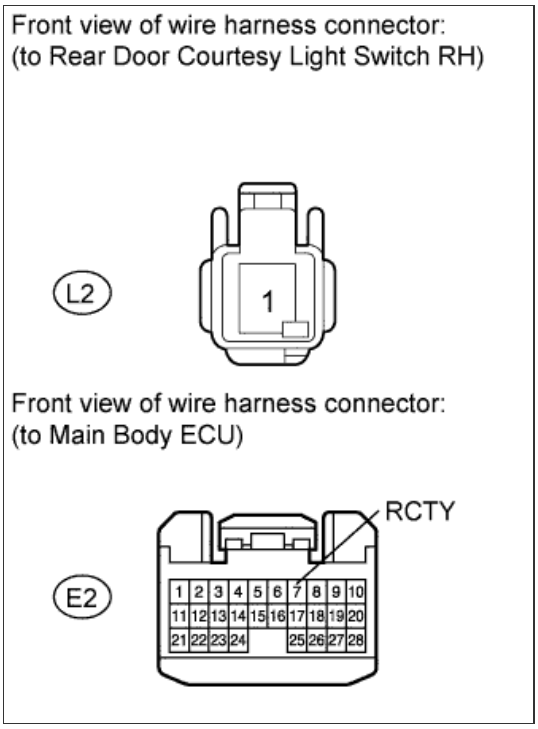
a. Disconnect the L2 switch connector.

b. Disconnect the E2 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
L2-1 - E2-7 (RCTY)	Always	Below 1 Ω
L2-1 - Body ground	Always	10 kΩ or higher

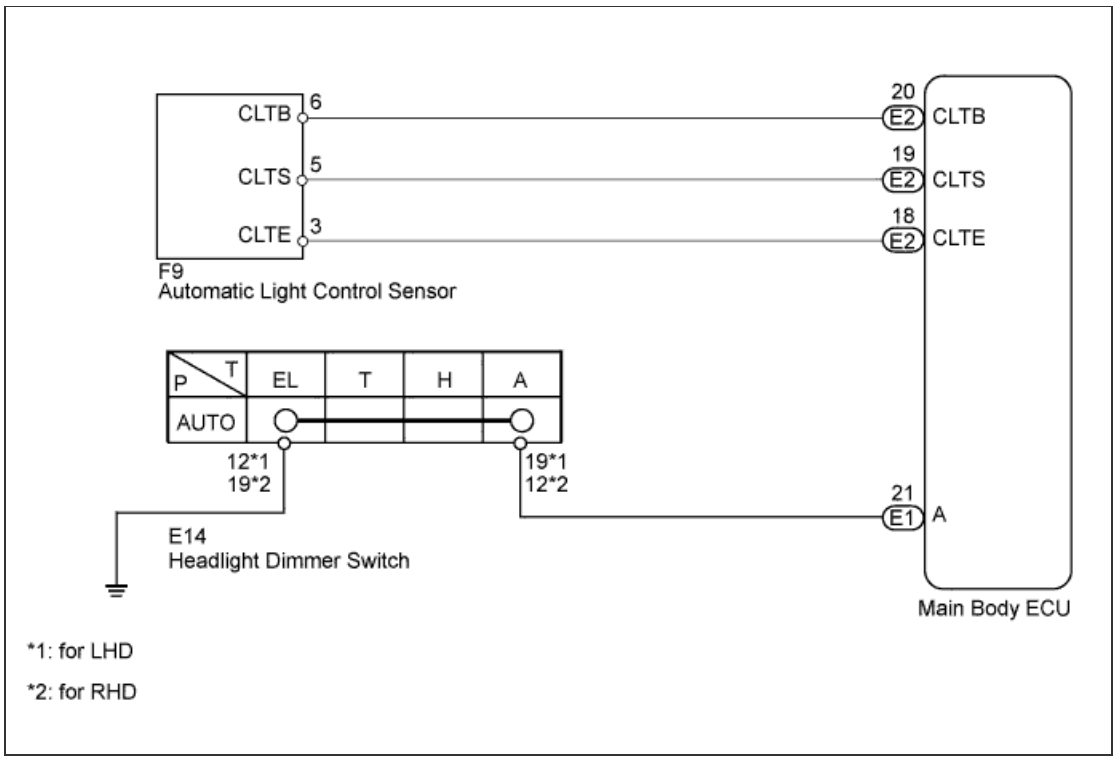


NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE MAIN BODY ECU

for Preparation Click here

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (AUTOMATIC LIGHT CONTROL SENSOR)

a. Using the intelligent tester, read the Data List.

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Illumination Rate Info	Illuminance detected by automatic light control sensor/0 to 235600 lx	Illuminance value displayed	-

OK:

Illuminance value is displayed normally.

NG → Go to step 5

OK

2.READ VALUE USING INTELLIGENT TESTER (HEADLIGHT DIMMER SWITCH)

a. Using the intelligent tester, read the Data List.

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Light Auto SW	Headlight dimmer switch signal (AUTO position) / ON or OFF	ON: Headlight dimmer switch AUTO position OFF: Headlight dimmer switch OFF	-

OK:

When the headlight dimmer switch operation is performed, the result will be the same as above.

NG → Go to step 3

OK

REPLACE MAIN BODY ECU

3.INSPECT HEADLIGHT DIMMER SWITCH

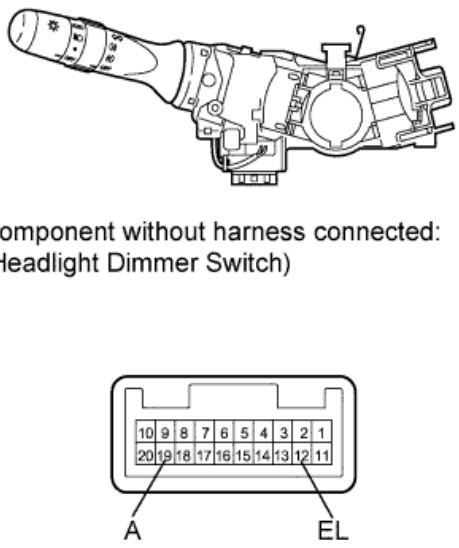
a. for LHD:

i. Remove the headlight dimmer switch (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
19 (A) - 12 (EL)	Headlight dimmer switch (Light control switch) AUTO	Below 1 Ω
	Headlight dimmer switch (Light control switch) off	10 kΩ or higher



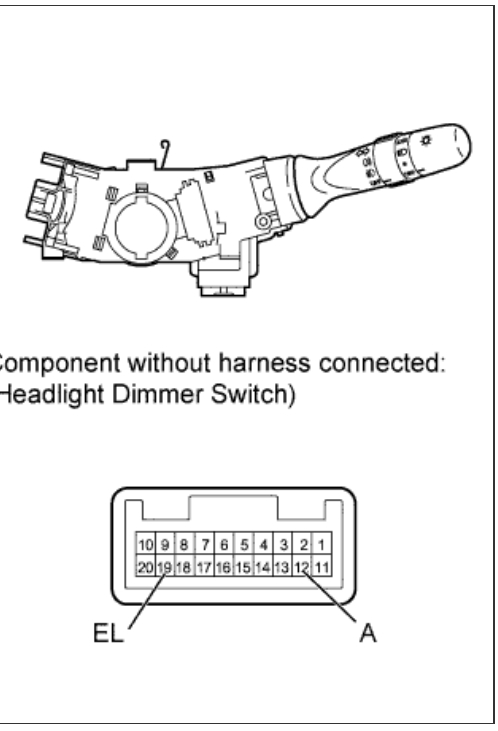
b. for RHD:

i. Remove the headlight dimmer switch (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
12 (A) - 19 (EL)	Headlight dimmer switch (Light control switch) AUTO	Below 1 Ω
	Headlight dimmer switch (Light control switch) off	10 kΩ or higher



Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE HEADLIGHT DIMMER SWITCH ASSEMBLY (Click here)

C → REPLACE HEADLIGHT DIMMER SWITCH (Click here)

A

4.CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER SWITCH - MAIN BODY ECU AND BODY GROUND)

a. for LHD:

i. Disconnect the E14 switch connector.

ii. Disconnect the E1 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E14-19 (A) - E1-21 (A)	Always	Below 1 Ω
E14-12 (EL) - Body ground		
E14-19 (A) - Body ground	Always	10 kΩ or higher

b. for RHD:

i. Disconnect the E14 switch connector.

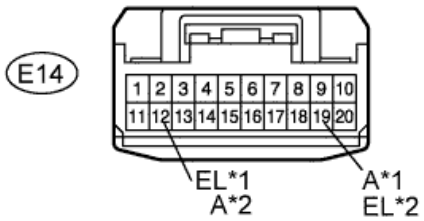
ii. Disconnect the E1 ECU connector.

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

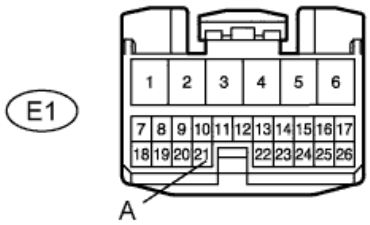
Standard Resistance:

Tester Connection	Condition	Specified Condition
E14-12 (A) - E1-21 (A)	Always	Below 1 Ω
E14-19 (EL) - Body ground		
E14-12 (A) - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Headlight Dimmer Switch)



Front view of wire harness connector:
(to Main Body ECU)



*1: for LHD

*2: for RHD

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

5.CHECK HARNESS AND CONNECTOR (AUTOMATIC LIGHT CONTROL SENSOR - MAIN BODY ECU)

a. Disconnect the E2 ECU connector.

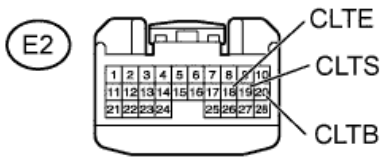
b. Disconnect the F9 sensor connector.

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

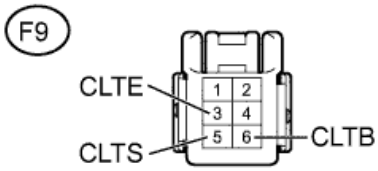
Standard Resistance:

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

6.CHECK MAIN BODY ECU (CLTB VOLTAGE)

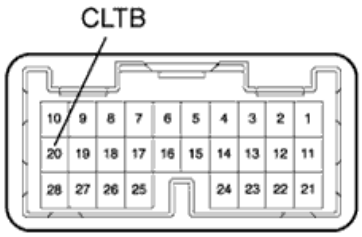
a. Disconnect the E2 ECU connector.

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
E2-20 (CLTB) - Body ground	Engine switch on (IG)	11 to 14 V

Component without harness connected:
(Main Body ECU)



NG → REPLACE MAIN BODY ECU

OK

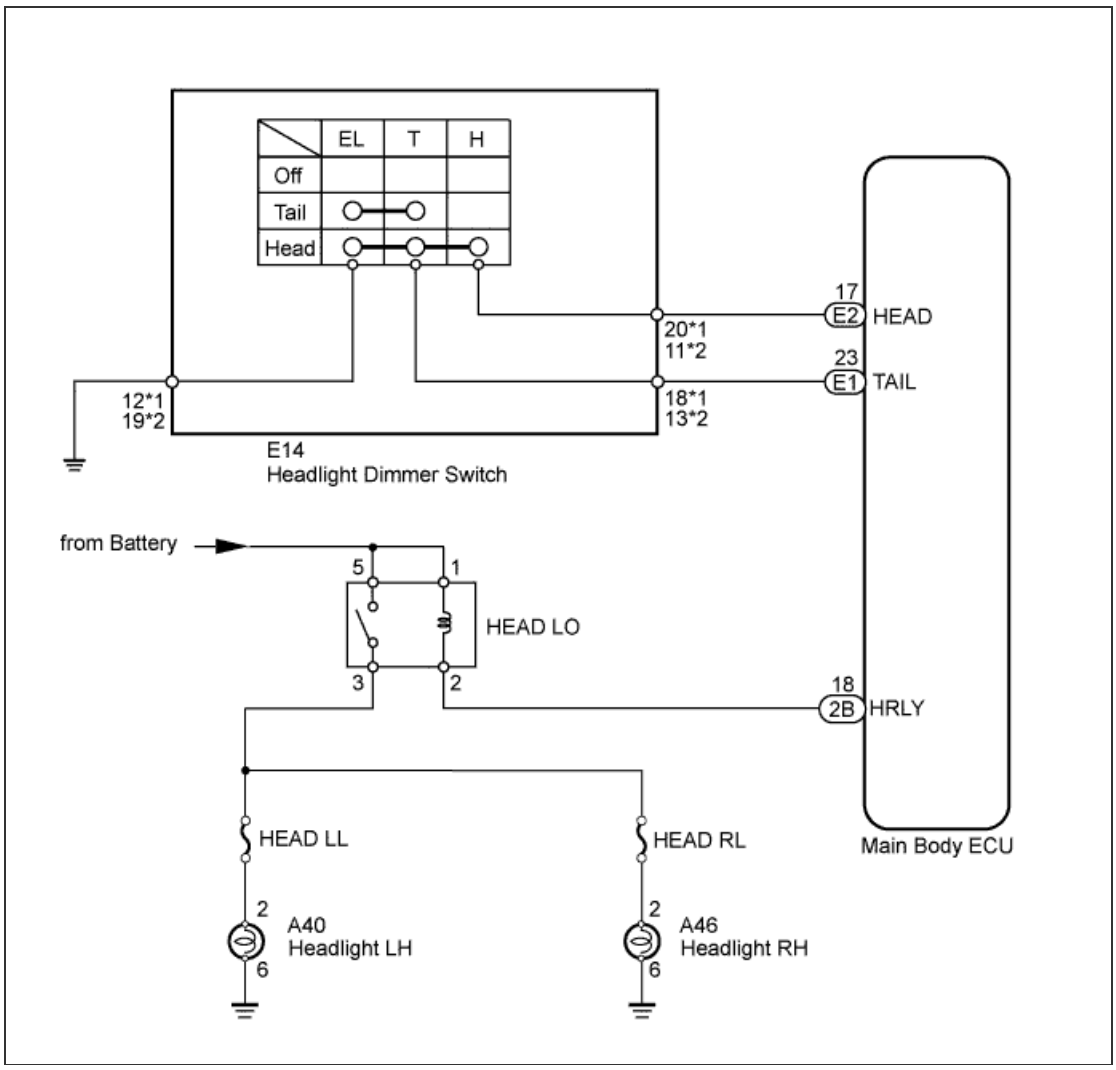
REPLACE AUTOMATIC LIGHT CONTROL SENSOR (Click here)

for Preparation Click here

DESCRIPTION

The main body ECU receives a headlight switch information signal from the light control switch, and illuminates the headlight low beam.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (HEADLIGHT DIMMER SWITCH)

a. Using the intelligent tester, read the Data List.

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Head Light SW (HEAD)	Headlight switch signal/ON or OFF	ON: Headlight switch (Head) on OFF: Headlight switch (Head) off	-

OK:

When the headlight dimmer switch operation is performed, the result will be the same as above.

NG → Go to step 3

OK

2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (HEADLIGHT)

a. Using the intelligent tester, perform the Active Test.

Main Body

Tester Display	Test Part	Control Range	Diagnostic Note
Headlight Relay	Headlight	ON/OFF	-

OK:

Headlight low beam turns on/off.

NG	Go to step 5

OK

REPLACE MAIN BODY ECU

3.INSPECT HEADLIGHT DIMMER SWITCH

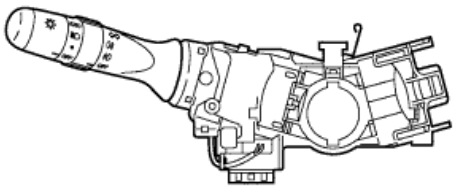
a. for LHD:

i. Remove the headlight dimmer switch (Click here).

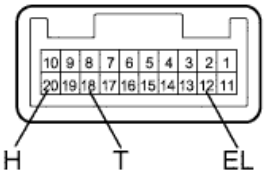
ii. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
20 (H) - 12 (EL)	Headlight dimmer switch (Light control switch) head	Below 1 Ω
18 (T) - 12 (EL)		
20 (H) - 12 (EL)	Headlight dimmer switch (Light control switch) off	10 kΩ or higher
18 (T) - 12 (EL)		



Component without harness connected:
(Headlight Dimmer Switch)



H

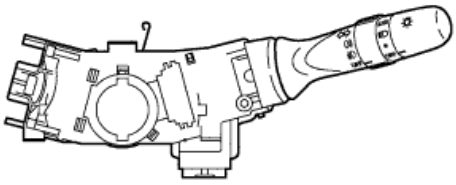
b. for RHD:

i. Remove the headlight dimmer switch (Click here).

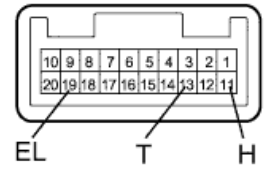
ii. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
11 (H) - 19 (EL)	Headlight dimmer switch (Light control switch) head	Below 1 Ω
13 (T) - 19 (EL)		
11 (H) - 19 (EL)	Headlight dimmer switch (Light control switch) off	10 kΩ or higher
13 (T) - 19 (EL)		



Component without harness connected:
(Headlight Dimmer Switch)



H

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B	REPLACE HEADLIGHT DIMMER SWITCH (Click here)

C

REPLACE HEADLIGHT DIMMER SWITCH (Click here)

A

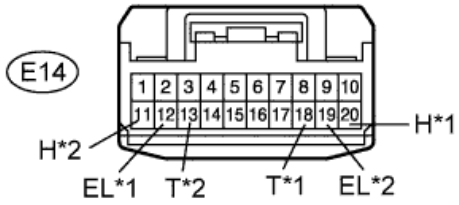
4.CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER SWITCH - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the E14 switch connector.

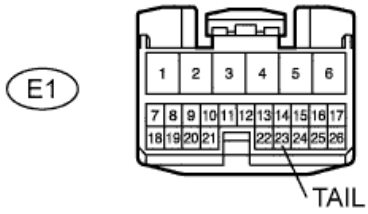
b. Disconnect the E1 and E2 ECU connectors.

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

Front view of wire harness connector:
(to Headlight Dimmer Switch)



Front view of wire harness connector:
(to Main Body ECU)



Front view of wire harness connector:
(to Main Body ECU)



Standard Resistance:

for LHD:

Tester Connection	Condition	Specified Condition
E14-20 (H) - E2-17 (HEAD)	Always	Below 1 Ω
E14-18 (T) - E1-23 (TAIL)		
E14-12 (EL) - Body ground		
E14-20 (H) - Body ground	Always	10 kΩ or higher
E14-18 (T) - Body ground		

for RHD:

Tester Connection	Condition	Specified Condition
E14-11 (H) - E2-17 (HEAD)		
E14-13 (T) - E1-23		

(TAIL)	Always	Below 1 Ω
E14-19 (EL) - Body ground		
E14-11 (H) - Body ground	Always	10 kΩ or higher
E14-18 (T) - Body ground		

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

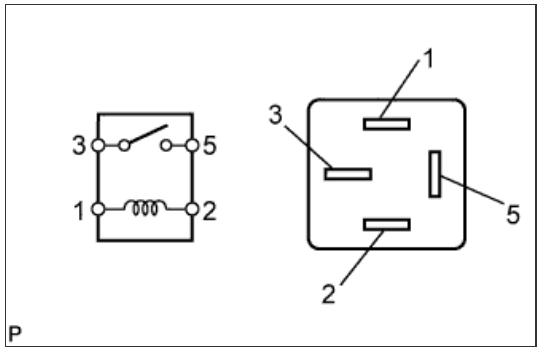
5.INSPECT HEADLIGHT RELAY (HEAD LO)

a. Remove the headlight 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 to terminals 1 and 2	10 kΩ or higher
	Battery voltage applied to terminals 1 and 2	Below 1 Ω



NG → REPLACE HEADLIGHT RELAY

OK

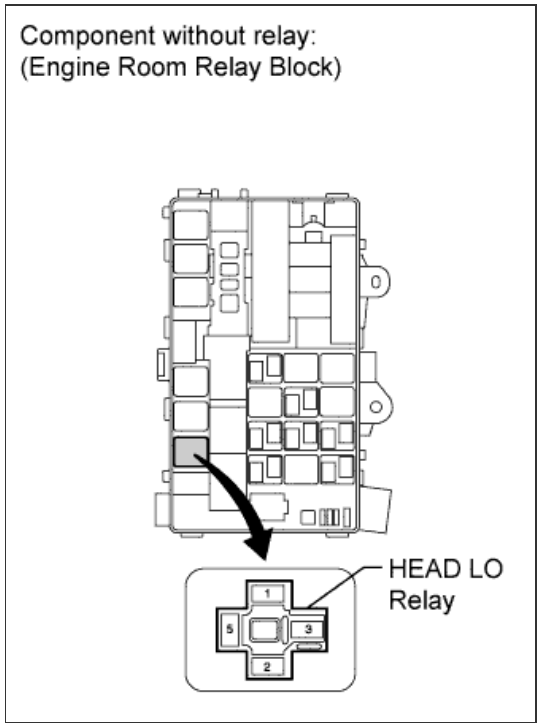
6.CHECK HARNESS AND CONNECTOR (HEADLIGHT RELAY - BATTERY)

a. Remove the headlight relay from the engine room relay block.

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

Standard Voltage:

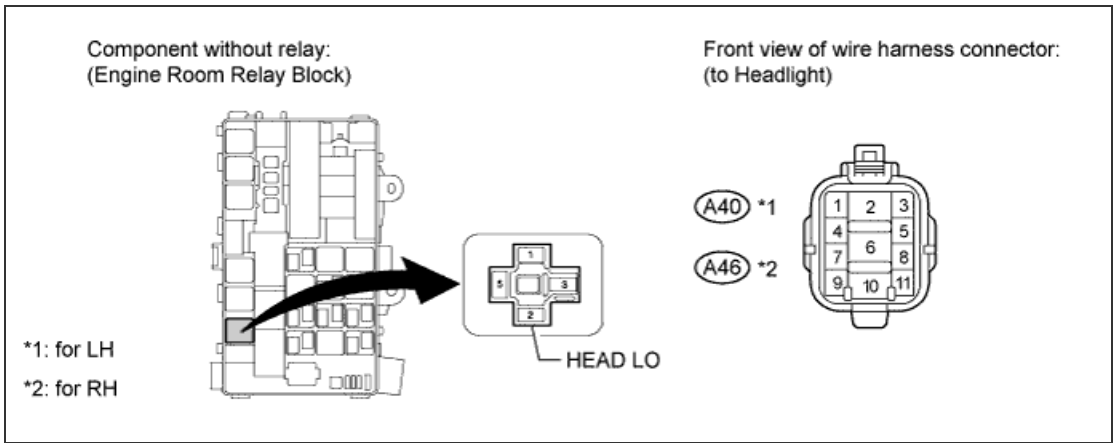
Tester Connection	Switch Condition	Specified Condition
Headlight relay terminal 1 - Body ground	Engine switch on (IG)	11 to 14 V
Headlight relay terminal 5 - Body ground		



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

7.CHECK HARNESS AND CONNECTOR (HEADLIGHT - HEADLIGHT RELAY AND BODY GROUND)



a. Remove the headlight relay from the engine room relay block.

b. Disconnect the A40 and A46 light connectors.

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

Standard Resistance:

for LH:

Tester Connection	Condition	Specified Condition
Headlight relay terminal 3 - A40-2	Always	Below 1 Ω
A40-6 - Body ground		
A40-2 - Body ground	Always	10 kΩ or higher

for RH:

Tester Connection	Condition	Specified Condition
Headlight relay terminal 3 - A46-2	Always	Below 1 Ω
A46-6 - Body ground		
A46-2 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

8.CHECK HEADLIGHT (LOW BEAM)

a. Disconnect the 2B ECU connector.

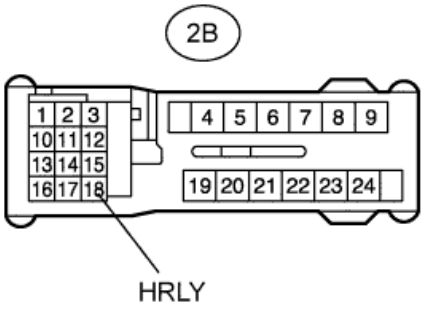
b. Using a service wire, connect terminal 2B-18 (HRLY) on the wire harness side and the body ground.

c. Check that the headlight low beam illuminates.

OK:

Headlight low beam illuminates.

Front view of wire harness connector:
(to Main Body ECU)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR (HEADLIGHT RELAY - MAIN BODY ECU)

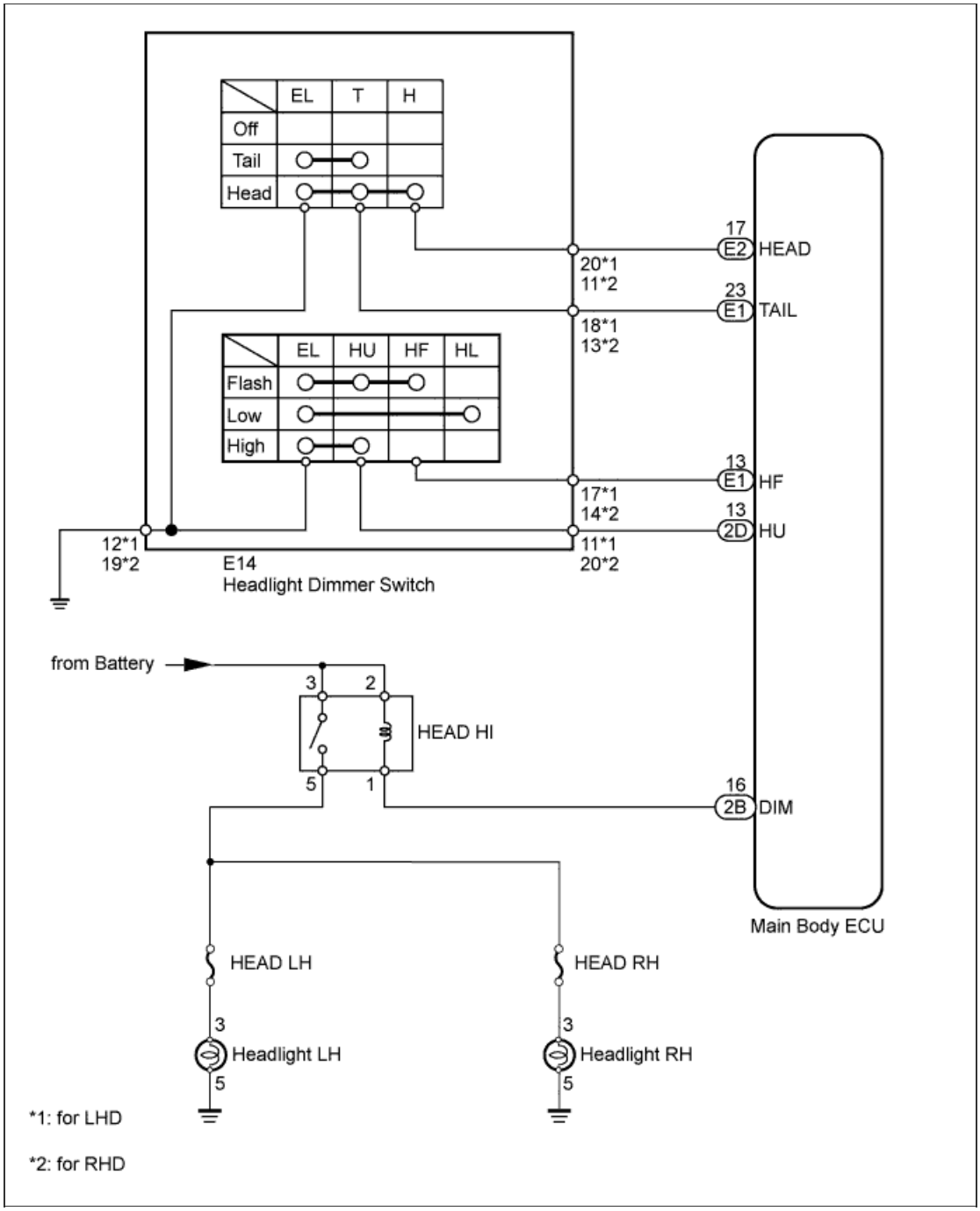
OK → REPLACE MAIN BODY ECU

for Preparation Click here

DESCRIPTION

The main body ECU receives light control switch and dimmer switch information signals from the headlight dimmer switch, and illuminates the headlight high beam.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (HEADLIGHT DIMMER SWITCH)

a. Using the intelligent tester, read the Data List.

Main Body

Tester Display	Test Part	Control Range	Diagnostic Note
Head Light SW (HEAD)	Headlight switch signal/ON or OFF	ON: Headlight switch (Head) on OFF: Headlight switch (Head) off	-

Dimmer SW	Dimmer switch signal/ON or OFF	ON: Dimmer switch on OFF: Dimmer switch off	-

OK:

When the headlight dimmer switch operation is performed, the result will be the same as above.

NG → Go to step 3

OK

2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (HEADLIGHT)

a. Using the intelligent tester, perform the Active Test.

Main Body

Tester Display	Test Part	Control Range	Diagnostic Note
Head Light Hi	Headlight (Hi)	ON/OFF	-

OK:

Headlight high beam turns on/off.

NG → Go to step 5

OK

REPLACE MAIN BODY ECU

3.INSPECT HEADLIGHT DIMMER SWITCH

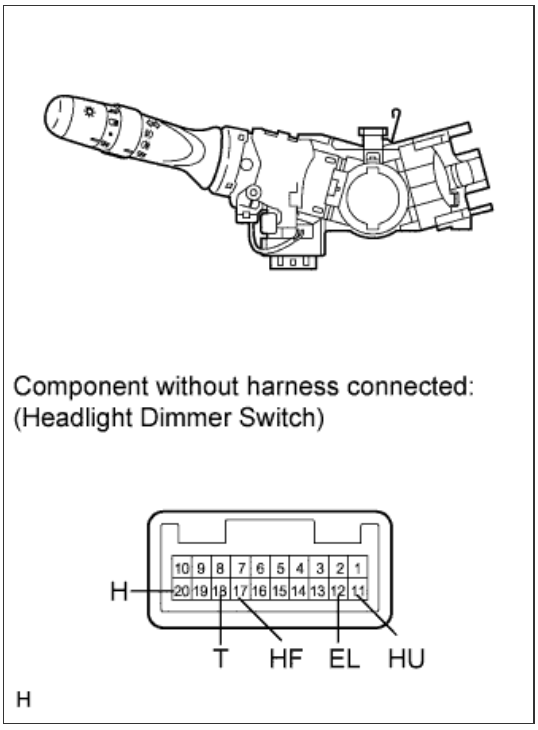
a. for LHD:

i. Remove the headlight dimmer switch (Click here).

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
18 (T) - 12 (EL)	Headlight dimmer switch (Light control switch) head	Below 1 Ω
20 (H) - 12 (EL)		
17 (HF) - 12 (EL)	Headlight dimmer switch (Dimmer switch) flash	
11 (HU) - 12 (EL)		
11 (HU) - 12 (EL)	Headlight dimmer switch (Dimmer switch) high	
18 (T) - 12 (EL)	Headlight dimmer switch (Light control switch) off	10 kΩ or higher
20 (H) - 12 (EL)		



b. for RHD:

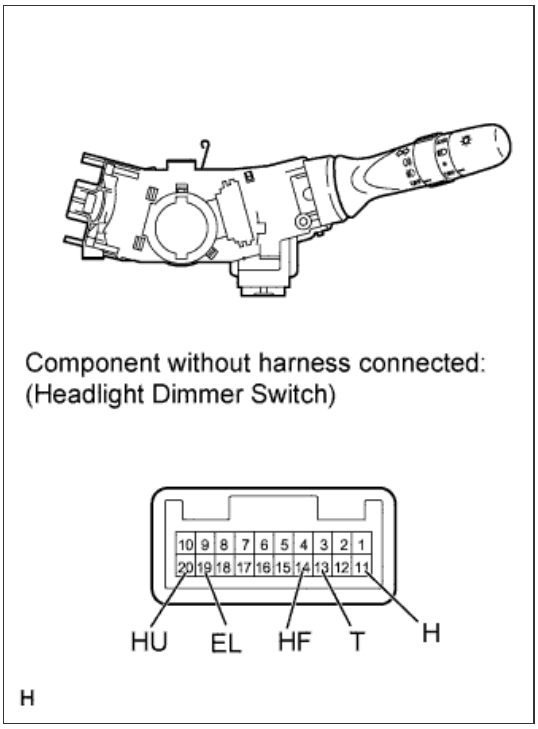
i. Remove the headlight dimmer switch (Click here).

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
13 (T) - 19 (EL)	Headlight dimmer switch (Light control switch) head	
11 (H) - 19 (EL)		

14 (HF) - 19 (EL)	Headlight dimmer switch (Dimmer switch) flash	Below 1 Ω
20 (HU) - 19 (EL)		
20 (HU) - 19 (EL)	Headlight dimmer switch (Dimmer switch) high	
18 (T) - 12 (EL)	Headlight dimmer switch (Light control switch) off	10 kΩ or higher
20 (H) - 12 (EL)		



Result

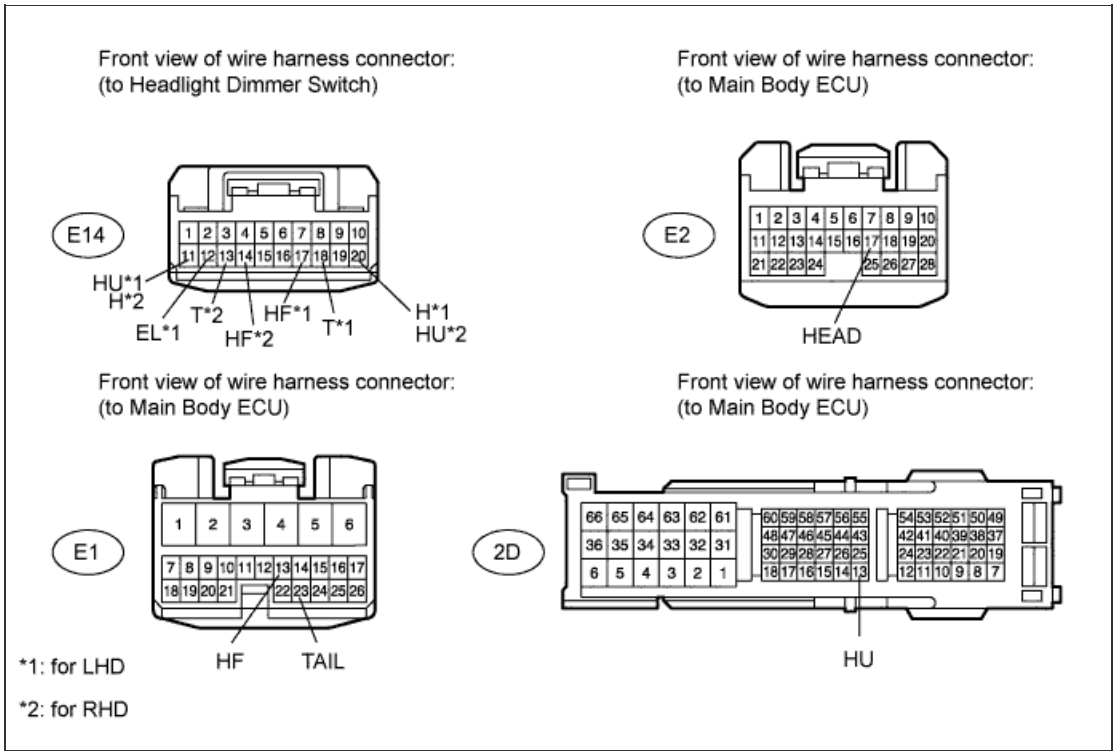
Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE HEADLIGHT DIMMER SWITCH (Click here)

C → REPLACE HEADLIGHT DIMMER SWITCH (Click here)

A

4.CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER SWITCH - MAIN BODY ECU AND BODY GROUND)



a. Disconnect the E14 switch connector.

b. Disconnect the E1, E2 and 2D ECU connectors.

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

Standard Resistance:
for LHD:

Tester Connection	Condition	Specified

		Condition
E2-17 (HEAD) - E14-20 (H)	Always	Below 1 Ω
E1-23 (TAIL) - E14-18 (T)		
E1-13 (HF) - E14-17 (HF)		
2D-13 (HU) - E14-11 (HU)		
E14-12 (EL) - Body ground		
E2-17 (HEAD) - Body ground	Always	10 kΩ or higher
E1-23 (TAIL) - Body ground		
E1-13 (HF) - Body ground		
2D-13 (HU) - Body ground		

for RHD:

Tester Connection	Condition	Specified Condition
E2-17 (HEAD) - E14-11 (H)	Always	Below 1 Ω
E1-23 (TAIL) - E14-13 (T)		
E1-13 (HF) - E14-14 (HF)		
2D-13 (HU) - E14-20 (HU)		
E14-19 (EL) - Body ground		
E2-17 (HEAD) - Body ground	Always	10 kΩ or higher
E1-23 (TAIL) - Body ground		
E1-13 (HF) - Body ground		
2D-13 (HU) - Body ground		

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

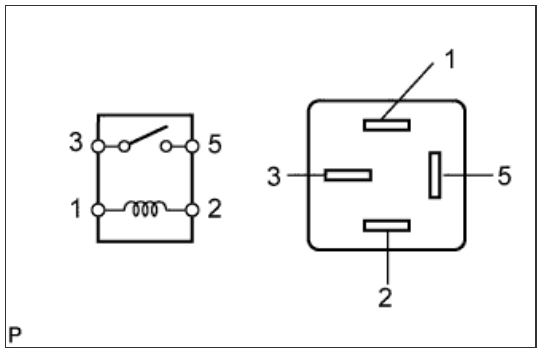
OK

REPLACE MAIN BODY ECU

5.INSPECT HEADLIGHT RELAY (HEAD HI)

a. Remove the headlight 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 to terminals 1 and 2	10 kΩ or higher
	Battery voltage applied to terminals 1 and 2	Below 1 Ω

NG → REPLACE HEADLIGHT RELAY

OK

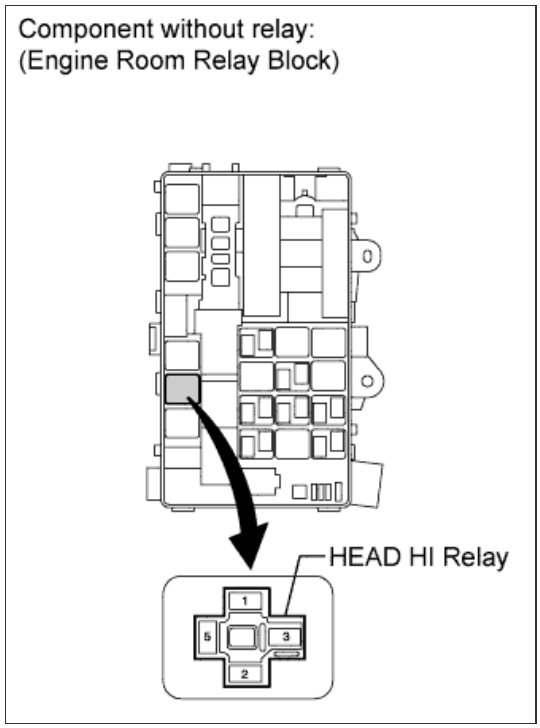
6.CHECK HARNESS AND CONNECTOR (HEADLIGHT RELAY (HEAD HI) - BATTERY)

a. Remove the headlight relay from the engine room relay block.

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

Standard Voltage:

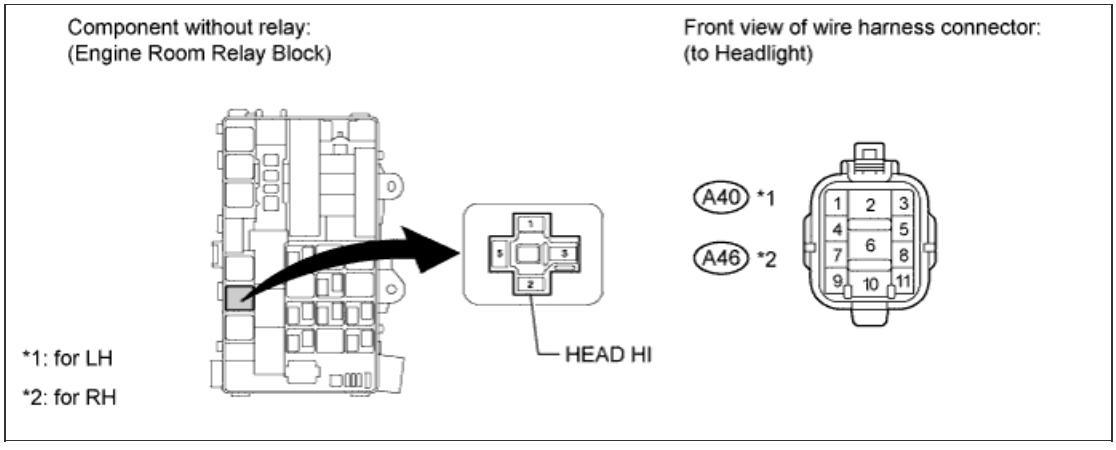
Tester Connection	Switch Condition	Specified Condition
Headlight relay terminal 2 - Body ground	Engine switch on (IG)	11 to 14 V
Headlight relay terminal 3 - Body ground		



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

7.CHECK HARNESS AND CONNECTOR (HEADLIGHT - HEADLIGHT RELAY AND BODY GROUND)



a. Remove the headlight relay from the engine room relay block.

b. Disconnect the A40 and A46 light connectors.

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

Standard Resistance:
for LH:

Tester Connection	Condition	Specified Condition

Headlight relay terminal 3 - A40-3	Always	Below 1 Ω
A40-5 - Body ground		
A40-3 - Body ground	Always	10 kΩ or higher

for RH:

Tester Connection	Condition	Specified Condition
Headlight relay terminal 3 - A46-3	Always	Below 1 Ω
A46-5 - Body ground		
A46-3 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

8.CHECK HEADLIGHT (HI BEAM)

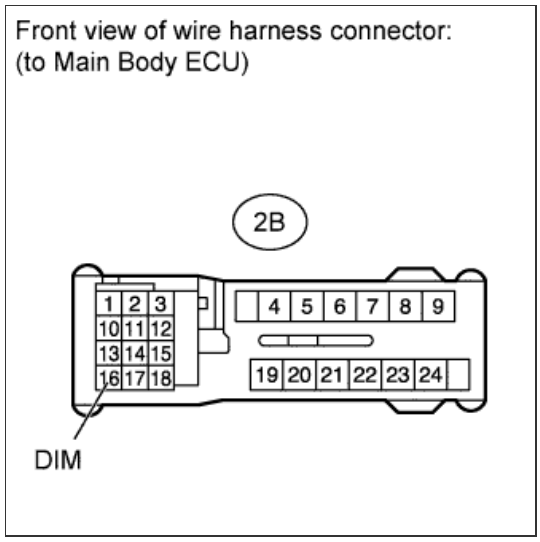
a. Disconnect the 2B ECU connector.

b. Using a service wire, connect terminal 2B-16 (DIM) on the wire harness side and the body ground.

c. Check that the headlight high beam illuminates.

OK:

Headlight high beam illuminates.



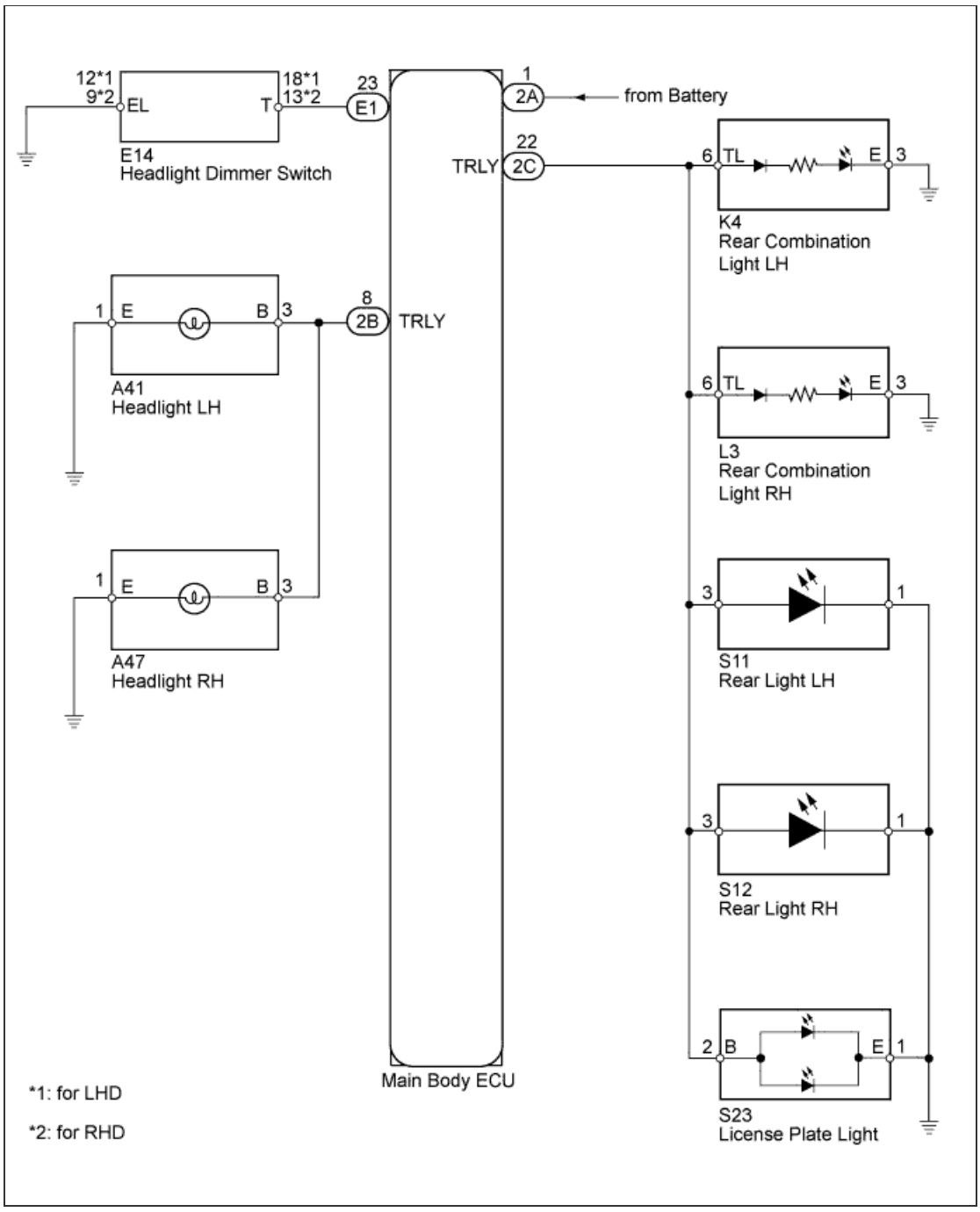
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR (HEADLIGHT RELAY - MAIN BODY ECU)

OK

REPLACE MAIN BODY ECU

for Preparation Click here

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK FOR DTC

a. Check for DTCs (Click here).

OK:
DTC B2402 output does not occur.

NG → GO TO DIAGNOSTIC TROUBLE CODE CHART (Click here)

OK

2.READ VALUE USING INTELLIGENT TESTER (HEADLIGHT DIMMER SWITCH)

a. Using the intelligent tester, read the Data List.

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Head Light SW (Tail)	Taillight switch signal/ON or OFF	ON: Headlight switch (Tail) on OFF: Headlight switch (Tail) off	-

OK:

When the headlight dimmer switch operation is performed, the result will be the same as above.

NG → Go to step 4

OK ↓

3.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (TAILLIGHT)

a. Using the intelligent tester, perform the Active Test.

Main Body

Tester Display	Test Part	Control Range	Diagnostic Note
Taillight Relay	Taillight	ON/OFF	-

OK:

Taillight turns on/off.

NG → Go to step 6

OK ↓

REPLACE MAIN BODY ECU

4.INSPECT HEADLIGHT DIMMER SWITCH

a. for LHD:

i. Remove the headlight dimmer switch (Click here).

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
18 (T) - 12 (EL)	Headlight dimmer switch (Light control switch) tail	Below 1 Ω
	Headlight dimmer switch (Light control switch) off	10 kΩ or higher

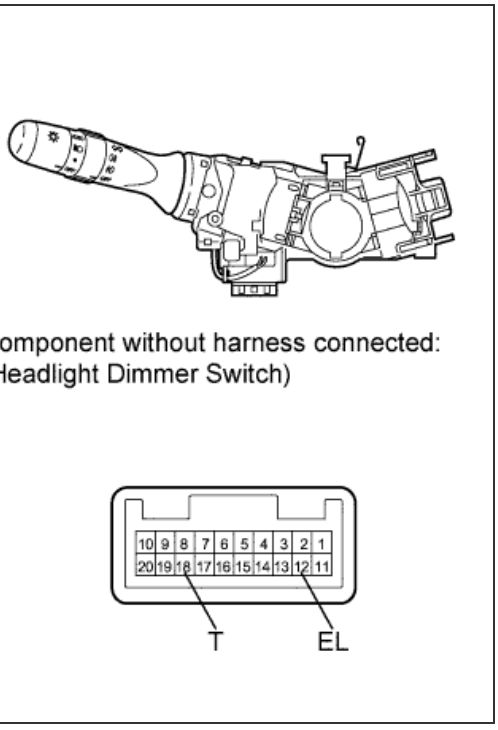
b. for RHD:

i. Remove the headlight dimmer switch (Click here).

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
13 (T) - 19 (EL)	Headlight dimmer switch (Light control switch) tail	Below 1 Ω
	Headlight dimmer switch	

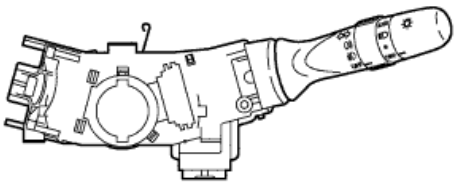


Component without harness connected:
(Headlight Dimmer Switch)

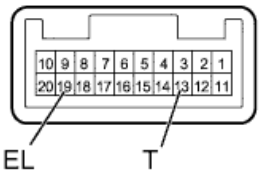
	(Light control switch) off	10 kΩ or higher

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C



Component without harness connected:
(Headlight Dimmer Switch)



H

B → REPLACE HEADLIGHT DIMMER SWITCH (Click here)

C → REPLACE HEADLIGHT DIMMER SWITCH (Click here)

A

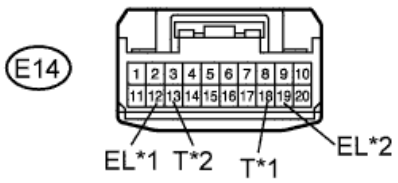
5.CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER SWITCH - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the E14 switch connector.

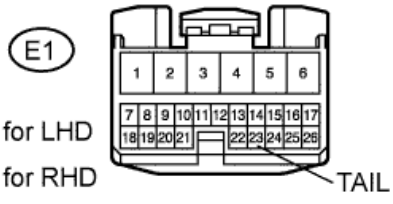
b. Disconnect the E1 ECU connector.

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

Front view of wire harness connector:
(to Headlight Dimmer Switch)



Front view of wire harness connector:
(to Main Body ECU)



Standard Resistance:
for LHD:

Tester Connection	Condition	Specified Condition
E14-18 (T) - E1-23 (TAIL)	Always	Below 1 Ω
E14-12 (EL) - Body		

ground		
E14-18 (T) - Body ground	Always	10 kΩ or higher

for RHD:

Tester Connection	Condition	Specified Condition
E14-13 (T) - E1-23 (TAIL)	Always	Below 1 Ω
E14-19 (EL) - Body ground		
E14-13 (T) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

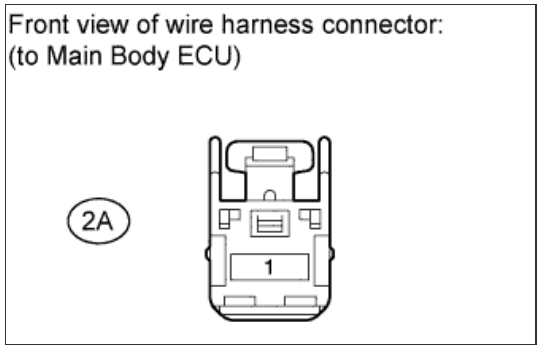
6.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY)

a. Disconnect the 2A ECU connector.

b. Measure the voltage 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



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

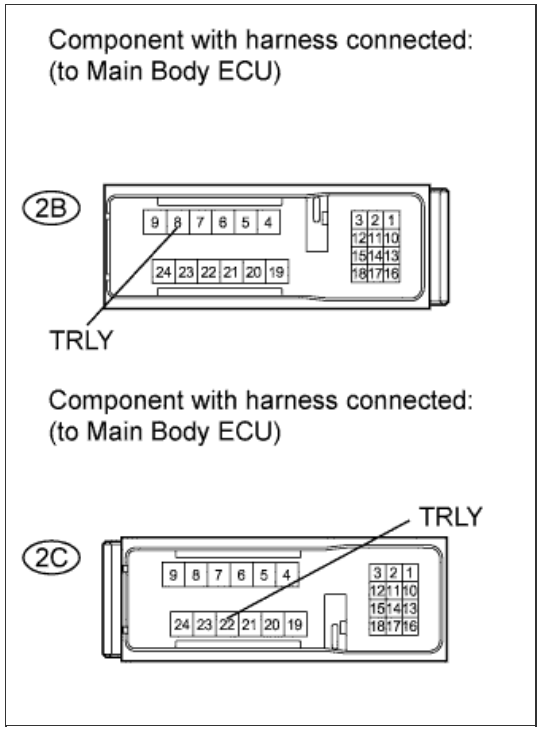
OK

7.CHECK MAIN BODY ECU

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
2B-8 (TRLY) - Body ground	Engine switch on (IG) and headlight switch (tail) on	11 to 14 V
2C-22 (TRLY) - Body ground		



NG → REPLACE MAIN BODY ECU

OK

8.CONFIRM LIGHT POSITION

a. Check the malfunctioning light.

Result

Result	Proceed to
Clearance light does not illuminate	A
Taillight does not illuminate	B
Rear light does not illuminate	C
License plate light does not illuminate	D

B → Go to step 10

C → Go to step 11

D → Go to step 12

A

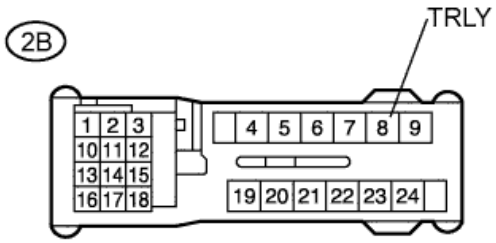
9.CHECK HARNESS AND CONNECTOR (HEADLIGHT - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the 2B ECU connector.

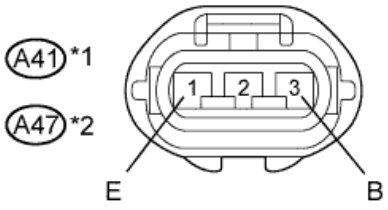
b. Disconnect the A41 and A47 light connectors.

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

Front view of wire harness connector:
(to Main Body ECU)



Front view of wire harness connector:
(to Headlight)



*1: for LH

*2: for RH

Standard Resistance:
for LH:

Tester Connection	Condition	Specified Condition
2B-8 (TRLY) - A41-3 (B)	Always	Below 1 Ω

A41-1 (E) - Body ground		
A41-3 (B) - Body ground	Always	10 kΩ or higher

for RH:

Tester Connection	Condition	Specified Condition
2B-8 (TRLY) - A47-3 (B)	Always	Below 1 Ω
A47-1 (E) - Body ground		
A47-3 (B) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

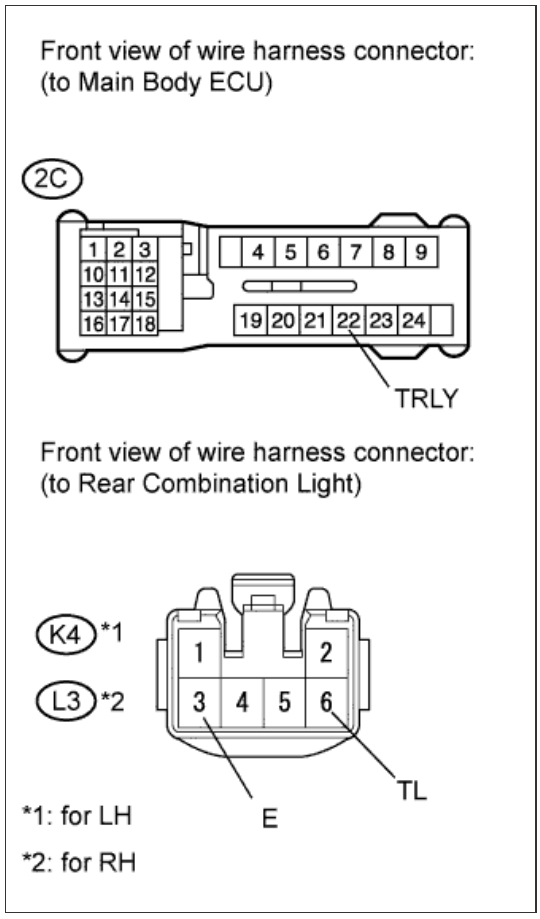
REPLACE HEADLIGHT (Click here)

10.CHECK HARNESS AND CONNECTOR (REAR COMBINATION LIGHT - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the 2C ECU connector.

b. Disconnect the K4 and L3 light connectors.

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



Standard Resistance:

for LH:

Tester Connection	Condition	Specified Condition
2C-22 (TRLY) - K4-6 (TL)	Always	Below 1 Ω
K4-3 (E) - Body ground		
K4-6 (TL) - Body ground	Always	10 kΩ or higher

for RH:

Tester Connection	Condition	Specified Condition
2C-22 (TRLY) - L3-6 (TL)	Always	Below 1 Ω
L3-3 (E) - Body ground		
L3-6 (TL) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

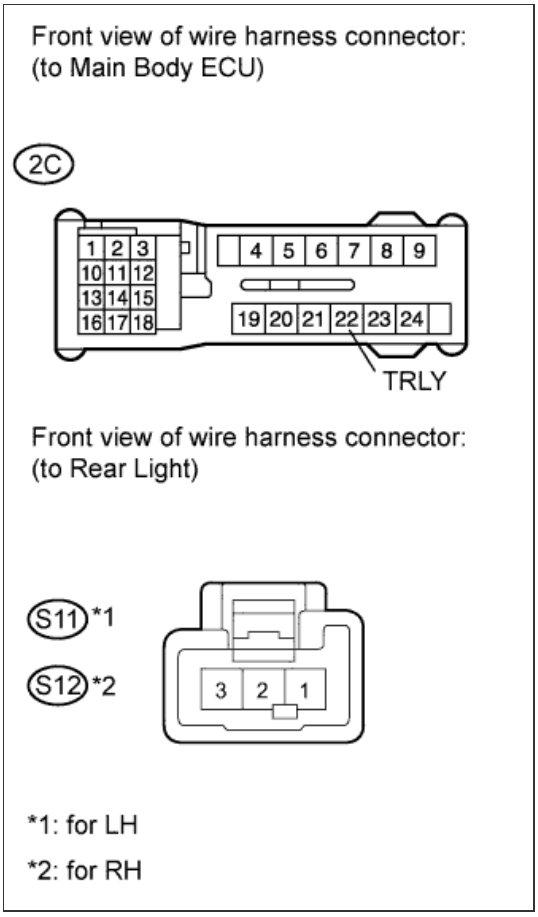
REPLACE REAR COMBINATION LIGHT (Click here)

11.CHECK HARNESS AND CONNECTOR (REAR LIGHT - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the 2C ECU connector.

b. Disconnect the S11 and S12 light connectors.

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



Standard Resistance:

for LH:

Tester Connection	Condition	Specified Condition
2C-22 (TRLY) - S11-3	Always	Below 1 Ω
S11-1 - Body ground		
S11-3 - Body ground	Always	10 kΩ or higher

for RH:

Tester Connection	Condition	Specified Condition
2C-22 (TRLY) - S12-3	Always	Below 1 Ω

S12-1 - Body ground		
S12-3 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE REAR LIGHT (Click here)

12.CHECK HARNESS AND CONNECTOR (LICENSE PLATE LIGHT - MAIN BODY ECU AND BODY GROUND)

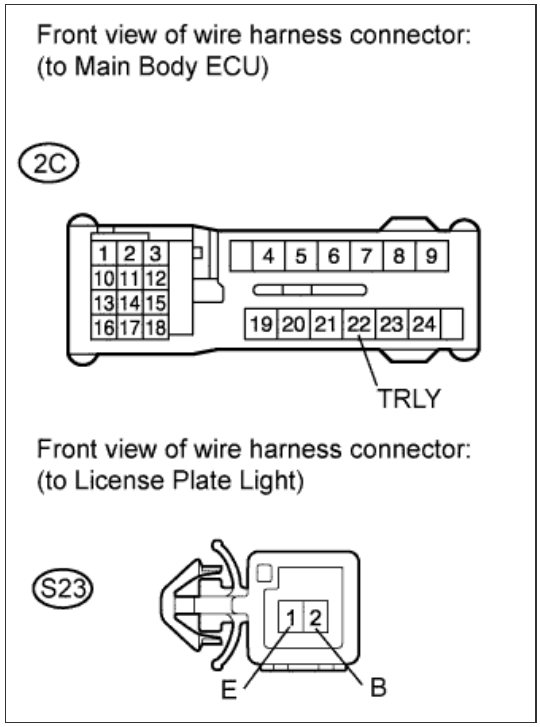
a. Disconnect the 2C ECU connector.

b. Disconnect the S23 light connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
2C-22 (TRLY) - S23-2 (B)	Always	Below 1 Ω
S23-1 (E) - Body ground		
S23-2 (B) - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

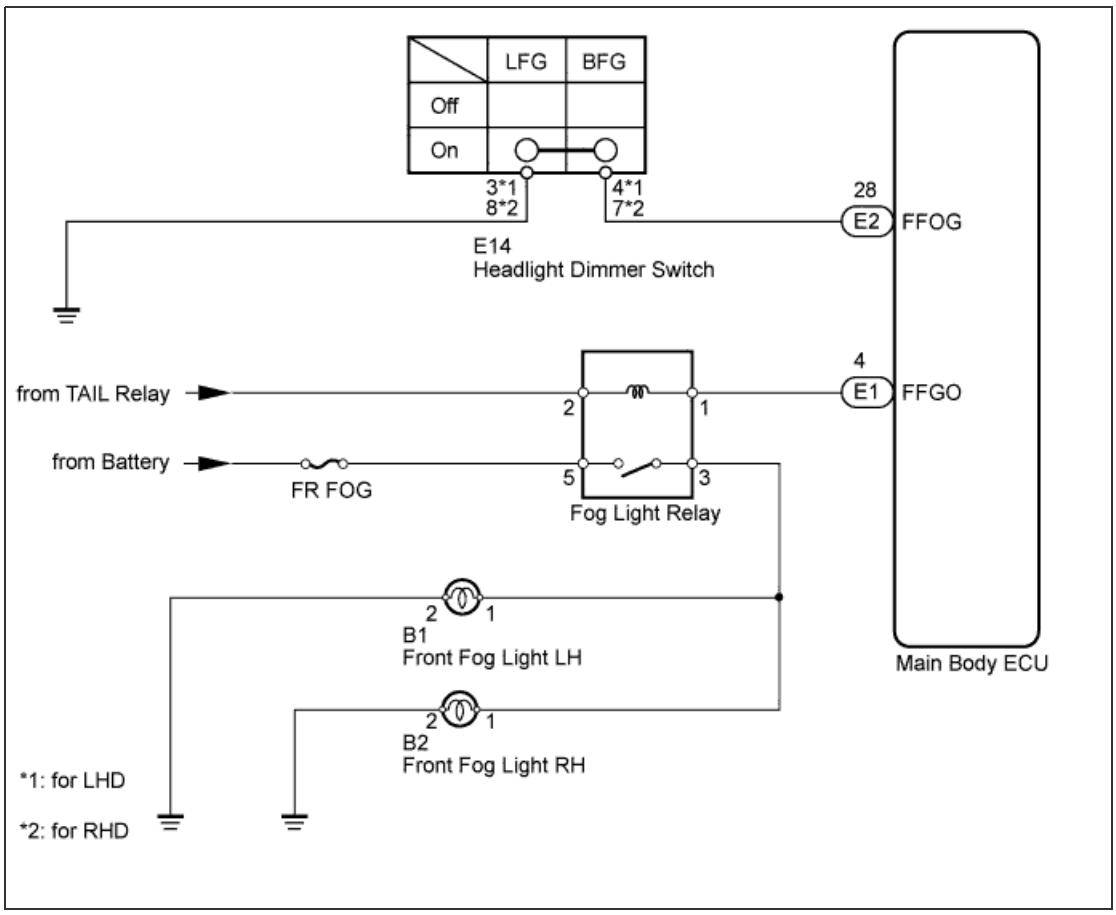
REPLACE LICENSE PLATE LIGHT (Click here)

for Preparation Click here

DESCRIPTION

The main body ECU receives a front fog light switch information signal from the light control switch (front fog switch), and illuminates the front fog lights.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (HEADLIGHT DIMMER SWITCH)

a. Using the intelligent tester, read the Data List.

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Front Fog Light SW	Front fog light switch signal/ON or OFF	ON: Front fog light switch on OFF: Front fog light switch off	-

OK:

When the headlight dimmer switch operation is performed, the result will be the same as above.

NG → Go to step 3

OK

2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER (FRONT FOG LIGHT RELAY)

a. Using the intelligent tester, perform the Active Test.

Main Body

Tester Display	Test Part	Control Range	Diagnostic Note

Front Fog Light Relay	Front fog light	ON/OFF	-

OK:

Fog light turns on/off.

NG → Go to step 5

OK →

REPLACE MAIN BODY ECU

3.INSPECT HEADLIGHT DIMMER SWITCH

a. for LHD:

i. Remove the headlight dimmer switch (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
4 (BFG) - 3 (LFG)	Headlight dimmer switch (Front fog light switch) on	Below 1 Ω
	Headlight dimmer switch (Front fog light switch) off	10 kΩ or higher

b. for RHD:

i. Remove the headlight dimmer switch (Click here).

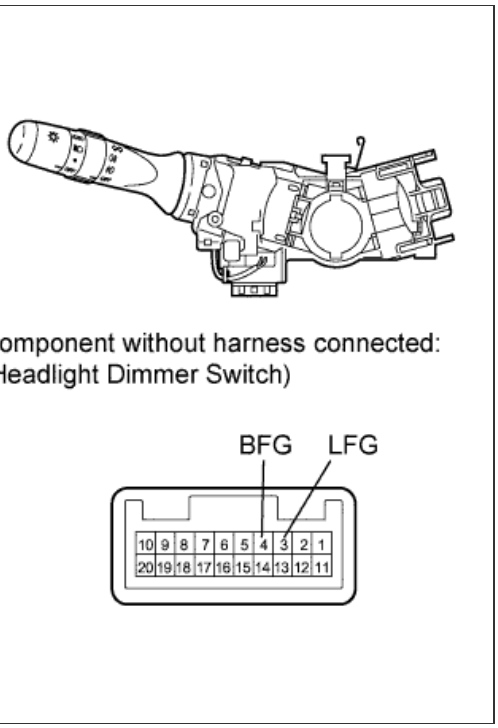
ii. Measure the resistance according to the value(s) in the table below

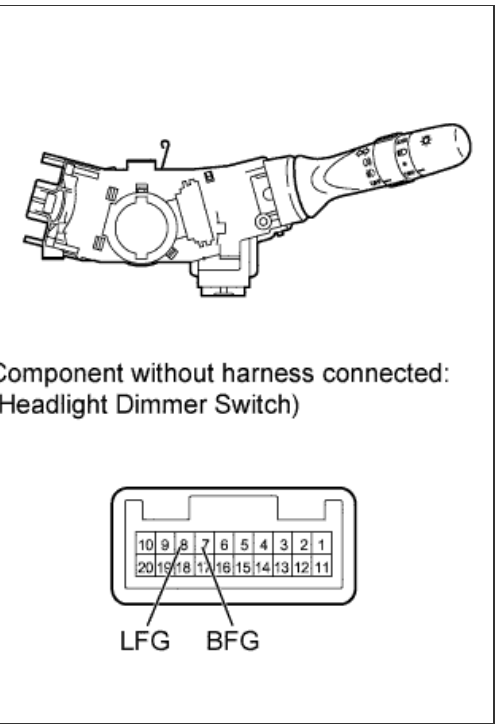
Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
7 (BFG) - 8 (LFG)	Headlight dimmer switch (Front fog light switch) on	Below 1 Ω
	Headlight dimmer switch (Front fog light switch) off	10 kΩ or higher

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C





B → REPLACE HEADLIGHT DIMMER SWITCH (Click here)

C → REPLACE HEADLIGHT DIMMER SWITCH (Click here)

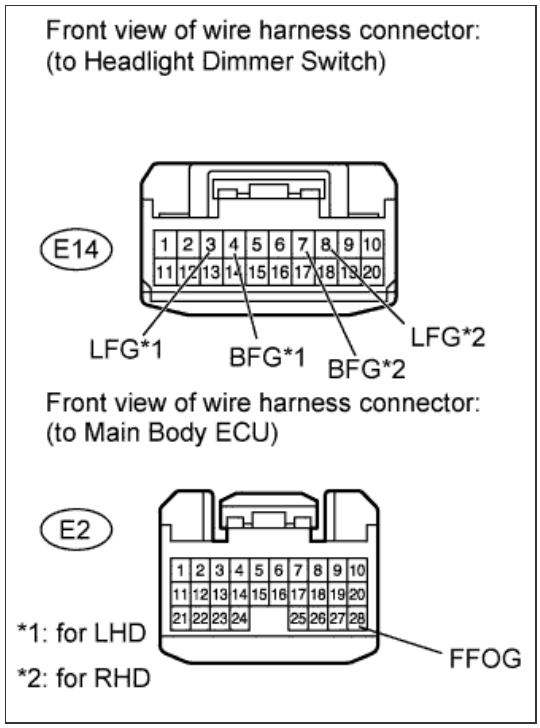
A →

4.CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER SWITCH - MAIN BODY ECU AND BODY GROUND)

a. Disconnect the E14 switch connector.

b. Disconnect the E2 ECU connector.

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



Standard Resistance:

for LHD:

Tester Connection	Condition	Specified Condition
E14-4 (BFG) - E2-28 (FFOG)	Always	Below 1 Ω
E14-3 (LFG) - Body ground		
E14-4 (BFG) - Body ground	Always	10 kΩ or higher

for RHD:

Tester Connection	Condition	Specified Condition
E14-7 (BFG) - E2-28 (FFOG)	Always	Below 1 Ω
E14-8 (LFG) - Body ground		
E14-7 (BFG) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

5.INSPECT FOG LIGHT RELAY (FR FOG)

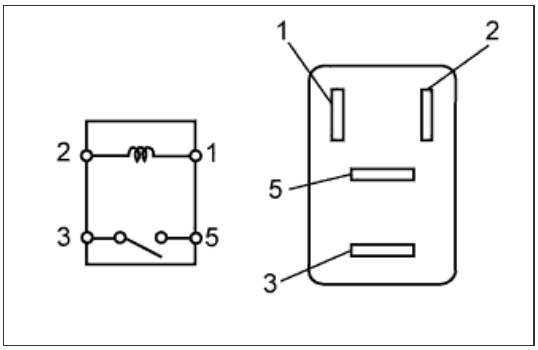
a. Remove the fog light relay from the engine room relay block.

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

Standard Resistance:

		Specified

Tester Connection	Condition	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



NG → REPLACE FOG LIGHT RELAY

OK

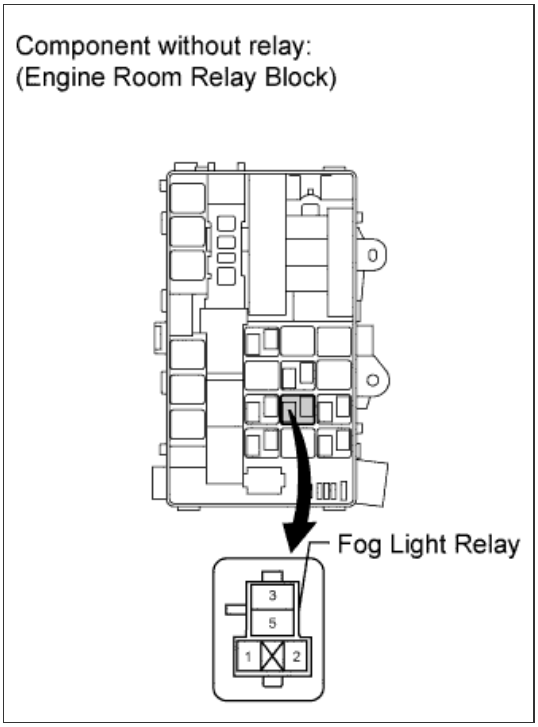
6.CHECK HARNESS AND CONNECTOR (FOG LIGHT RELAY - BATTERY)

a. Remove the fog light relay from the engine room relay block.

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

Standard Voltage:

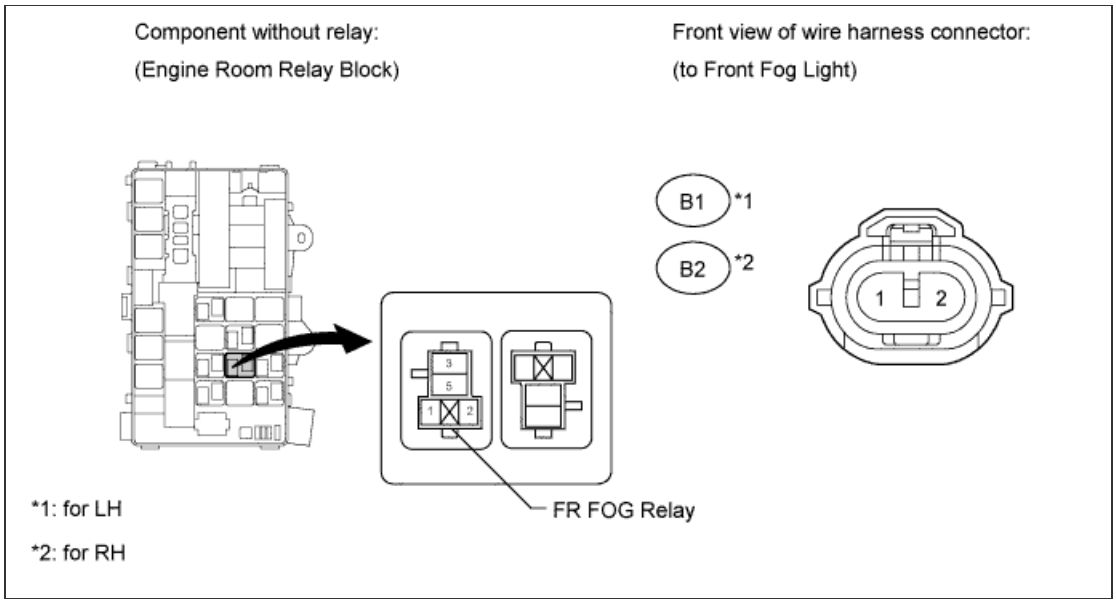
Tester Connection	Condition	Specified Condition
Fog light relay terminal 2 - Body ground	Light control switch tail	11 to 14 V
Fog light relay terminal 5 - Body ground	Always	



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

7.CHECK HARNESS AND CONNECTOR (FOG LIGHT - FOG LIGHT RELAY AND BODY GROUND)



a. Remove the fog light relay from the engine room relay block.

b. Disconnect the B1 and B2 light connectors.

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

Standard Resistance:
for LH:

Tester Connection	Condition	Specified Condition
Fog light relay terminal 3 - B1-1	Always	Below 1 Ω
B1-2 - Body ground		
B1-1 - Body ground	Always	10 kΩ or higher

Standard Resistance:
for RH:

Tester Connection	Condition	Specified Condition
Fog light relay terminal 3 - B2-1	Always	Below 1 Ω
B2-2 - Body ground		
B2-1 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

8.CHECK FRONT FOG LIGHT

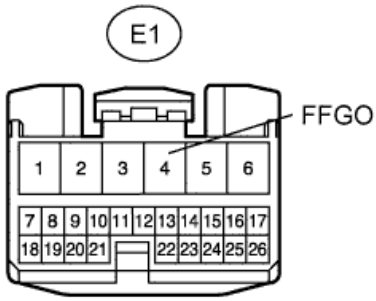
a. Disconnect the E1 ECU connector.

b. Using a service wire, connect terminal E1-4 (FFGO) on the wire harness side and the body ground.

c. Check that the front fog light illuminates.

OK:
Front fog light illuminates.

Front view of wire harness connector:
(to Main Body ECU)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR (FOG LIGHT RELAY - MAIN BODY ECU)

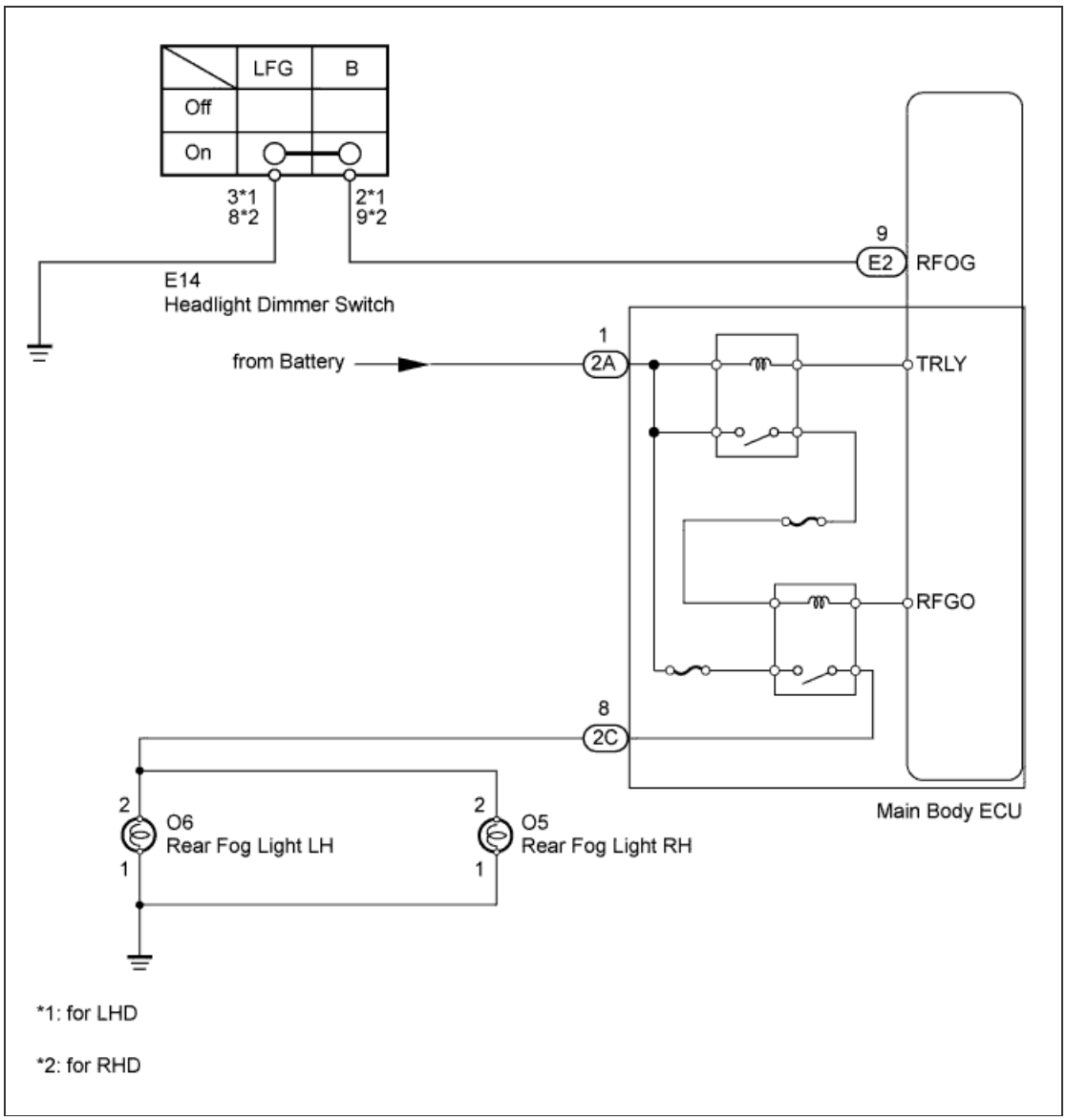
OK → REPLACE MAIN BODY ECU

for Preparation Click here

DESCRIPTION

The main body ECU receives a rear fog light switch information signal from the light control switch (rear fog switch), and illuminates the rear fog lights.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (HEADLIGHT DIMMER SWITCH)

a. Using the intelligent tester, read the Data List.

Main Body

Tester Display	Test Part	Control Range	Diagnostic Note
Rear Fog Light SW	Rear fog light switch signal/ON or OFF	ON: Rear fog light switch on OFF: Rear fog light switch off	-

OK:

When the headlight dimmer switch operation is performed, the result will be the same as above.

NG	Go to step 3
OK	

2.PERFORM ACTIVE TEST USING INTELLIGENT TESTER

a. Using the intelligent tester, perform the Active Test.

Main Body

Tester Display	Test Part	Control Range	Diagnostic Note
Rear Fog Light Relay	Rear fog light	OFF/ON	-

OK:
Fog light turns on/turns off.

NG → Go to step 5

OK

REPLACE MAIN BODY ECU

3.INSPECT HEADLIGHT DIMMER SWITCH

a. for LHD:

i. Remove the headlight dimmer switch (Click here).

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
2 (B) - 3 (LFG)	Headlight dimmer switch (Rear fog light switch) on	Below 1 Ω
	Headlight dimmer switch (Rear fog light switch) off	10 kΩ or higher

b. for RHD:

i. Remove the headlight dimmer switch (Click here).

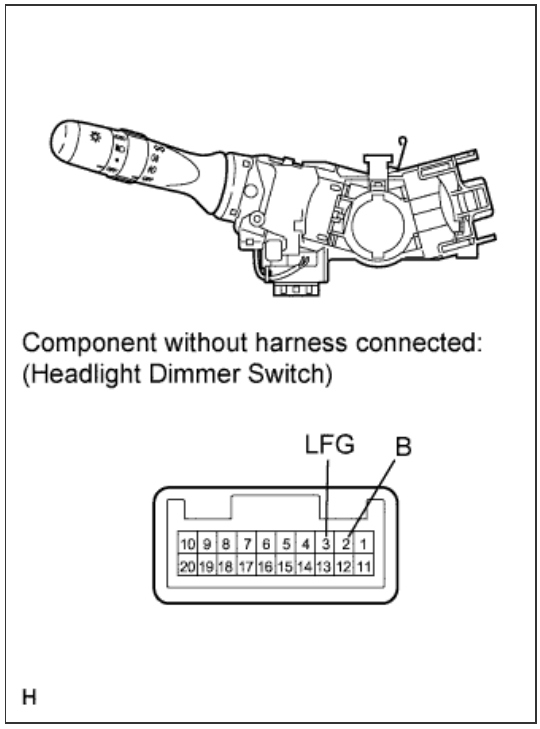
ii. Measure the resistance according to the value(s) in the table below.

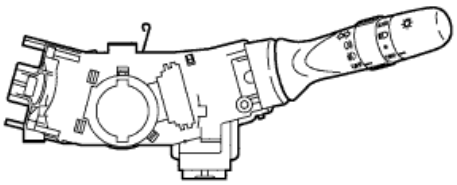
Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
9 (B) - 8 (LFG)	Headlight dimmer switch (Rear fog light switch) on	Below 1 Ω
	Headlight dimmer switch (Rear fog light switch) off	10 kΩ or higher

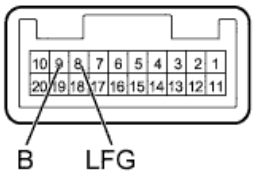
Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C





Component without harness connected:
(Headlight Dimmer Switch)



H

B	REPLACE HEADLIGHT DIMMER SWITCH (Click here)
C	REPLACE HEADLIGHT DIMMER SWITCH (Click here)

A

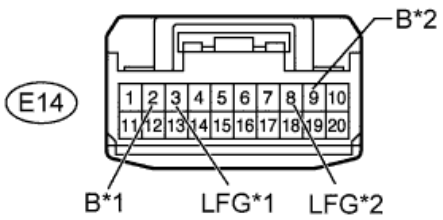
4.CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER SWITCH - MAIN BODY ECU)

a. Disconnect the E14 switch connector.

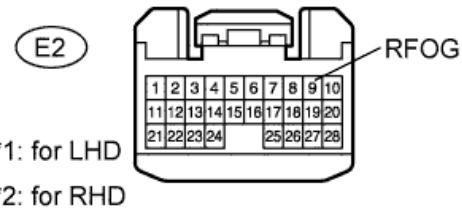
b. Disconnect the E2 ECU connector.

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

Front view of wire harness connector:
(to Headlight Dimmer Switch)



Front view of wire harness connector:
(to Main Body ECU)



*1: for LHD

*2: for RHD

Standard Resistance:

for LHD:

Tester Connection	Condition	Specified Condition
E14-2 (B) - E2-9 (RFOG)	Always	Below 1 Ω
E14-3 (LFG) - Body ground		
E14-2 (B) - Body ground	Always	10 kΩ or higher

for RHD:

Tester Connection	Condition	Specified Condition
E14-9 (B) - E2-9 (RFOG)	Always	Below 1 Ω
E14-8 (LFG) - Body ground		
E14-9 (B) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

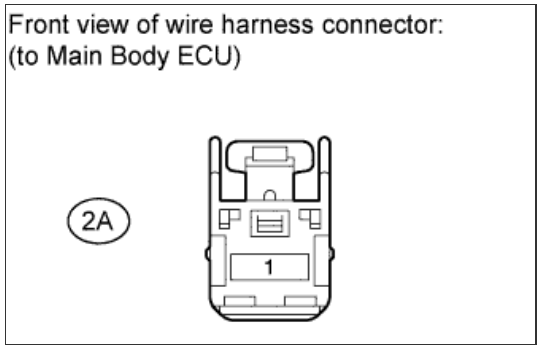
OK

REPLACE MAIN BODY ECU

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

a. Disconnect the 2A ECU connector.

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



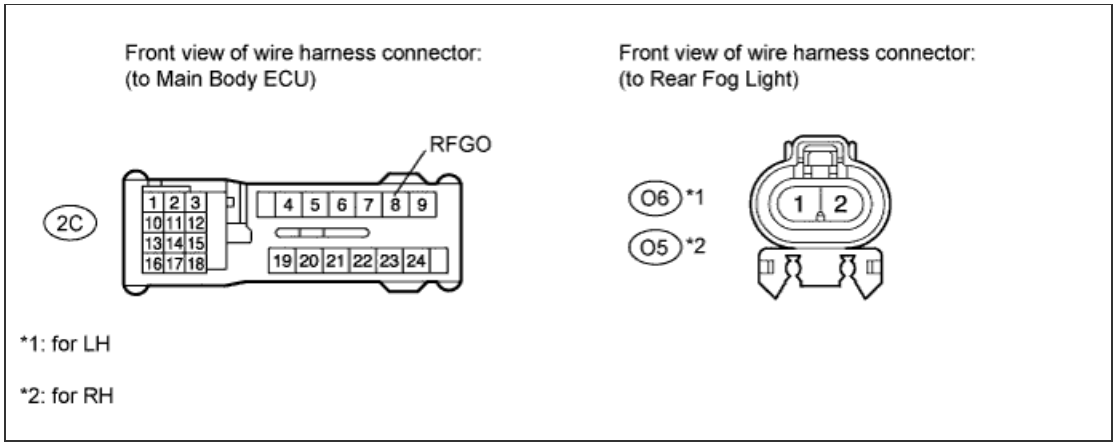
Standard Voltage:

Tester Connection	Condition	Specified Condition
2A-1 - Body ground	Always	11 to 14 V

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

6.CHECK HARNESS AND CONNECTOR (REAR FOG LIGHT - MAIN BODY ECU AND BODY GROUND)



a. Disconnect the 2C ECU connector.

b. Disconnect the O5 and O6 light connectors.

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

Standard Resistance:

for LH:

Tester Connection	Condition	Specified Condition
2C-8 (RFGO) -		

O6-2	Always	Below 1 Ω
O6-1 - Body ground		
O6-2 - Body ground	Always	10 kΩ or higher

for RH:

Tester Connection	Condition	Specified Condition
2C-8 (RFGO) - O5-2	Always	Below 1 Ω
O5-1 - Body ground		
O5-2 - Body ground	Always	10 kΩ or higher

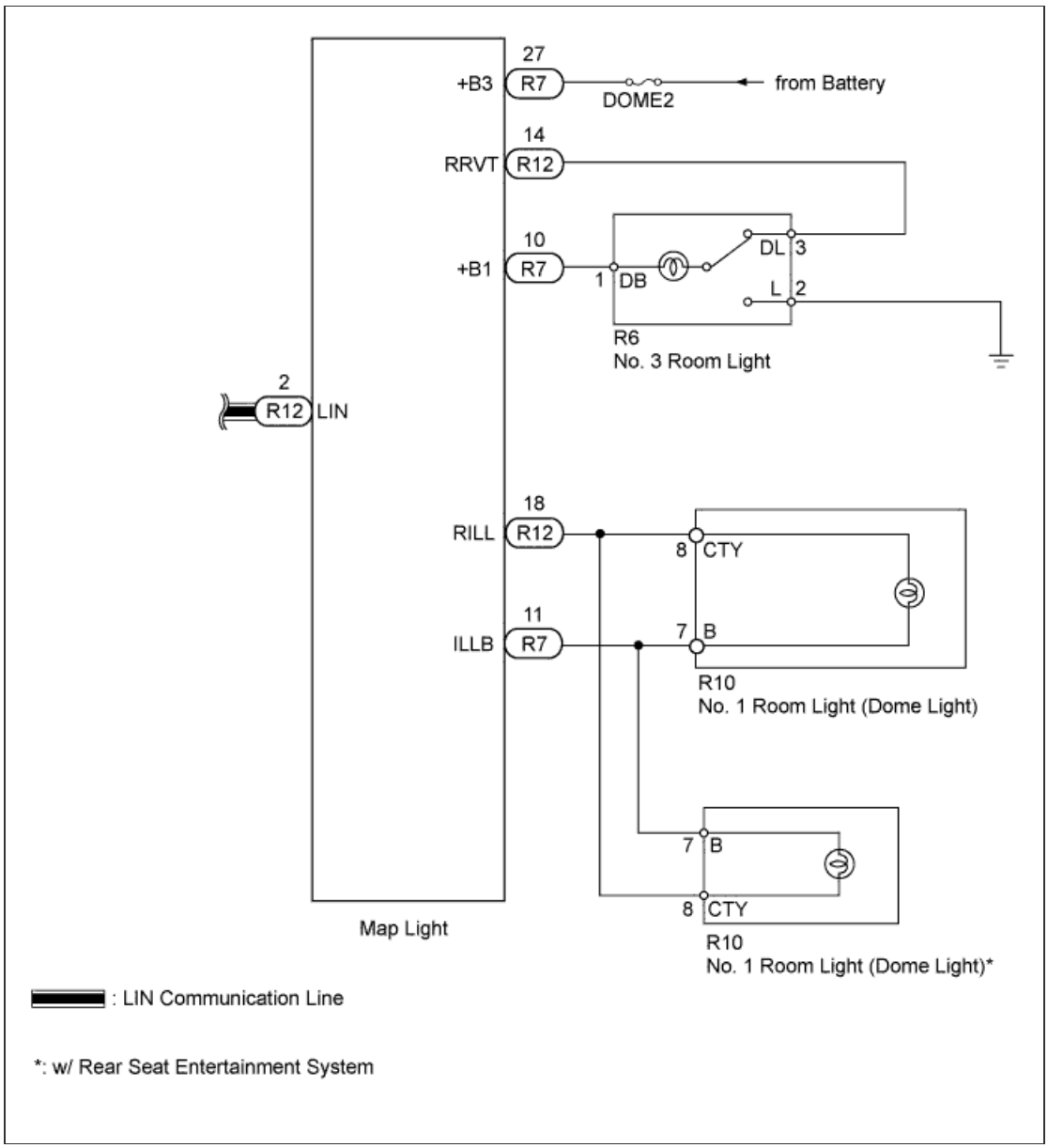
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE REAR FOG LIGHT (Click here)

for Preparation Click here

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

First perform the communication function inspections in How to Proceed with Troubleshooting to confirm that there are no LIN communication malfunctions before troubleshooting this symptom.

1.CHECK CONDITION

a. Check the malfunction conditions.

Result

Result	Proceed to
All conditions below	A
Engine switch on (ACC) or on (IG) → Engine switch off	B
All doors opened → a door closed	C
All doors locked → a door unlocked	D

B	REPLACE MAIN BODY ECU
C	GO TO COURTESY LIGHT SWITCH (Click here)
D	GO TO POWER DOOR LOCK CONTROL SYSTEM (Click here)

A

2.CONFIRM LIGHT POSITION

a. Check the malfunctioning dome light.

Result

Result	Proceed to
Room No. 1 light does not operate	A
Room No. 3 light does not operate	B
Map light does not operate	C

B	Go to step 6
C	REPLACE MAP LIGHT (Click here)

A

3.CHECK HARNESS AND CONNECTOR (MAP LIGHT - BATTERY)

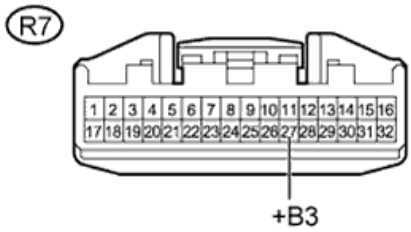
a. Disconnect the R7 light connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
R7-27 (+B3) - Body ground	Always	11 to 14 V

Front view of wire harness connector: (to Map Light)



NG	REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

4.CHECK HARNESS AND CONNECTOR (MAP LIGHT - ROOM NO. 1 LIGHT)

a. Disconnect the R7 and R12 map light connectors.

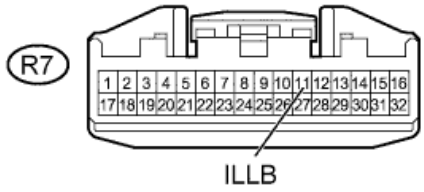
b. Disconnect the R10 light connector.

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

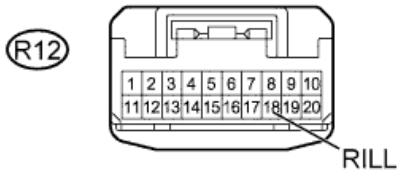
Standard Resistance:

Tester Connection	Condition	Specified Condition
R7-11 (ILLB) - R10-7 (B)	Always	Below 1 Ω
R12-18 (RILL) - R10-8 (CTY)		
R7-11 (ILLB) - Body ground	Always	10 kΩ or higher
R12-18 (RILL) - Body ground		

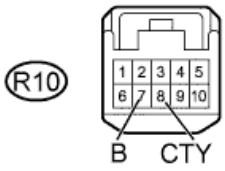
Front view of wire harness connector:
(to Map Light)



Front view of wire harness connector:
(to Map Light)



Front view of wire harness connector:
(to No. 1 Room Light)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5.CHECK ROOM NO. 1 LIGHT (OPERATION)

a. Temporarily replace the room No. 1 light with a new or normally functioning one.

w/ Rear Seat Entertainment System (Click here)
w/o Rear Seat Entertainment System (Click here)

b. Check the room No. 1 light operation.

OK:
Room No. 1 light operation is normal.

Result

Result	Proceed to
OK (w/ Rear Seat Entertainment System)	A
OK (w/o Rear Seat Entertainment System)	B
NG	C

B → END (ROOM NO. 1 LIGHT IS DEFECTIVE)

C → REPLACE MAP LIGHT (Click here)

A

END (ROOM NO. 1 LIGHT IS DEFECTIVE)

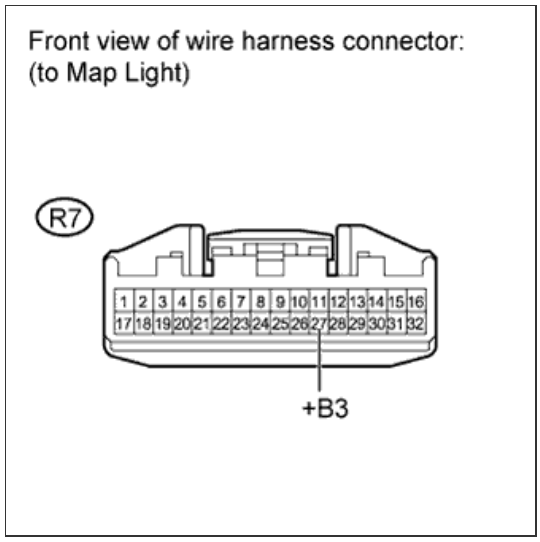
6.CHECK HARNESS AND CONNECTOR (MAP LIGHT - BATTERY)

a. Disconnect the R7 light connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
R7-27 (+B3) - Body ground	Always	11 to 14 V



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

7.CHECK HARNESS AND CONNECTOR (ROOM NO. 3 LIGHT - MAP LIGHT AND BODY GROUND)

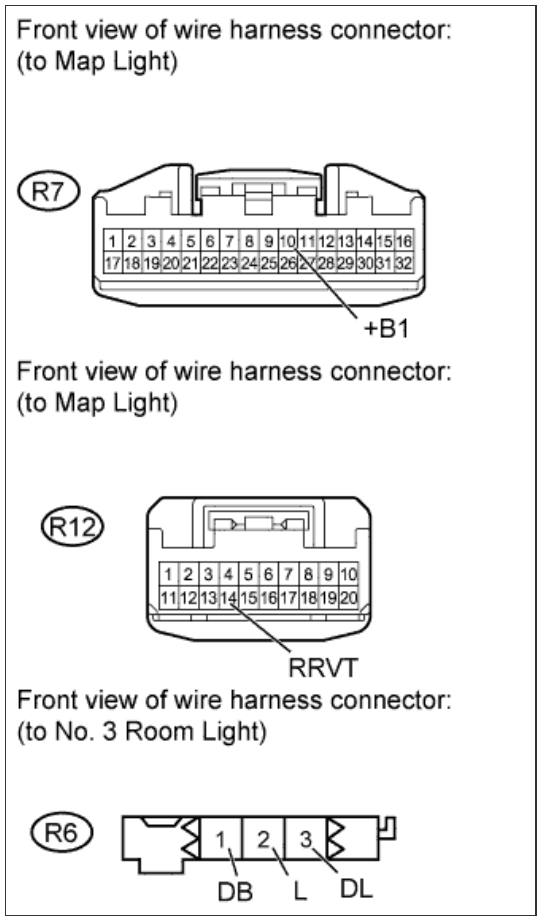
a. Disconnect the R7 and R12 map light connectors.

b. Disconnect the R6 light connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
R7-10 (+B1) - R6-1 (DB)	Always	Below 1 Ω
R12-14 (RRVT) - R6-3 (DL)		
R6-2 (L) - Body ground		
R7-10 (+B1) - Body ground	Always	10 kΩ or higher
R12-14 (RRVT) - Body ground		



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

8.CHECK ROOM NO. 3 LIGHT (OPERATION)

a. Temporarily replace the room No. 3 light with a new or normally functioning one (Click here).

b. Check the room No. 3 light operation.

OK:

Room No. 3 light operation is normal.

NG → REPLACE MAP LIGHT (Click here)

OK

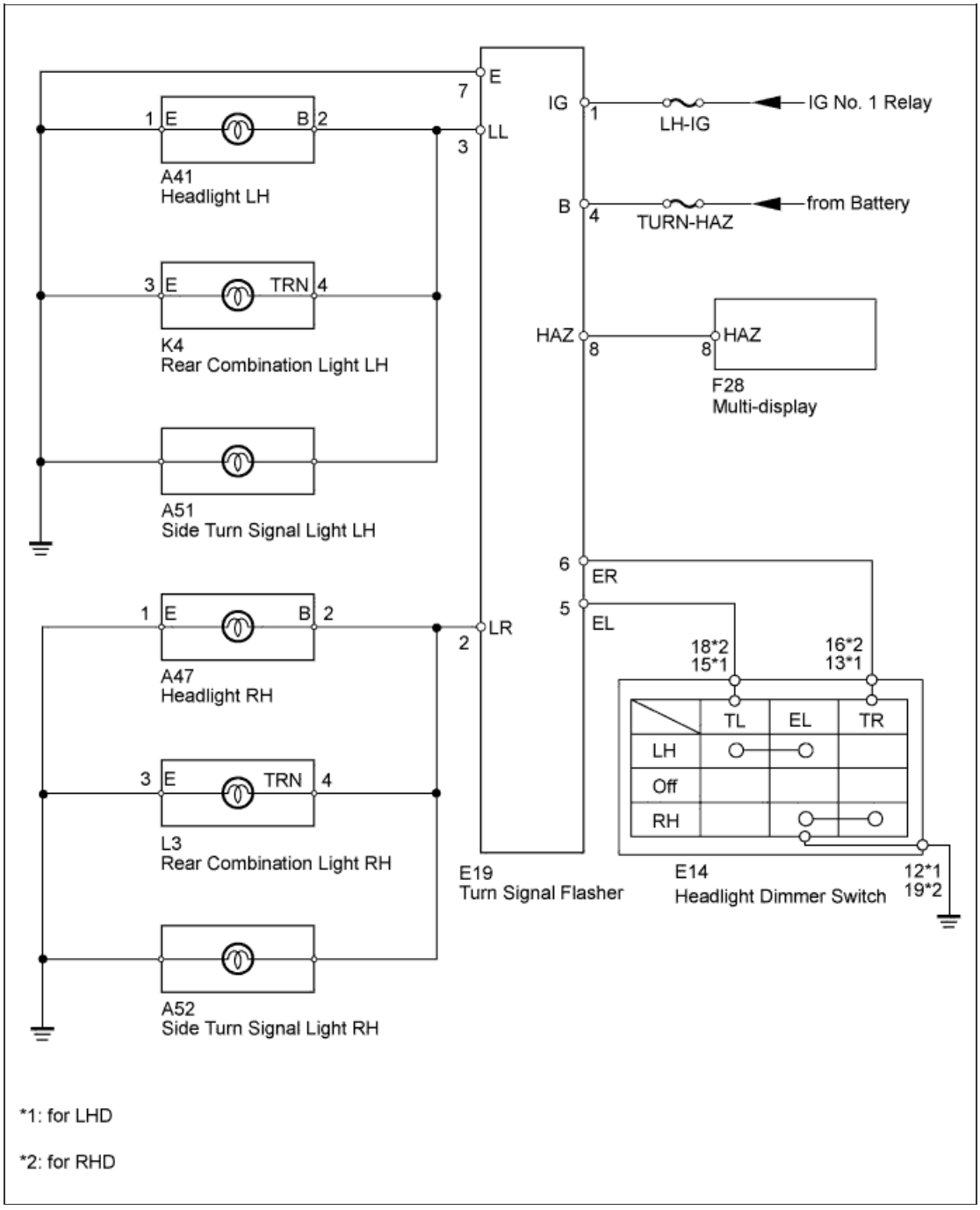
END (ROOM NO. 3 LIGHT IS DEFECTIVE)

for Preparation Click here

DESCRIPTION

The turn signal flasher receives a turn signal switch signal from the headlight dimmer switch, and illuminates the headlights, side turn signal lights and rear combination lights.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.CHECK SWITCH FUNCTION

a. Check if the hazard warning switch and headlight dimmer switch operate normally.

Result

Result	Proceed to
Hazard warning switch and headlight dimmer switch do not operate	A

Only headlight dimmer switch does not operate	B
Only hazard warning switch does not operate	C

B → Go to step 6

C → Go to step 8

A

2.CHECK HARNESS AND CONNECTOR (TURN SIGNAL FLASHER - BATTERY AND BODY GROUND)

a. Disconnect the turn signal flasher connector.

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

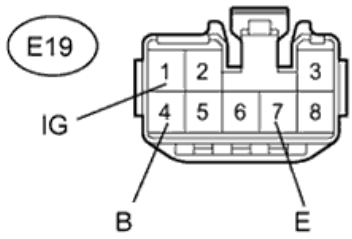
Standard Resistance:

Tester Connection	Condition	Specified Condition
E19-7 (E) - Body ground	Always	Below 1 Ω

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
E19-1 (IG) - Body ground	Engine switch on (IG)	11 to 14 V
E19-4 (B) - Body ground	Always	11 to 14 V

Front view of wire harness connector:
(to Turn Signal Flasher)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3.CHECK TURN SIGNAL LIGHT FUNCTION

a. Check the malfunctioning turn signal light.

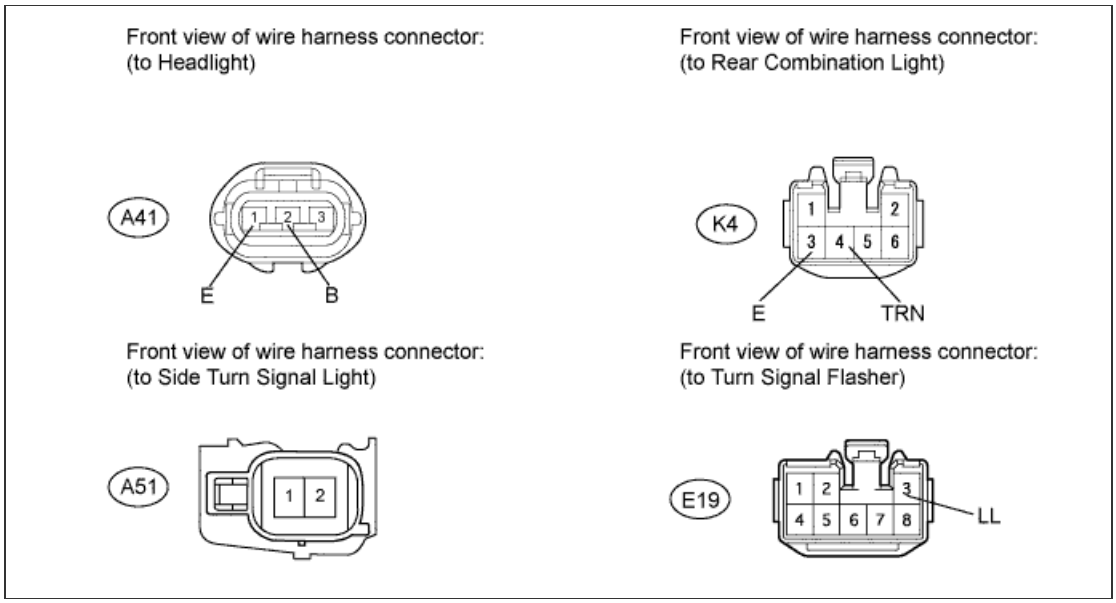
Result

Result	Proceed to
LH	A
RH	B

B → Go to step 5

A

4.CHECK HARNESS AND CONNECTOR (TURN SIGNAL LIGHT - TURN SIGNAL FLASHER AND BODY GROUND)



a. Disconnect the E19 turn signal flasher connector.

b. Headlight:

i. Disconnect the A41 connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
A41-2 (B) - E19-3 (LL)	Always	Below 1 Ω
A41-1 (E) - Body ground		
A41-2 (B) - Body ground	Always	10 kΩ or higher

c. Rear Combination Light:

i. Disconnect the K4 connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
K4-4 (TRN) - E19-3 (LL)	Always	Below 1 Ω
K4-3 (E) - Body ground		
K4-4 (TRN) - Body ground	Always	10 kΩ or higher

d. Side Turn Signal Light:

i. Disconnect the A51 connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
A51-2 - E19-3 (LL)	Always	Below 1 Ω
A51-1 - Body ground		
A51-2 - Body ground	Always	10 kΩ or higher

Result

Result	Proceed to
OK (Headlight does not flash)	A
OK (Rear combination light does not flash)	B
OK (Side turn signal light does not flash)	C
NG	D

B → REPLACE REAR COMBINATION LIGHT (Click here)

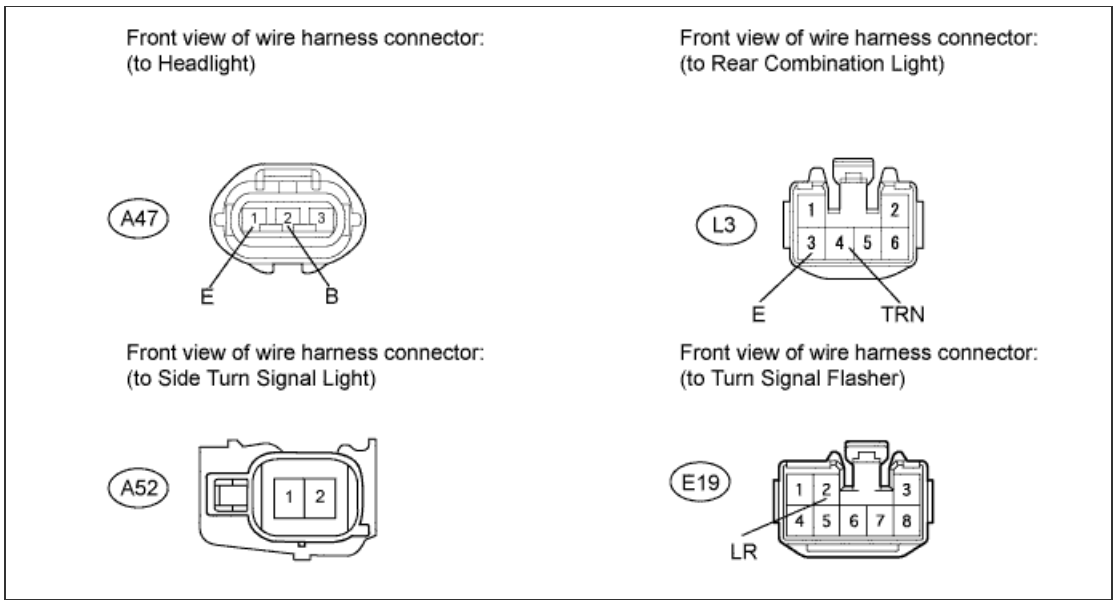
C → REPLACE SIDE TURN SIGNAL LIGHT (Click here)

D → REPAIR OR REPLACE HARNESS OR CONNECTOR

A

REPLACE HEADLIGHT (Click here)

5.CHECK HARNESS AND CONNECTOR (TURN SIGNAL LIGHT - TURN SIGNAL FLASHER AND BODY GROUND)



a. Disconnect the E19 turn signal flasher connector.

b. Headlight:

i. Disconnect the A47 connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
A47-2 (B) - E19-2 (LR)	Always	Below 1 Ω
A47-1 (E) - Body ground		
A47-2 (B) - Body ground	Always	10 kΩ or higher

c. Rear Combination Light:

i. Disconnect the L3 connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
L3-4 (TRN) - E19-2 (LR)		

L3-3 (E) - Body ground	Always	Below 1 Ω
L3-4 (TRN) - Body ground	Always	10 kΩ or higher

d. Side Turn Signal Light:

i. Disconnect the A52 connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
A52-2 - E19-2 (LR)	Always	Below 1 Ω
A52-1 - Body ground		
A52-2 - Body ground	Always	10 kΩ or higher

Result

Result	Proceed to
OK (Headlight does not flash)	A
OK (Rear combination light does not flash)	B
OK (Side turn signal light does not flash)	C
NG	D

B → REPLACE REAR COMBINATION LIGHT (Click here)

C → REPLACE SIDE TURN SIGNAL LIGHT (Click here)

D → REPAIR OR REPLACE HARNESS OR CONNECTOR

A

REPLACE HEADLIGHT (Click here)

6.INSPECT HEADLIGHT DIMMER SWITCH (TURN SIGNAL SWITCH)

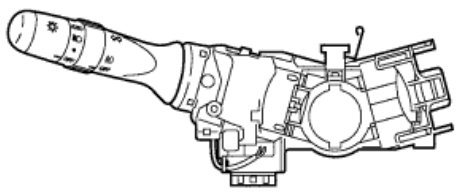
a. for LHD:

i. Remove the headlight dimmer switch (Click here).

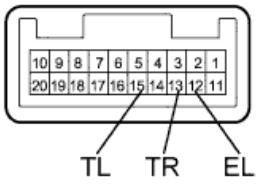
ii. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
13 (TR) - 12 (EL)	Headlight dimmer switch right turn	Below 1 Ω
	Headlight dimmer switch off	10 kΩ or higher
15 (TL) - 12 (EL)	Headlight dimmer switch left turn	Below 1 Ω
	Headlight dimmer switch off	10 kΩ or higher



Component without harness connected:
(Headlight Dimmer Switch)



H

b. for RHD:

i. Remove the headlight dimmer switch (Click here).

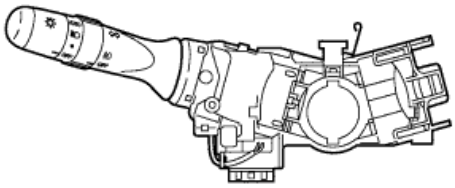
ii. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

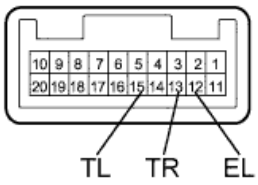
Tester Connection	Switch Condition	Specified Condition
16 (TR) - 19 (EL)	Turn signal switch right turn	Below 1 Ω
	Turn signal switch off	10 kΩ or higher
18 (TL) - 19 (EL)	Turn signal switch left turn	Below 1 Ω
	Turn signal switch off	10 kΩ or higher

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C



Component without harness connected:
(Headlight Dimmer Switch)



H

B → REPLACE HEADLIGHT DIMMER SWITCH (Click here)

C → REPLACE HEADLIGHT DIMMER SWITCH (Click here)

A

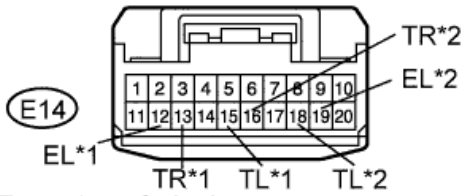
7.CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER SWITCH - TURN SIGNAL FLASHER AND BODY GROUND)

a. Disconnect the E14 switch connector.

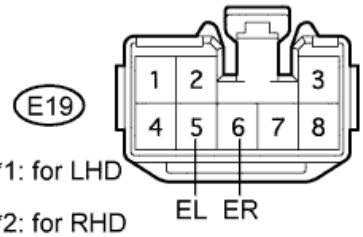
b. Disconnect the E19 turn signal flasher connector.

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

Front view of wire harness connector:
(to Headlight Dimmer Switch)



Front view of wire harness connector:
(to Turn Signal Flasher)



P

Standard Resistance:
for LHD:

Tester Connection	Condition	Specified Condition
E14-13 (TR) - E19-		

6 (ER)	Always	Below 1 Ω
E14-15 (TL) - E19-5 (TL)		
E14-12 (EL) - Body ground		
E14-13 (TR) - Body ground	Always	10 kΩ or higher
E14-15 (TL) - Body ground		

for RHD:

Tester Connection	Condition	Specified Condition
E14-16 (TR) - E19-6 (ER)	Always	Below 1 Ω
E14-18 (TL) - E19-5 (TL)		
E14-19 (EL) - Body ground		
E14-13 (TR) - Body ground	Always	10 kΩ or higher
E14-15 (TL) - Body ground		

Result

Result	Proceed to
OK (for LHD)	A
OK (for RHD)	B
NG	C

B	REPLACE TURN SIGNAL FLASHER (Click here)
C	REPAIR OR REPLACE HARNESS OR CONNECTOR

A

REPLACE TURN SIGNAL FLASHER (Click here)

8.CHECK HARNESS AND CONNECTOR (TURN SIGNAL FLASHER - MULTI-DISPLAY)

a. Disconnect the E19 turn signal flasher connector.

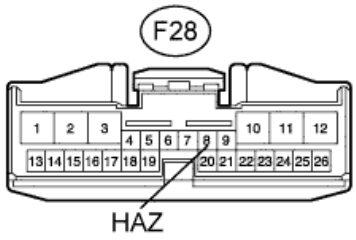
b. Disconnect the F28 multi-display connector.

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

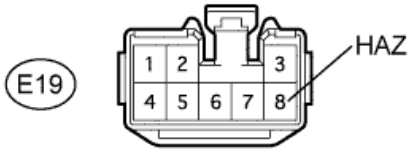
Standard Resistance:

Tester Connection	Condition	Specified Condition
F28-8 (HAZ) - E19-8 (HAZ)	Always	Below 1 Ω
F28-8 (HAZ) - body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Multi-display)



Front view of wire harness connector:
(to Turn Signal Flasher)



NG	REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

9.CHECK MULTI-DISPLAY (HAZARD WARNING SWITCH)

a. Temporarily replace the multi-display with a new or normally functioning one (Click here).

b. Check the hazard warning switch operation.

OK:
Hazard warning switch operation is normal.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE TURN SIGNAL FLASHER (**Click here**)

C → REPLACE TURN SIGNAL FLASHER (**Click here**)

A

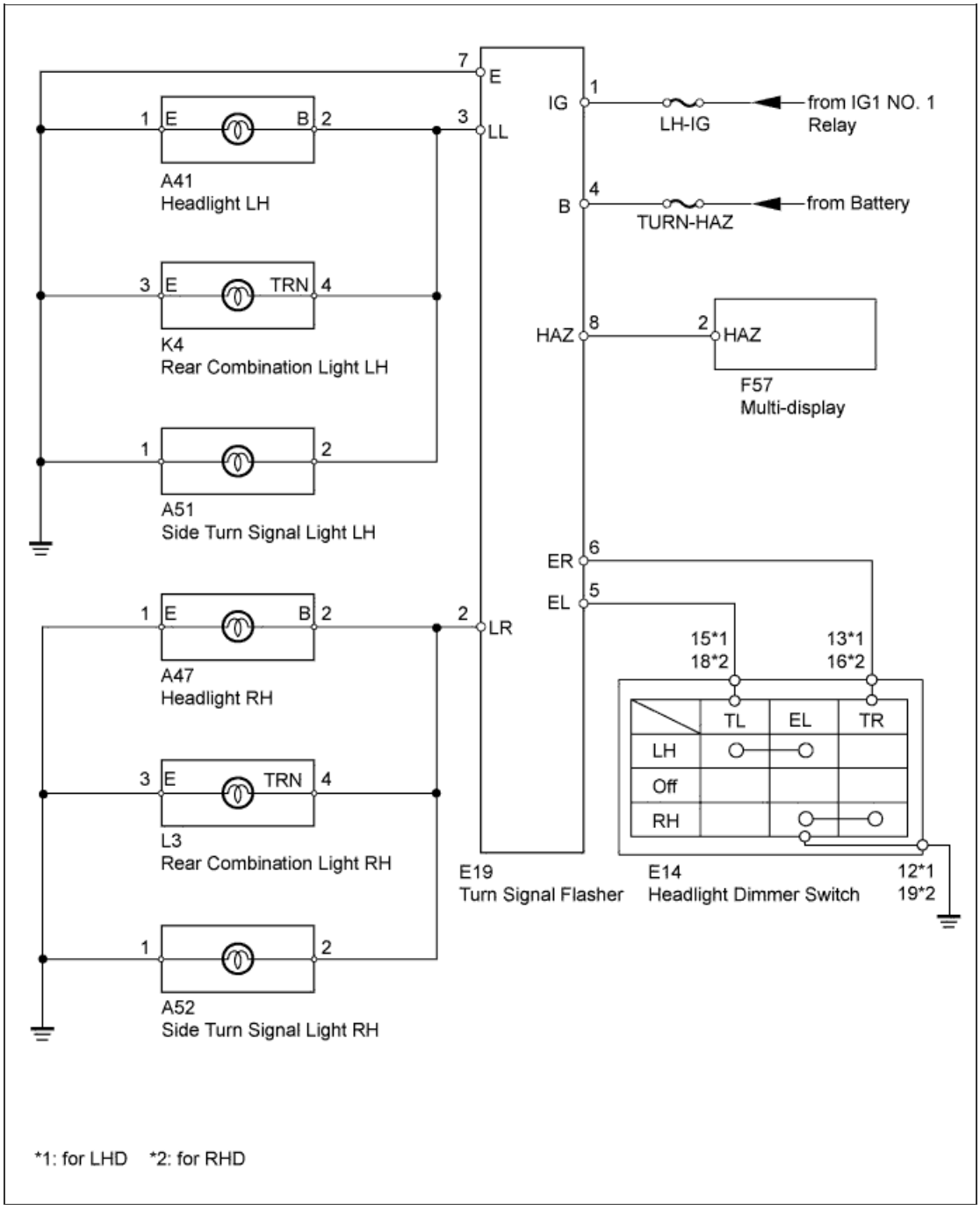
END (MULTI-DISPLAY IS DEFECTIVE)

for Preparation Click here

DESCRIPTION

The turn signal flasher receives a turn signal switch signal from the headlight dimmer switch, and illuminates the headlights, side turn signal lights and rear combination lights.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

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

1.CHECK SWITCH FUNCTION

a. Check if the hazard warning switch and headlight dimmer switch operate normally.

Result

Result	Proceed to
Hazard warning switch and headlight dimmer switch do not operate	A
Only headlight dimmer switch does not operate	B
Only hazard warning switch does not operate	C

B → Go to step 6

C → Go to step 8

A

2.CHECK HARNESS AND CONNECTOR (TURN SIGNAL FLASHER - BATTERY AND BODY GROUND)

a. Disconnect the E19 turn signal flasher connector.

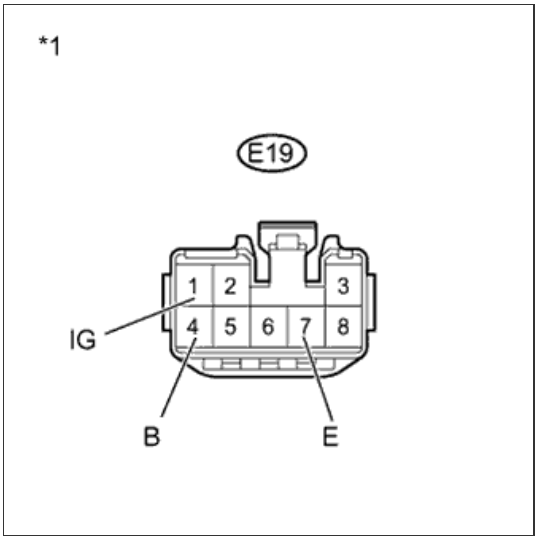
b. Measure the resistance and voltage according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Condition	Specified Condition
E19-7 (E) - Body ground	Always	Below 1 Ω

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
E19-1 (IG) - Body ground	Engine switch on (IG)	11 to 14 V
E19-4 (B) - Body ground	Always	11 to 14 V



Text in Illustration

*1	Front view of wire harness connector (to Turn Signal Flasher)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3.CHECK TURN SIGNAL LIGHT FUNCTION

a. Check the malfunctioning turn signal light.

Result

Result	Proceed to
LH	A
RH	B

B → Go to step 5

A

4.CHECK HARNESS AND CONNECTOR (TURN SIGNAL LIGHT - TURN SIGNAL FLASHER AND BODY GROUND)

a. Disconnect the E19 turn signal flasher connector.

b. Headlight:

i. Disconnect the A41 connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
A41-2 (B) - E19-3 (LL)	Always	Below 1 Ω
A41-1 (E) - Body ground	Always	Below 1 Ω
A41-2 (B) - Body ground	Always	10 kΩ or higher

c. Rear Combination Light:

i. Disconnect the K4 connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
K4-4 (TRN) - E19-3 (LL)	Always	Below 1 Ω
K4-3 (E) - Body ground	Always	Below 1 Ω
K4-4 (TRN) - Body ground	Always	10 kΩ or higher

d. Side Turn Signal Light:

i. Disconnect the A51 connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
A51-2 - E19-3 (LL)	Always	Below 1 Ω
A51-1 - Body ground	Always	Below 1 Ω
A51-2 - Body ground	Always	10 kΩ or higher

Result

Result	Proceed to
NG	A
OK (Headlight does not flash)	B
OK (Rear combination light does not flash)	C
OK (Side turn signal light does not flash)	D

B → REPLACE HEADLIGHT (Click here)

C → REPLACE REAR COMBINATION LIGHT (Click here)

D → REPLACE SIDE TURN SIGNAL LIGHT (Click here)

A

REPAIR OR REPLACE HARNESS OR CONNECTOR

5.CHECK HARNESS AND CONNECTOR (TURN SIGNAL LIGHT - TURN SIGNAL FLASHER AND BODY GROUND)

a. Disconnect the E19 turn signal flasher connector.

b. Headlight:

i. Disconnect the A47 connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
A47-2 (B) - E19-2 (LR)	Always	Below 1 Ω
A47-1 (E) - Body ground	Always	Below 1 Ω
A47-2 (B) - Body ground	Always	10 kΩ or higher

c. Rear Combination Light:

i. Disconnect the L3 connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
L3-4 (TRN) - E19-2 (LR)	Always	Below 1 Ω
L3-3 (E) - Body ground	Always	Below 1 Ω
L3-4 (TRN) - Body ground	Always	10 kΩ or higher

d. Side Turn Signal Light:

i. Disconnect the A52 connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
A52-2 - E19-2 (LR)	Always	Below 1 Ω
A52-1 - Body ground	Always	Below 1 Ω
A52-2 - Body ground	Always	10 kΩ or higher

Result

Result	Proceed to
NG	A
OK (Headlight does not flash)	B
OK (Rear combination light does not flash)	C
OK (Side turn signal light does not flash)	D

B → REPLACE HEADLIGHT (Click here)

C → REPLACE REAR COMBINATION LIGHT (Click here)

D → REPLACE SIDE TURN SIGNAL LIGHT (Click here)

A

REPAIR OR REPLACE HARNESS OR CONNECTOR

6.INSPECT HEADLIGHT DIMMER SWITCH (TURN SIGNAL SWITCH)

a. for LHD:

i. Remove the headlight dimmer switch (Click here).

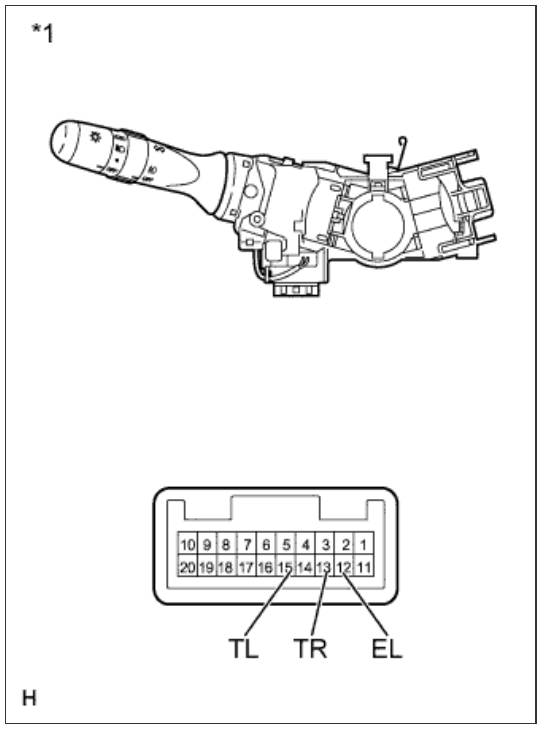
ii. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
13 (TR) - 12 (EL)	Headlight dimmer switch right turn	Below 1 Ω
	Headlight dimmer switch off	10 kΩ or higher
15 (TL) - 12 (EL)	Headlight dimmer switch left turn	Below 1 Ω
	Headlight dimmer switch off	10 kΩ or higher

Text in Illustration

*1	Component without harness connected (Headlight Dimmer Switch)



b. for RHD:

i. Remove the headlight dimmer switch (Click here).

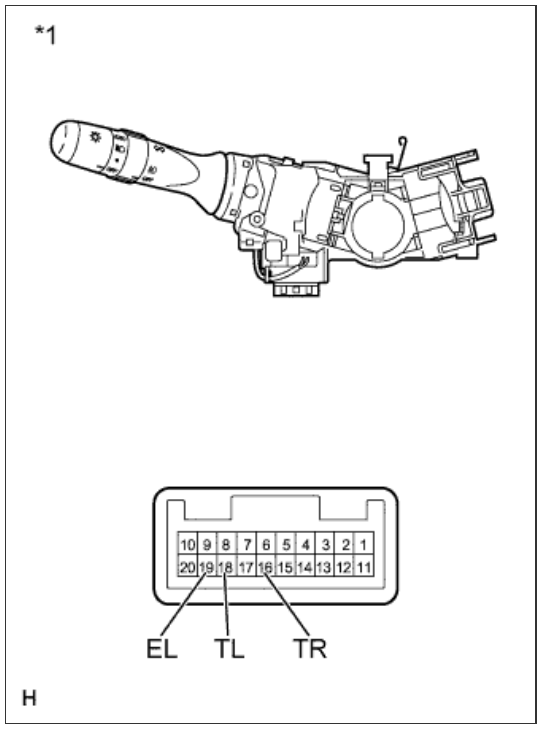
ii. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
16 (TR) - 19 (EL)	Turn signal switch right turn	Below 1 Ω
	Turn signal switch off	10 kΩ or higher
18 (TL) - 19 (EL)	Turn signal switch left turn	Below 1 Ω
	Turn signal switch off	10 kΩ or higher

Text in Illustration

*1	Component without harness connected (Headlight Dimmer Switch)



NG → REPLACE HEADLIGHT DIMMER SWITCH (Click here)

OK

7.CHECK HARNESS AND CONNECTOR (HEADLIGHT DIMMER SWITCH - TURN SIGNAL FLASHER AND BODY GROUND)

a. Disconnect the E14 switch connector.

b. Disconnect the E19 turn signal flasher connector.

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

Standard Resistance:
for LHD:

Tester Connection	Condition	Specified Condition
E14-13 (TR) - E19-6 (ER)	Always	Below 1 Ω

E14-15 (TL) - E19-5 (TL)	Always	Below 1 Ω
E14-12 (EL) - Body ground	Always	Below 1 Ω
E14-13 (TR) - Body ground	Always	10 kΩ or higher
E14-15 (TL) - Body ground	Always	10 kΩ or higher

for RHD:

Tester Connection	Condition	Specified Condition
E14-16 (TR) - E19-6 (ER)	Always	Below 1 Ω
E14-18 (TL) - E19-5 (TL)	Always	Below 1 Ω
E14-19 (EL) - Body ground	Always	Below 1 Ω
E14-16 (TR) - Body ground	Always	10 kΩ or higher
E14-18 (TL) - Body ground	Always	10 kΩ or higher

Result

Result	Proceed to
NG	A
OK (for LHD)	B
OK (for RHD)	C

B → REPLACE TURN SIGNAL FLASHER (Click here)

C → REPLACE TURN SIGNAL FLASHER (Click here)

A

REPAIR OR REPLACE HARNESS OR CONNECTOR

8.CHECK HARNESS AND CONNECTOR (TURN SIGNAL FLASHER - MULTI-DISPLAY)

a. Disconnect the E19 turn signal flasher connector.

b. Disconnect the F57 multi-display connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
F57-2 (HAZ) - E19-8 (HAZ)	Always	Below 1 Ω
F57-2 (HAZ) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

9.CHECK MULTI-DISPLAY (HAZARD WARNING SWITCH)

a. Temporarily replace the multi-display with a new or normally functioning one (Click here).

b. Check the hazard warning switch operation.

OK:

Hazard warning switch operation is normal.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE TURN SIGNAL FLASHER (Click here)

C → REPLACE TURN SIGNAL FLASHER (Click here)

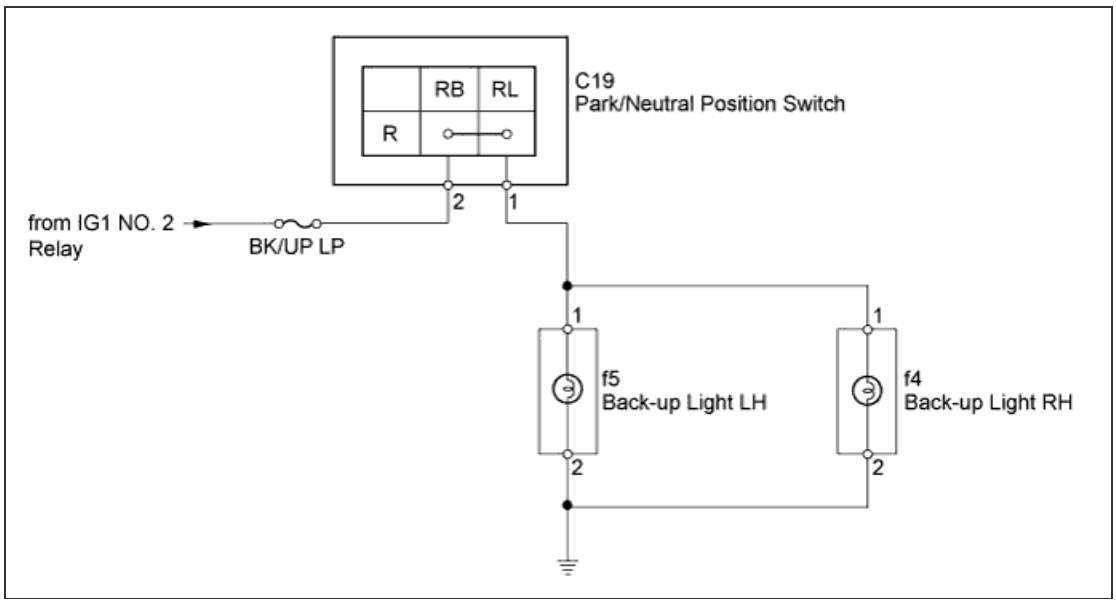
A → END (MULTI-DISPLAY IS DEFECTIVE)

for Preparation Click here

DESCRIPTION

The park/neutral position switch turns on when the shift lever is moved to R, causing the back-up lights to illuminate.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.INSPECT PARK/NEUTRAL POSITION SWITCH

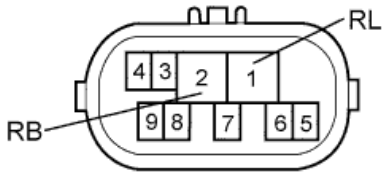
a. Remove the park/neutral position switch (Click here).

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

Standard Resistance:

Tester Connection	Condition	Specified Connection
2 (RB) - 1 (RL)	Shift lever in R	Below 1 Ω
2 (RB) - 1 (RL)	Shift lever not in R	10 kΩ or higher

Component without harness connected:
(Park/Neutral Position Switch)



NG → REPLACE PARK/NEUTRAL POSITION SWITCH (Click here)

OK

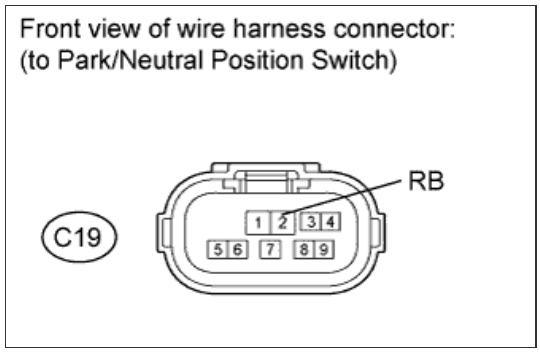
2.CHECK HARNESS AND CONNECTOR (PARK/NEUTRAL POSITION SWITCH - BATTERY)

a. Disconnect the C19 switch connector.

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

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
C19-2 (RB) - Body ground	Engine switch on (IG)	11 to 14 V



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

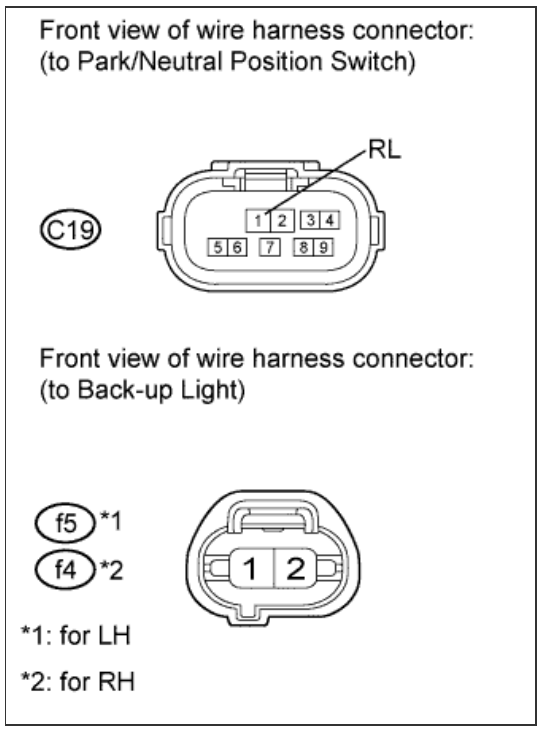
OK

3.CHECK HARNESS AND CONNECTOR (BACK-UP LIGHT - PARK/NEUTRAL POSITION SWITCH AND BODY GROUND)

a. Disconnect the C19 switch connector.

b. Disconnect the f4 and f5 light connectors.

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



Standard Resistance:

for LH:

Tester Connection	Condition	Specified Condition
C19-1 (RL) - f5-1	Always	Below 1 Ω
f5-2 - Body ground		
f5-1 - Body ground	Always	10 kΩ or higher

for RH:

Tester Connection	Condition	Specified Condition
C19-1 (RL) - f4-1	Always	Below 1 Ω
f4-2 - Body ground		
f4-1 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

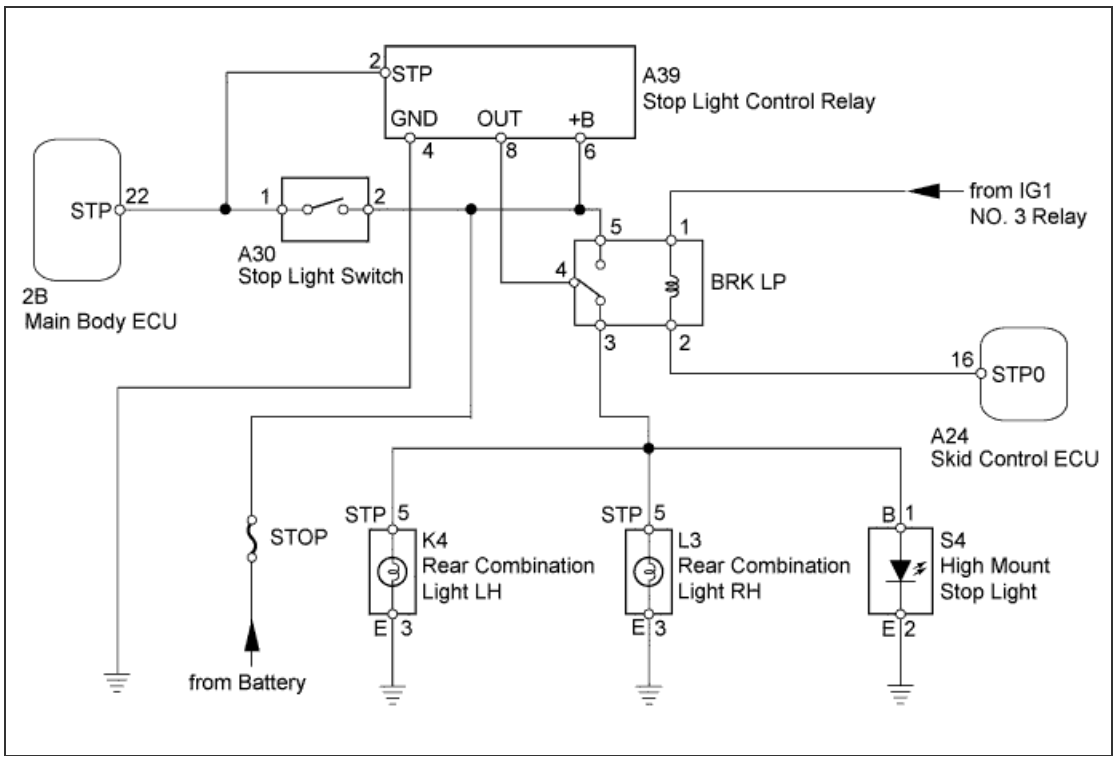
REPLACE BACK-UP LIGHT (Click here)

for Preparation Click here

DESCRIPTION

When the stop light switch is turned on, current flows to the stop lights to illuminate them.

WIRING DIAGRAM



INSPECTION PROCEDURE

1.READ VALUE USING INTELLIGENT TESTER (STOP LIGHT SWITCH)

a. Using the intelligent tester, read the Data List.

Main Body

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Stop Light SW	Stop light switch/ON or OFF	ON: Brake pedal depressed OFF: Brake pedal released	-

OK:

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

NG → Go to step 10

OK

2.CHECK HARNESS AND CONNECTOR (STOP LIGHT CONTROL RELAY - BATTERY AND BODY GROUND)

a. Disconnect the A39 stop light relay connector.

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

Standard Voltage:

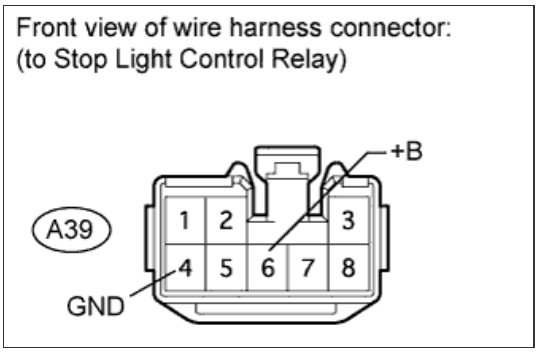
Tester Connection	Condition	Specified Condition

A39-6 (+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
A39-4 (GND) - Body ground	Always	Below 1 Ω



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3.CHECK HARNESS AND CONNECTOR (STOP LIGHT CONTROL RELAY - STOP LIGHT SWITCH)

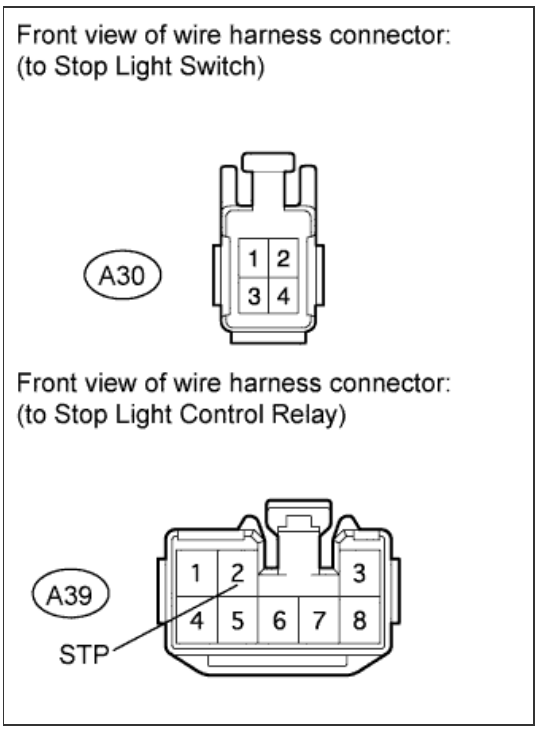
a. Disconnect the A30 stop light switch connector.

b. Disconnect the A39 relay connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
A30-1 - A39-2 (STP)	Always	Below 1 Ω
A30-1 - Body ground	Always	10 kΩ or higher



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

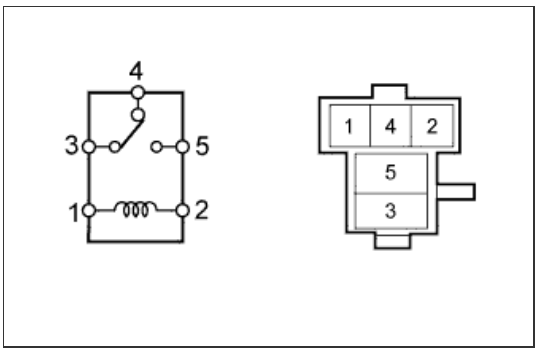
4.INSPECT BRAKE LIGHT RELAY (BRK LP)

a. Remove the brake light 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 to terminals 1 and 2	10 kΩ or higher
	Battery voltage applied to terminals 1 and 2	Below 1 Ω

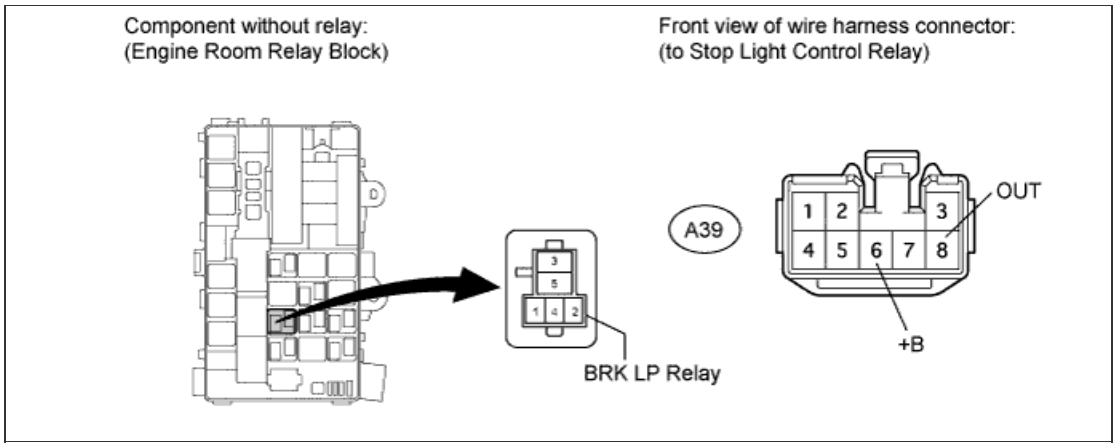


3 - 4	Battery voltage not applied to terminals 1 and 2	Below 1 Ω
	Battery voltage applied to terminals 1 and 2	10 kΩ or higher

NG → REPLACE BRAKE LIGHT RELAY

OK

5.CHECK HARNESS AND CONNECTOR (BRAKE LIGHT RELAY - BATTERY AND STOP LIGHT CONTROL RELAY)



a. Remove the brake light relay from the engine room relay block.

b. Disconnect the A39 stop light control relay connector.

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

Standard Voltage:

Tester Connection	Condition	Specified Condition
A39-6 (+B) - Body ground	Always	11 to 14 V

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

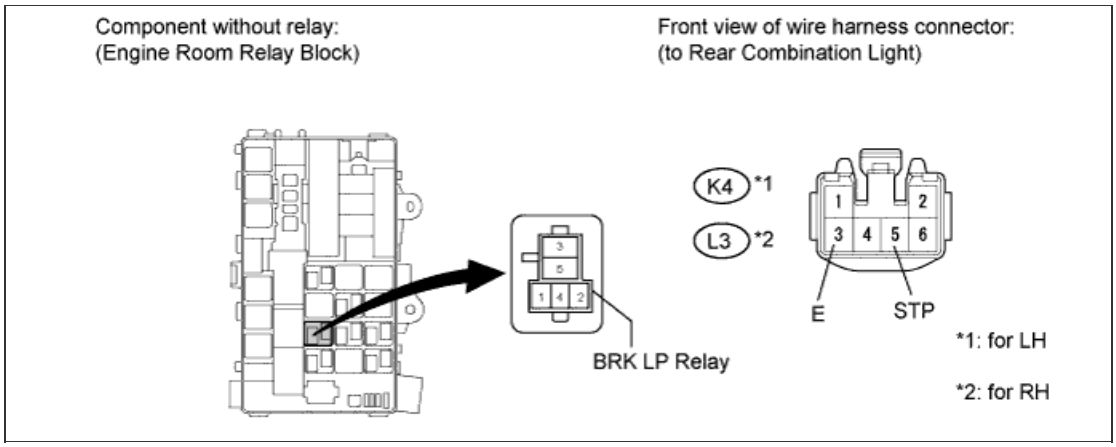
Standard Resistance:

Tester Connection	Condition	Specified Condition
A39-8 (OUT) - Brake light relay terminal 4	Always	Below 1 Ω
A39-6 (+B) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

6.CHECK HARNESS AND CONNECTOR (BRAKE LIGHT RELAY - STOP LIGHT AND BODY GROUND)



a. Rear Combination Light:

i. Remove the brake light relay from the engine room relay block.

ii. Disconnect the K4 and L3 light connectors.

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

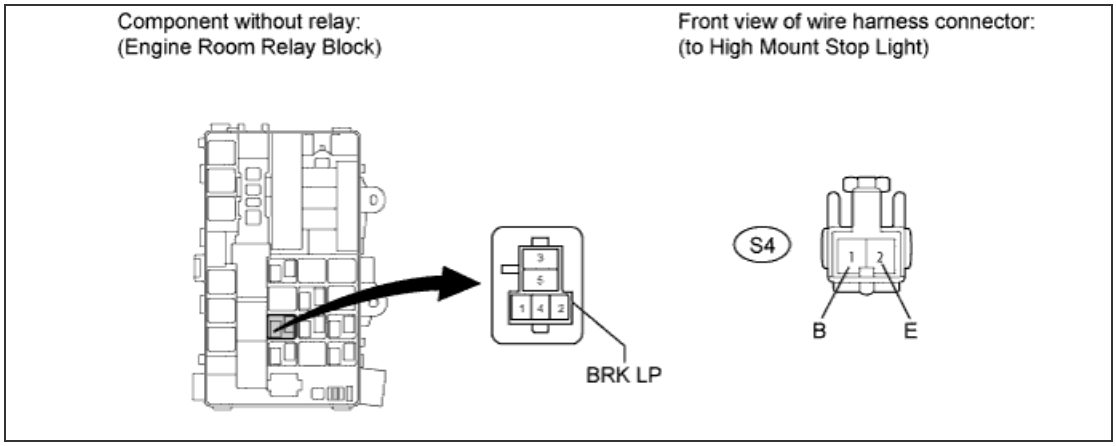
Standard Resistance:

for LH:

Tester Connection	Condition	Specified Condition
Brake light relay terminal 3 - K4-5 (STP)	Always	Below 1 Ω
K4-3 (E) - Body ground		
K4-5 (STP) - Body ground	Always	10 kΩ or higher

for RH:

Tester Connection	Condition	Specified Condition
Brake light relay terminal 3 - L3-5 (STP)	Always	Below 1 Ω
L3-3 (E) - Body ground		
L3-5 (STP) - Body ground	Always	10 kΩ or higher



b. High Mount Stop Light:

i. Disconnect the S4 high mount stop light connector.

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

Standard Voltage:

Tester	Condition	Specified

Connection		Condition
Brake light relay terminal 3 - S4-1 (B)	Always	Below 1 Ω
S4-2 (E) - Body ground		
S4-1 (B) - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

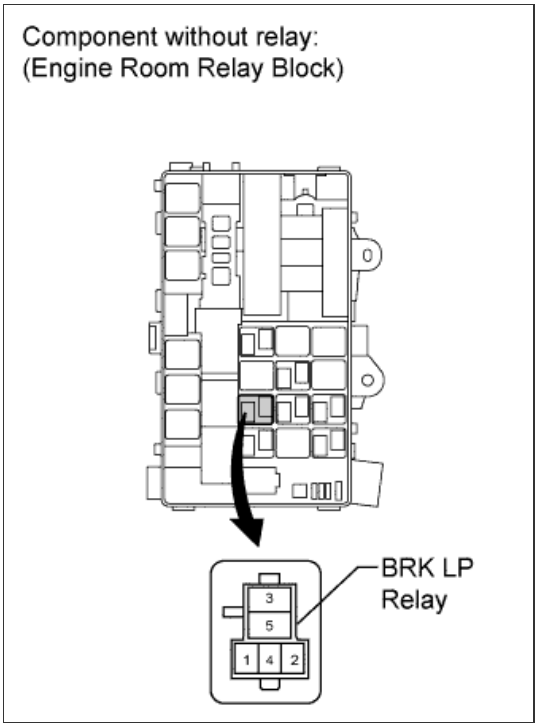
7.CHECK HARNESS AND CONNECTOR (BRAKE LIGHT RELAY - BATTERY)

a. Remove the brake light relay from the engine room relay block.

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

Standard Voltage:

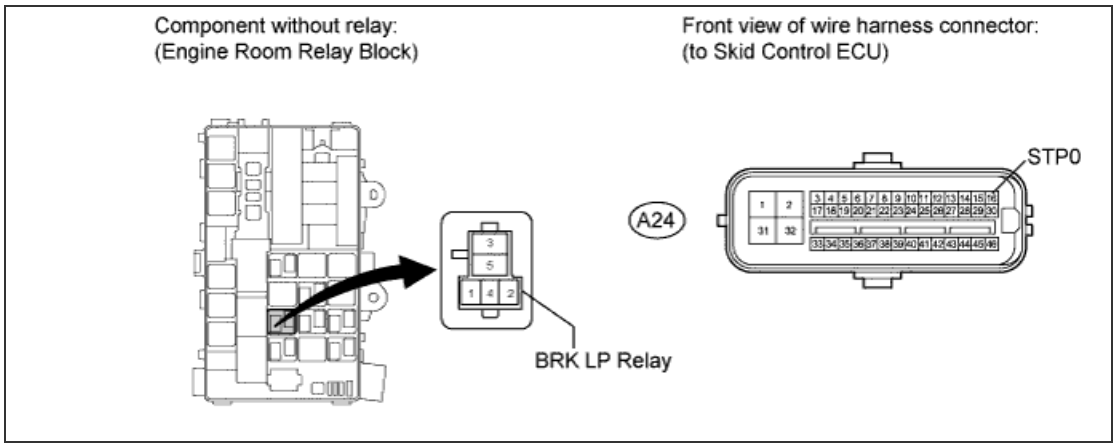
Tester Connection	Switch Condition	Specified Condition
Brake light relay terminal 1 - Body ground	Engine switch on (IG)	11 to 14 V
	Engine switch off	Below 1 V
Brake light relay terminal 5 - Body ground	Always	11 to 14 V



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

8.CHECK HARNESS AND CONNECTOR (BRAKE LIGHT RELAY - SKID CONTROL ECU)



a. Remove the brake light relay from the engine room relay block.

b. Disconnect the A24 ECU connector.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
Brake light relay terminal 2 - A24-16 (STP0)	Always	Below 1 Ω
Brake light relay terminal 2 - Body ground	Always	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

9.CHECK STOP LIGHT CONTROL RELAY

a. Temporarily replace the stop light control relay with a new or normally functioning one.

b. Check the stop light operation.

Result

Result	Proceed to
OK	A
NG (for LHD)	B
NG (for RHD)	C

B → REPLACE MASTER CYLINDER SOLENOID (Click here)

C → REPLACE MASTER CYLINDER SOLENOID (Click here)

A

END (STOP LIGHT CONTROL RELAY IS DEFECTIVE)

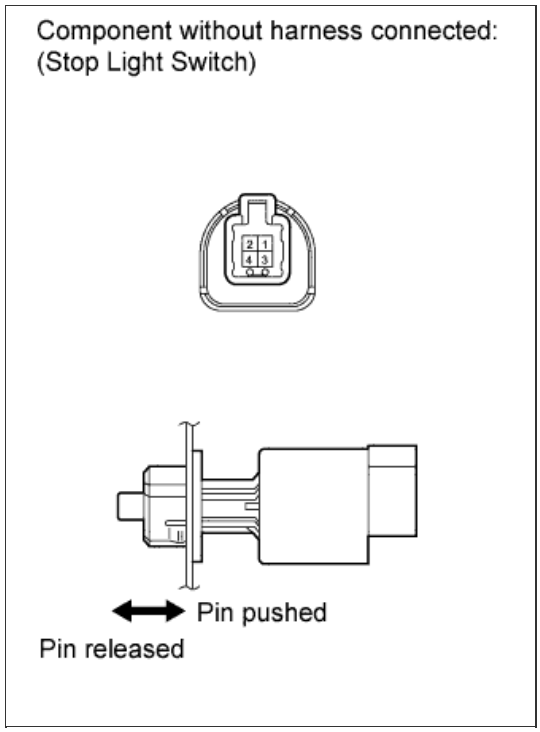
10.INSPECT STOP LIGHT SWITCH

a. Remove the stop light 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 - 2	Switch pin released	Below 1 Ω
1 - 2	Switch pin pushed in	10 kΩ or higher



NG → REPLACE STOP LIGHT SWITCH (Click here)

OK

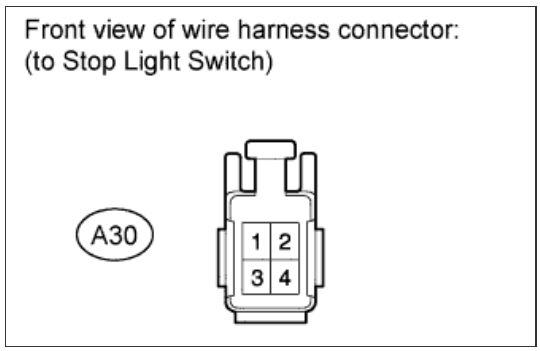
11.CHECK HARNESS AND CONNECTOR (STOP LIGHT SWITCH - BATTERY)

a. Disconnect the A30 stop light switch connector.

b. Measure the voltage 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



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

12.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - STOP LIGHT SWITCH)

a. Disconnect the A30 stop light switch connector.

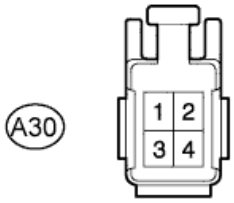
b. Disconnect the 2B ECU connector.

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

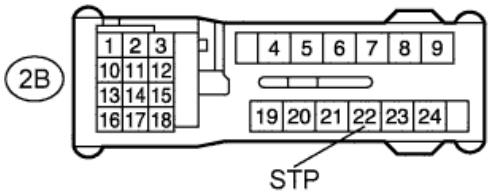
Standard Resistance:

Tester Connection	Condition	Specified Condition
A30-1 - 2B-22 (STP)	Always	Below 1 Ω
A30-1 - Body ground	Always	10 kΩ or higher

Front view of wire harness connector:
(to Stop Light Switch)



Front view of wire harness connector:
(to Main Body ECU)

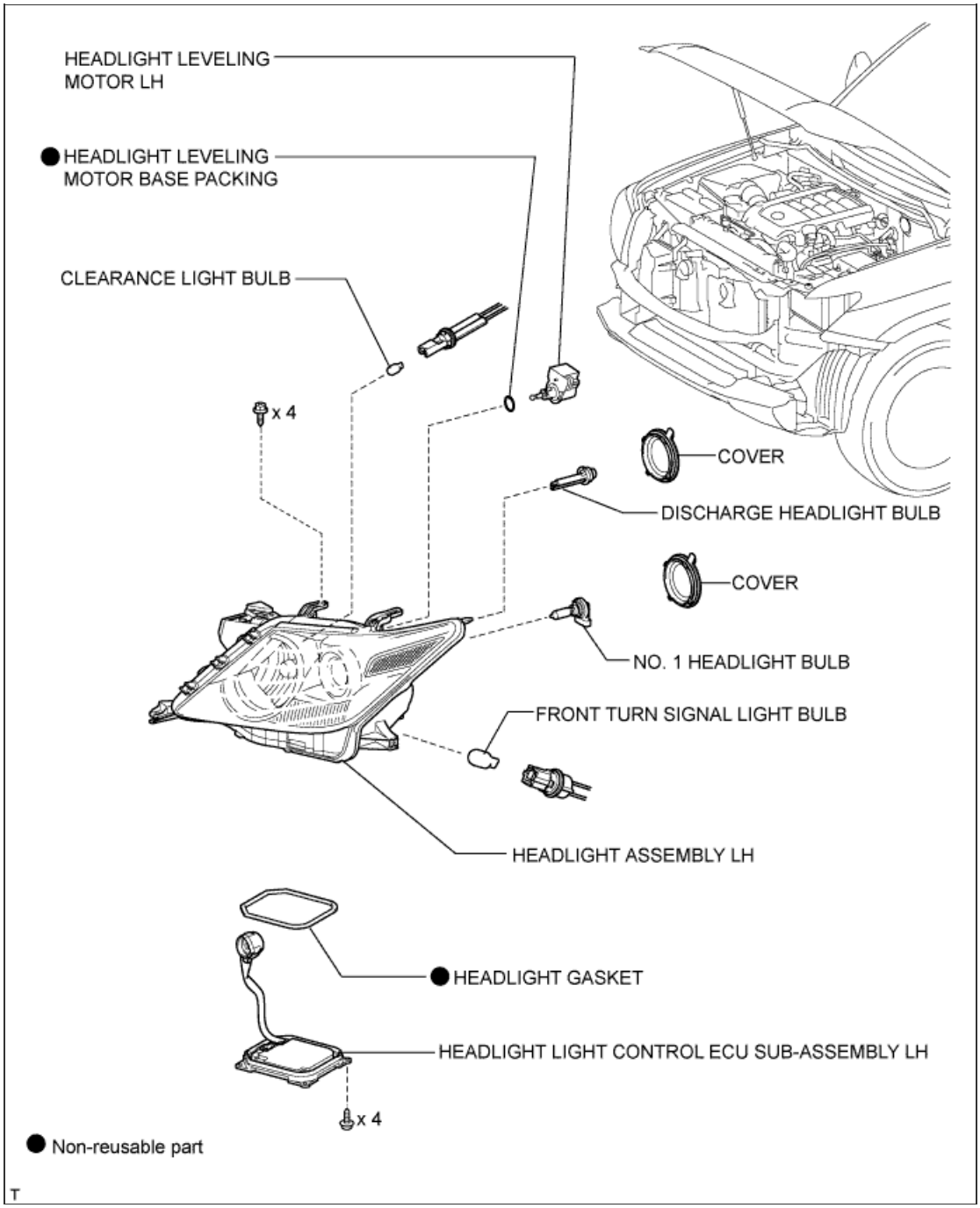


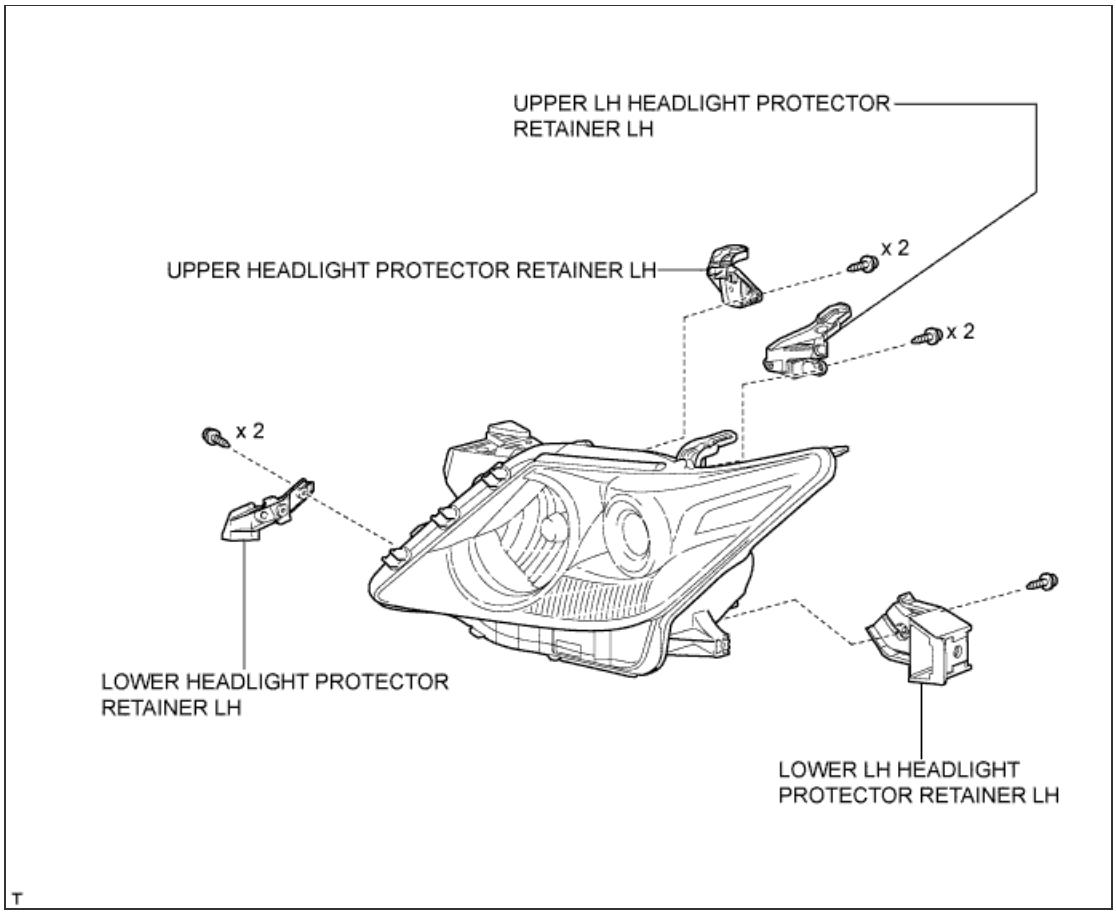
NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU

for Preparation Click here




UPPER LH HEADLIGHT PROTECTOR RETAINER LH
UPPER HEADLIGHT PROTECTOR RETAINER LH
x 2
x 2
x 2
LOWER HEADLIGHT PROTECTOR RETAINER LH
LOWER LH HEADLIGHT PROTECTOR RETAINER LH
T

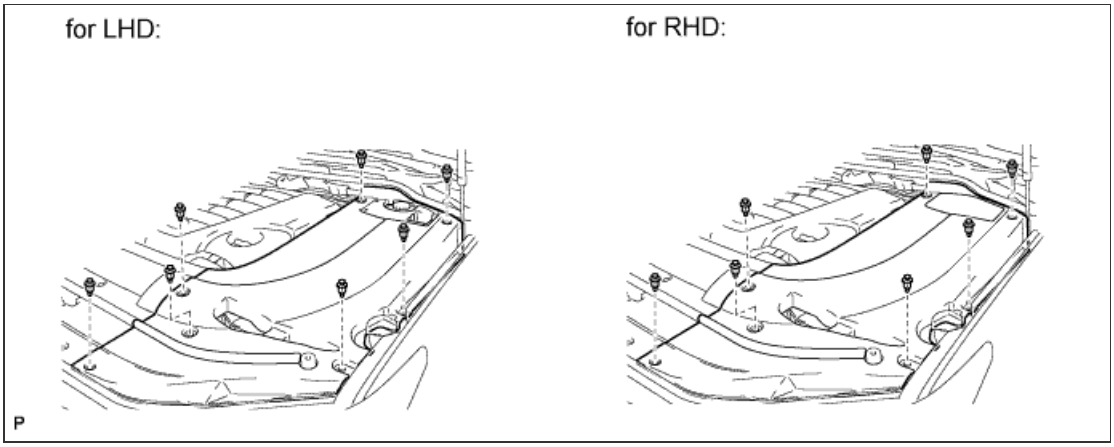
for Preparation Click here

HINT:

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

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



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

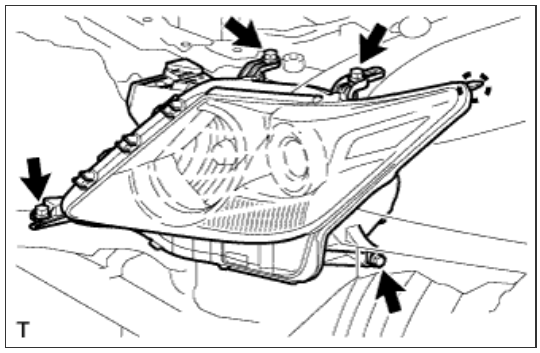
a. Remove the front bumper (Click here).

4. REMOVE HEADLIGHT ASSEMBLY LH

a. Remove the 4 bolts.

b. Disconnect the connectors.

c. Detach the claw and remove the headlight.


T

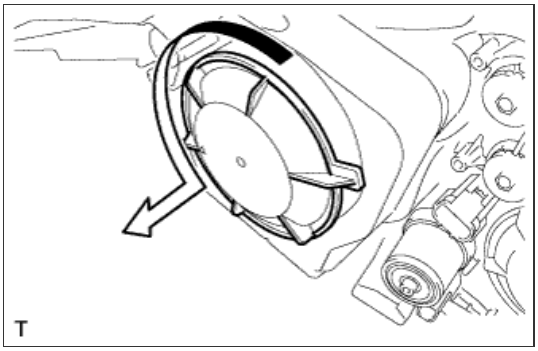
for Preparation Click here

HINT:

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

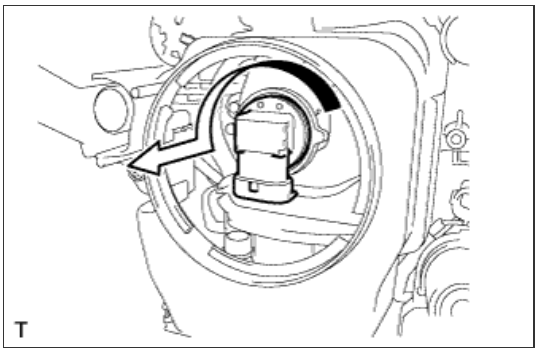
1. REMOVE NO. 1 HEADLIGHT BULB

a. Turn the turn signal light cover in the direction indicated by the arrow and remove it.



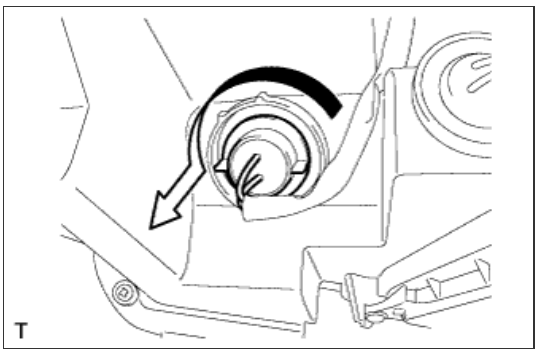
b. Turn the bulb in the direction indicated by arrow in the illustration.

c. Disconnect the connector and remove the bulb.



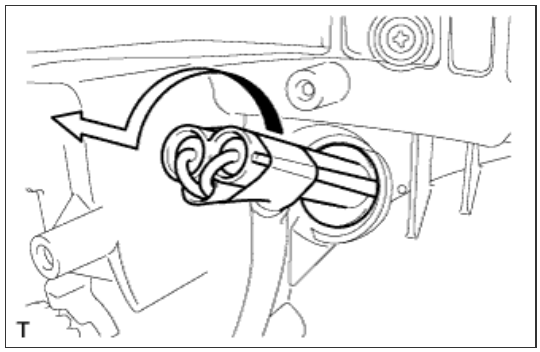
2. REMOVE FRONT TURN SIGNAL LIGHT BULB

a. Turn the bulb in the direction indicated by arrow in the illustration and remove it.



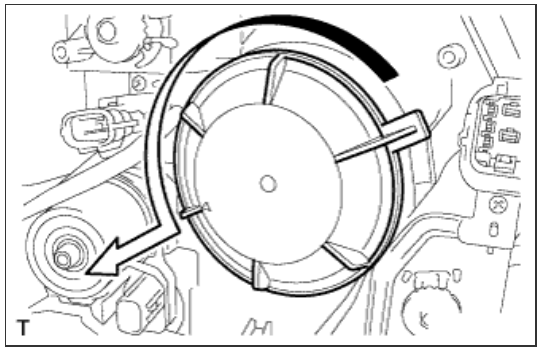
3. REMOVE CLEARANCE LIGHT BULB

a. Turn the bulb in the direction indicated by arrow in the illustration and remove it.

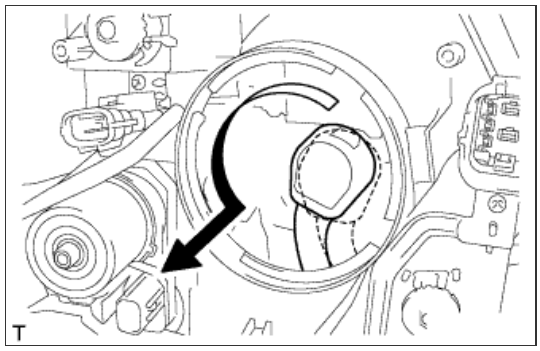


4. REMOVE DISCHARGE HEADLIGHT BULB

a. Turn the back cover in the direction indicated by the arrow and remove it.



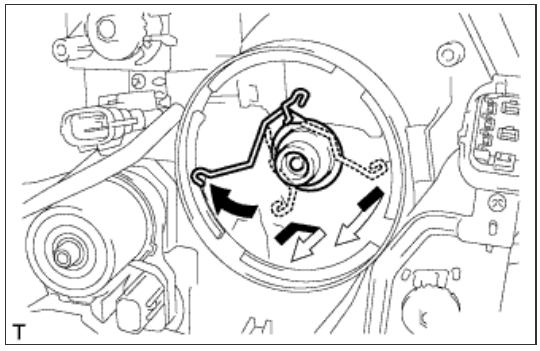
b. Turn the headlight control ECU socket in the direction indicated by the arrow and disconnect it.



c. Release the set spring lock as shown in the illustration and remove the bulb.

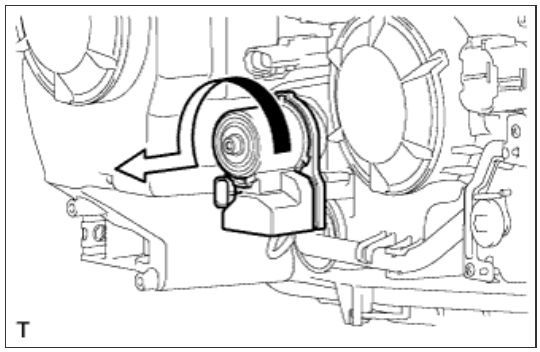
NOTICE:

Do not touch the glass part of the bulb.

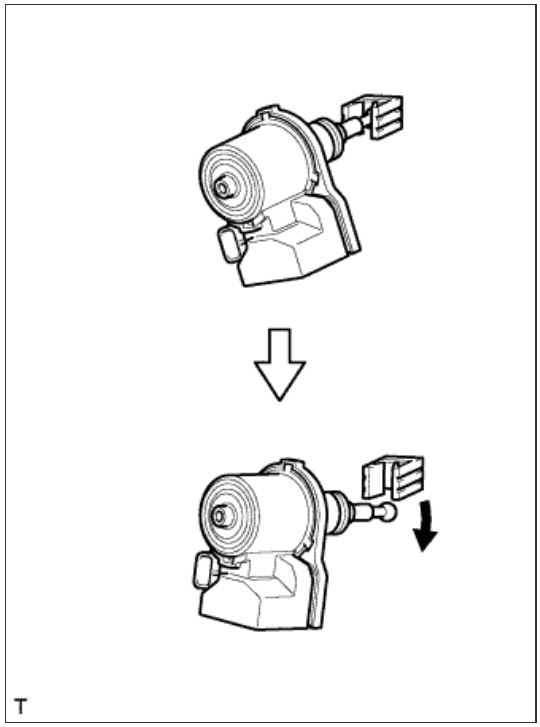


5. REMOVE HEADLIGHT LEVELING MOTOR LH

a. Turn the headlight leveling motor LH in the direction indicated by the arrow and lightly pull it out.



b. Lower the tip of the headlight leveling motor LH and detach it from the reflector to remove it.



6. REMOVE HEADLIGHT LEVELING MOTOR BASE PACKING

a. Remove the packing.

7. REMOVE HEADLIGHT LIGHT CONTROL ECU SUB-ASSEMBLY LH

a. Remove the 4 screws and cover.

NOTICE:

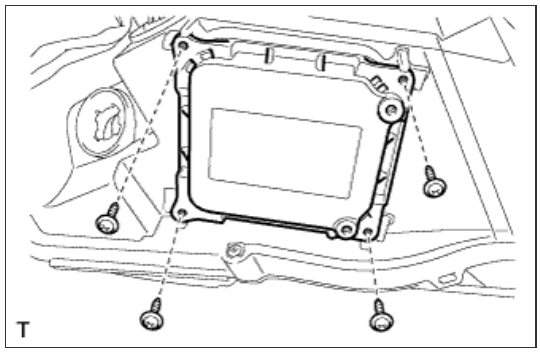
As the screws are self-tapping screws, make sure no fragments enter the interior of the headlight during the procedure.

b. Disconnect the connector.

c. Remove the headlight control ECU.

NOTICE:

Be careful not to damage the reflector or headlight housing with the headlight control ECU socket.



8. REMOVE HEADLIGHT GASKET

a. Remove the gasket.

for Preparation Click here

HINT:

It is possible that a bulb is incorrectly installed, affecting headlight aim. Bulb installation should be considered prior to performing the adjustment procedure.

1. VEHICLE PREPARATION FOR HEADLIGHT AIMING ADJUSTMENT

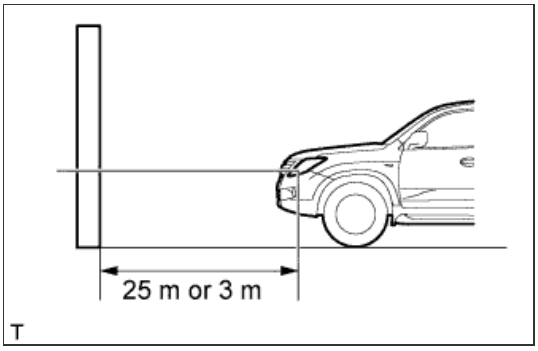
a. Prepare the vehicle:

- Ensure there is no damage or deformation to the body around the headlights.
- Fill the fuel tank.
- Make sure that the oil is filled to the specified level.
- Make sure that the coolant is filled to the specified level.
- Inflate the tires to the appropriate pressure.
- Unload the trunk and vehicle, ensuring that the spare tire, tools, and jack are also removed.
- Have a person of average weight (75 kg, 165.3 lb) sit in the driver seat.
- Vehicles with height adjustable suspension should have the vehicle height set to the lowest setting prior to adjusting the headlight aim.

2. PREPARATION FOR HEADLIGHT AIMING (Using a screen)

a. Prepare the vehicle:

- Place the vehicle in a location that is dark enough to clearly observe the cutoff line. The cutoff line is a distinct line, below which light from the headlights can be observed and above which it cannot.
- Place the vehicle at a 90° angle to the wall.
- Create a 25 m (82.0 ft.) distance between the vehicle (headlight bulb center) and the wall.
- Make sure that the vehicle is on a level surface.
- Bounce the vehicle up and down to settle the suspension.



T

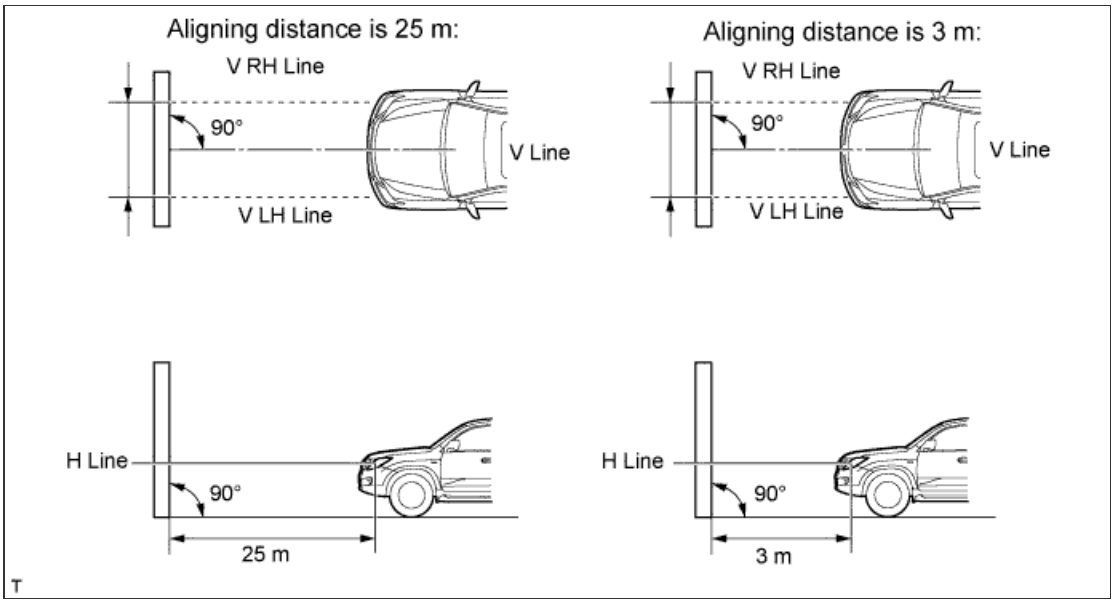
NOTICE:

A distance of 25 m (82.0 ft.) between the vehicle (headlight bulb center) and the wall is necessary for proper aim adjustment. If unavailable, secure a distance of exactly 3 m (9.84 ft.) for the check and adjustment. (The target zone will change with the distance, so follow the instructions in the illustration).

b. Prepare a piece of thick white paper approximately 2 m (6.56 ft.) (height) x 4 m (13.1 ft.) (width) to use as a screen.

c. Draw a vertical line down the center of the screen (V line).

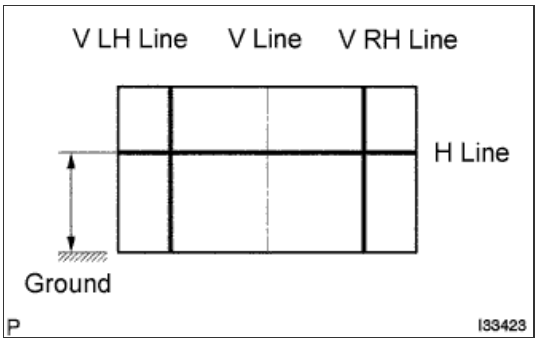
d. Set the screen as shown in the illustration.



HINT:

- **Stand the screen perpendicular to the ground.**
- **Align the V line on the screen with the center of the vehicle.**

e. Draw base lines (H, V LH and V RH lines) on the screen as shown in the illustration.



HINT:

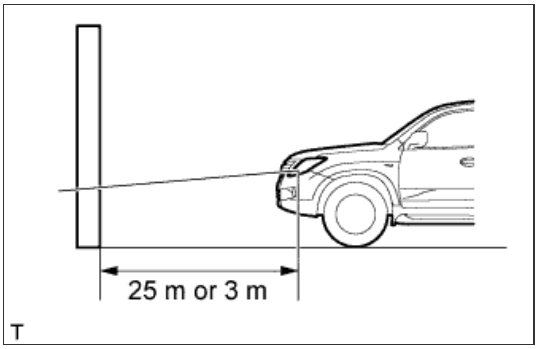
- **The base lines differ for "low beam inspection" and "high beam inspection".**
- **Mark the headlight bulb center marks on the screen. If the center mark cannot be observed on the headlight, use the center of the headlight bulb or the name of the manufacture marked on the headlight as the center mark.**

i. H Line (Headlight height):
Draw a horizontal line across the screen so that it passes through the center marks. The H line should be at the same height as the headlight bulb center marks of the low beam headlights.

ii. V LH Line, V RH Line (Center mark position of the left-hand (LH) and right-hand (RH) headlights):
Draw two vertical lines so that they intersect the H line at each center mark (aligned with the center of the low beam headlight bulbs).

3. HEADLIGHT AIMING INSPECTION

a. Cover the headlight or disconnect the connector of the headlight on the opposite side to prevent light from the headlight that is not being inspected from affecting the headlight aiming inspection.



NOTICE:

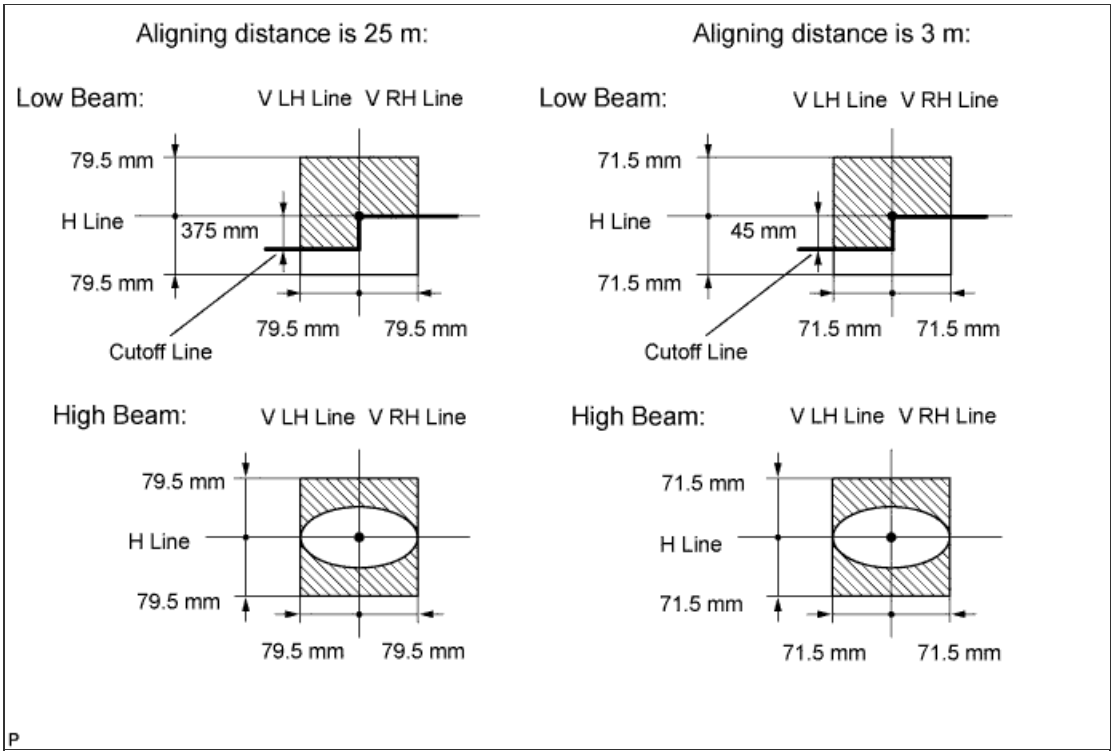
Do not keep the headlight covered for more than 3 minutes. The headlight lens is made of synthetic resin, which may melt or be damaged due to excessive heat.

HINT:

When checking the aim of the high beam headlight, cover the low beam headlight or disconnect the connector.

b. Start the engine.

c. Turn on the headlight and check if the cutoff line matches the preferred cutoff line in the following illustration.



HINT:

- **Since the low beam and high beam headlight on each side have separate reflectors, it is necessary to check and adjust the aim separately for both.**
- **If the alignment distance is 25 m (82.0 ft.):**
  The low beam cutoff line should be within 79.5 mm (3.13 in.) above or below the H line as well as 79.5 mm (3.13 in.) left or right of the V line.
- **If the alignment distance is 3 m (9.84 ft.):**
  The low beam cutoff line should be within 71.5 mm (2.81 in.) above or below the H line as well as 71.5 mm (2.81 in.) left or right of the V line.
- **If the alignment distance is 25 m (82.0 ft.):**
  The high beam center of intensity should be within 79.5 mm (3.13 in.) above or below the H line as well as 79.5 mm (3.13 in.) left or right of the V line.
- **If the alignment distance is 3 m (9.84 ft.):**
  The high beam center of intensity should be within 71.5 mm (2.81 in.) above or below the H line as well as 71.5 mm (2.81 in.) left or right of the V line.

4. HEADLIGHT AIMING ADJUSTMENT

a. Adjust the aim vertically:

i. Adjust the aim of each headlight to the specified range by turning each aiming screw with a screwdriver.

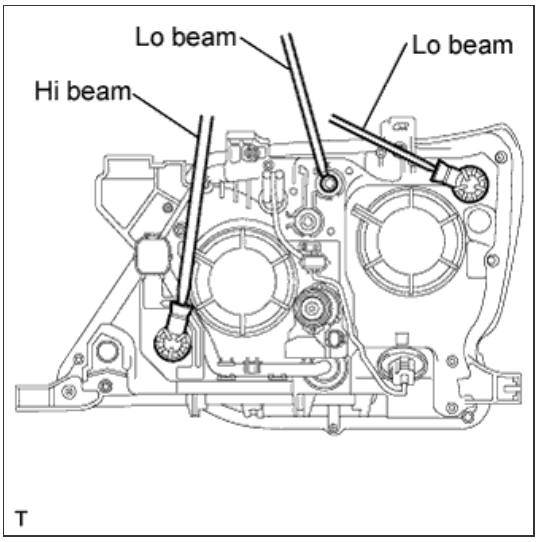
NOTICE:

The final turn of the aiming screw should be made in the clockwise direction. If the screw is tightened excessively, loosen it and then retighten it, so that the final turn of the screw is in the clockwise direction.

HINT:

- **The low beam and high beam headlight are a unit. Adjusting the aim on the low beam to the correct position should also result in the high beam adjustment being correct.**

- **If it is not possible to correctly adjust headlight aim, check the bulb, headlight unit, and headlight unit reflector installation.**
- **The headlight aim moves up when turning the aiming screw clockwise, and moves down when turning the aiming screw counterclockwise.**



for Preparation Click here

1. INSTALL HEADLIGHT GASKET

a. Install the gasket.

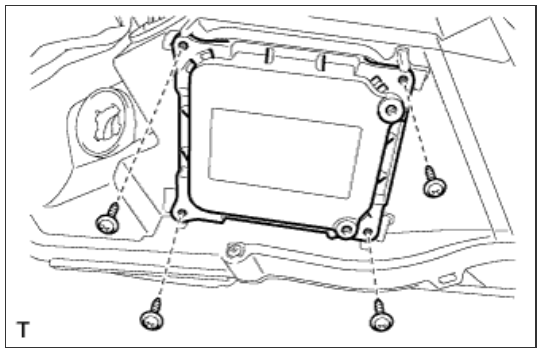
2. INSTALL HEADLIGHT LIGHT CONTROL ECU SUB-ASSEMBLY LH

a. Connect the connector.

b. Install the headlight control ECU with the 4 screws.

NOTICE:

As the screws are self-tapping screws, make sure no fragments enter the interior of the headlight during the procedure.



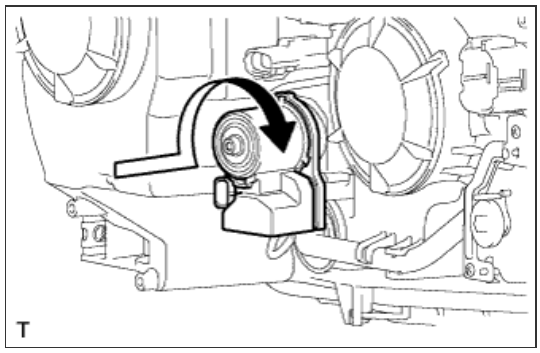
3. INSTALL HEADLIGHT LEVELING MOTOR BASE PACKING

a. Install a new packing.

4. INSTALL HEADLIGHT LEVELING MOTOR LH

a. Connect the tip of the headlight leveling motor LH to the reflector.

b. Turn the headlight leveling motor in the direction indicated by the arrow to install it.

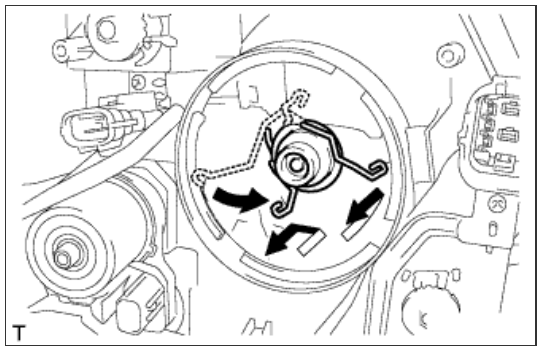


5. INSTALL DISCHARGE HEADLIGHT BULB

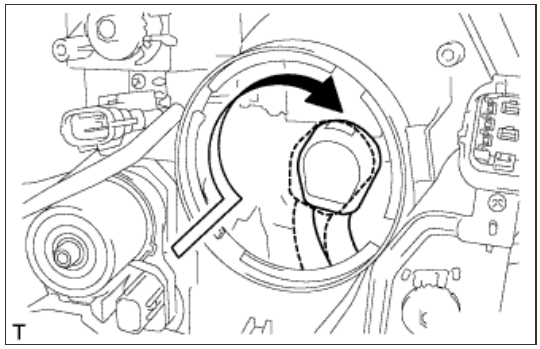
a. Lock the set spring as shown in the illustration to install the discharge headlight bulb.

NOTICE:

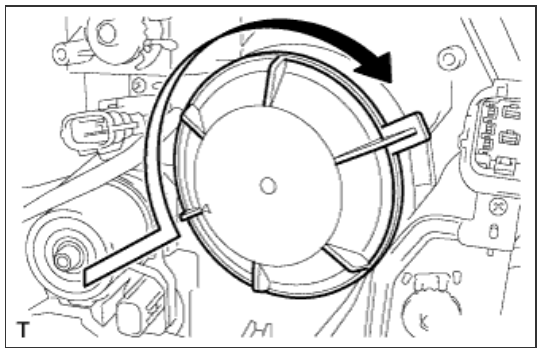
Do not touch the glass part of the bulb.



b. Turn the headlight control ECU socket in the direction indicated by the arrow to connect the socket.

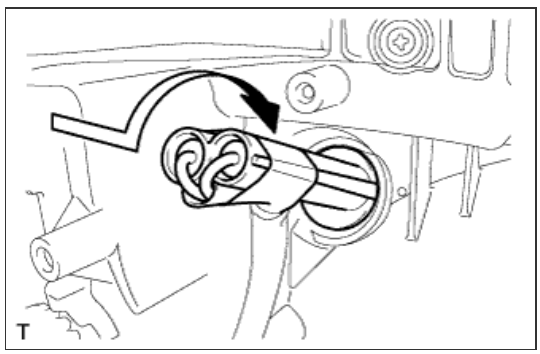


c. Turn the back cover in the direction indicated by the arrow to install it.



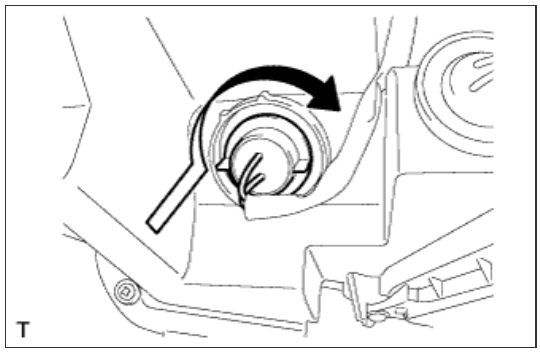
6. INSTALL CLEARANCE LIGHT BULB

a. Turn the bulb in the direction indicated by the arrow to install it.



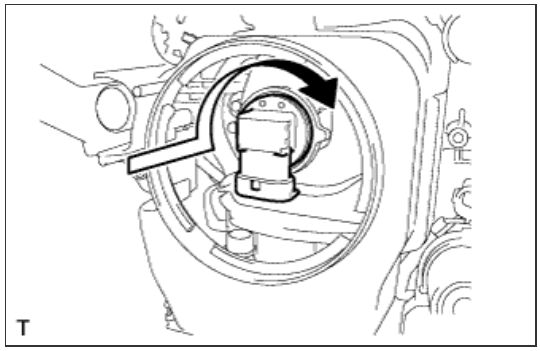
7. INSTALL FRONT TURN SIGNAL LIGHT BULB

a. Turn the bulb in the direction indicated by the arrow to install it.

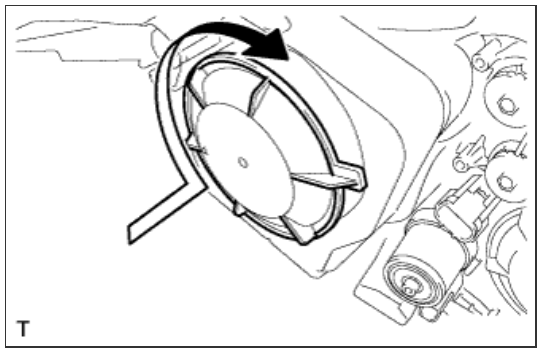


8. INSTALL NO. 1 HEADLIGHT BULB

a. Turn the bulb in the direction indicated by the arrow to install it.



b. Turn the cover in the direction indicated by the arrow and install it.



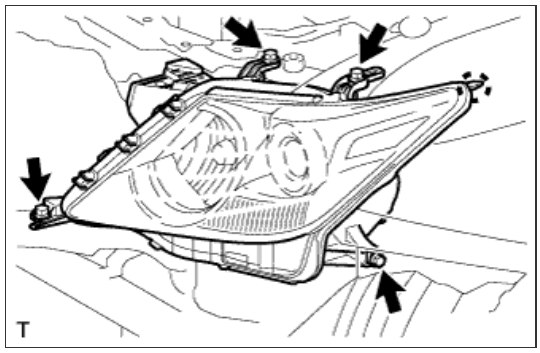
for Preparation Click here

1. INSTALL HEADLIGHT ASSEMBLY LH

a. Attach the claw.

b. Connect the connectors.

c. Install the headlight with the 4 bolts.



2. INSTALL FRONT BUMPER

a. Install the front bumper (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. VEHICLE PREPARATION FOR HEADLIGHT AIMING ADJUSTMENT

a. Prepare the vehicle:

- Ensure there is no damage or deformation to the body around the headlights.
- Fill the fuel tank.
- Make sure that the oil is filled to the specified level.
- Make sure that the coolant is filled to the specified level.
- Inflate the tires to the appropriate pressure.
- Unload the trunk and vehicle, ensuring that the spare tire, tools, and jack are also removed.
- Have a person of average weight (75 kg, 165.3 lb) sit in the driver seat.
- Vehicles with height adjustable suspension should have the vehicle height set to the lowest setting prior to adjusting the headlight aim.

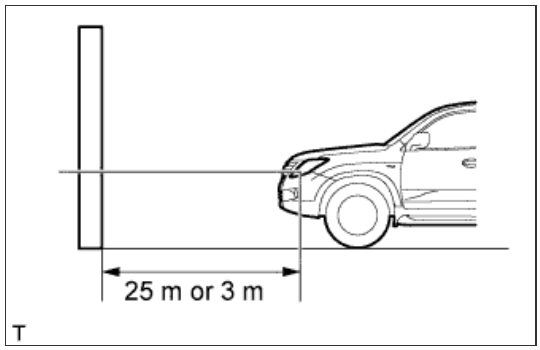
5. PREPARATION FOR HEADLIGHT AIMING (Using a screen)

a. Prepare the vehicle:

- Place the vehicle in a location that is dark enough to clearly observe the cutoff line. The cutoff line is a distinct line, below which light from the headlights can be observed and above which it cannot.
- Place the vehicle at a 90° angle to the wall.
- Create a 25 m (82.0 ft.) distance between the vehicle (headlight bulb center) and the wall.
- Make sure that the vehicle is on a level surface.
- Bounce the vehicle up and down to settle the suspension.

NOTICE:

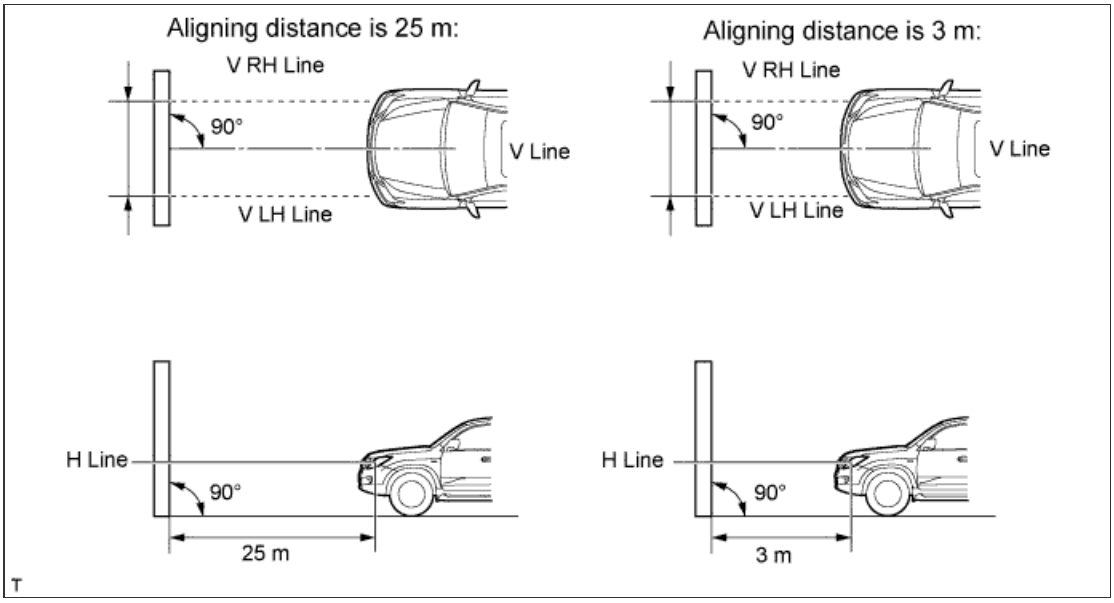
A distance of 25 m (82.0 ft.) between the vehicle (headlight bulb center) and the wall is necessary for proper aim adjustment. If unavailable, secure a distance of exactly 3 m (9.84 ft.) for the check and adjustment. (The target zone will change with the distance, so follow the instructions in the illustration).



b. Prepare a piece of thick white paper approximately 2 m (6.56 ft.) (height) x 4 m (13.1 ft.) (width) to use as a screen.

c. Draw a vertical line down the center of the screen (V line).

d. Set the screen as shown in the illustration.



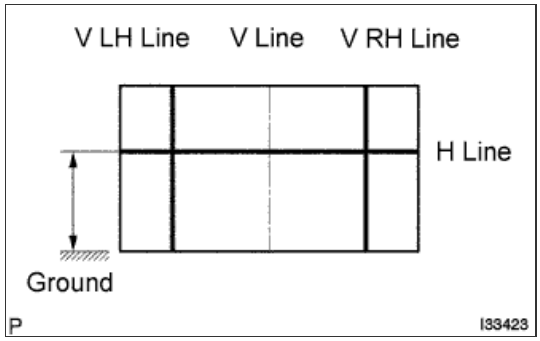
HINT:

- **Stand the screen perpendicular to the ground.**
- **Align the V line on the screen with the center of the vehicle.**

e. Draw base lines (H, V LH and V RH lines) on the screen as shown in the illustration.

HINT:

- **The base lines differ for "low beam inspection" and "high beam inspection".**
- **Mark the headlight bulb center marks on the screen. If the center mark cannot be observed on the headlight, use the center of the headlight bulb or the name of the manufacture marked on the headlight as the center mark.**

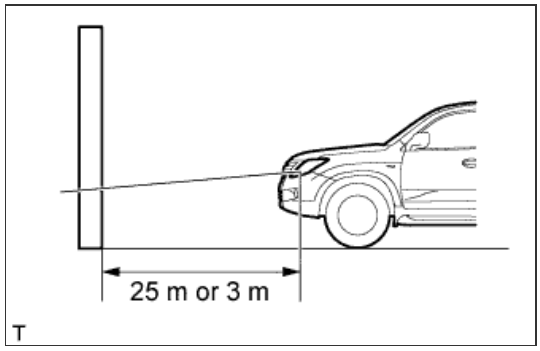


i. H Line (Headlight height):
Draw a horizontal line across the screen so that it passes through the center marks. The H line should be at the same height as the headlight bulb center marks of the low beam headlights.

ii. V LH Line, V RH Line (Center mark position of the left-hand (LH) and right-hand (RH) headlights):
Draw two vertical lines so that they intersect the H line at each center mark (aligned with the center of the low beam headlight bulbs).

6. INSPECT HEADLIGHT AIMING

a. Cover the headlight or disconnect the connector of the headlight on the opposite side to prevent light from the headlight that is not being inspected from affecting the headlight aiming inspection.



NOTICE:

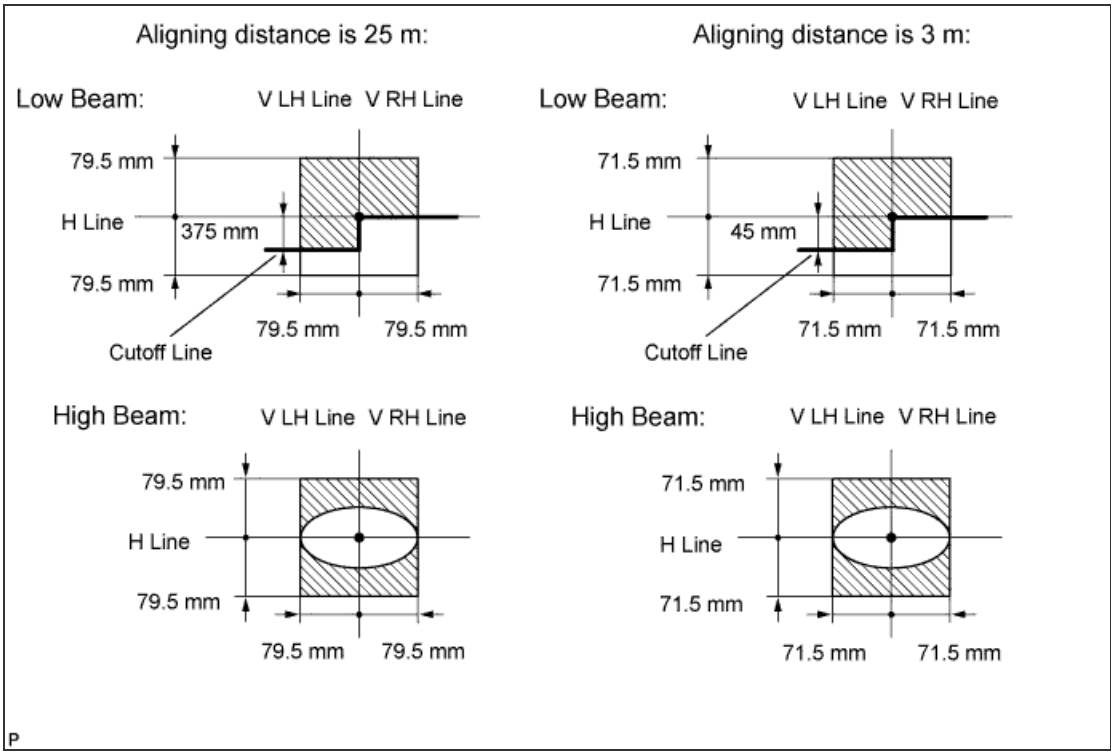
Do not keep the headlight covered for more than 3 minutes. The headlight lens is made of synthetic resin, which may melt or be damaged due to excessive heat.

HINT:

When checking the aim of the high beam headlight, cover the low beam headlight or disconnect the connector.

b. Start the engine.

c. Turn on the headlight and check if the cutoff line matches the preferred cutoff line in the following illustration.

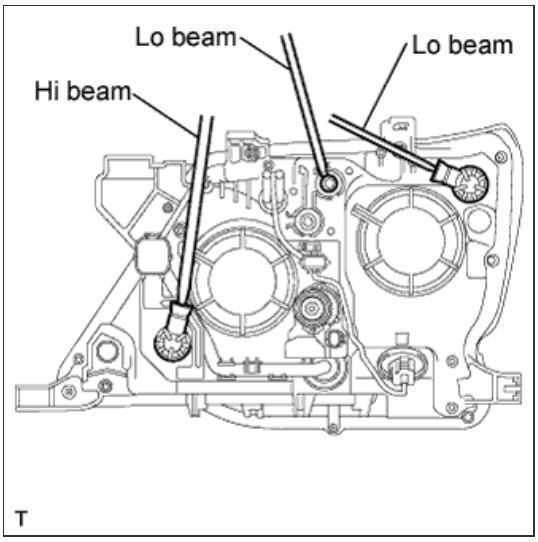


HINT:

- **Since the low beam and high beam headlight on each side have separate reflectors, it is necessary to check and adjust the aim separately for both.**
- **If the alignment distance is 25 m (82.0 ft.):**
  The low beam cutoff line should be within 79.5 mm (3.13 in.) above or below the H line as well as 79.5 mm (3.13 in.) left or right of the V line.
- **If the alignment distance is 3 m (9.84 ft.):**
  The low beam cutoff line should be within 71.5 mm (2.81 in.) above or below the H line as well as 71.5 mm (2.81 in.) left or right of the V line.
- **If the alignment distance is 25 m (82.0 ft.):**
  The high beam center of intensity should be within 79.5 mm (3.13 in.) above or below the H line as well as 79.5 mm (3.13 in.) left or right of the V line.
- **If the alignment distance is 3 m (9.84 ft.):**
  The high beam center of intensity should be within 71.5 mm (2.81 in.) above or below the H line as well as 71.5 mm (2.81 in.) left or right of the V line.

7. ADJUST HEADLIGHT AIMING

a. Adjust the aim vertically:



i. Adjust the aim of each headlight to the specified range by turning each aiming screw with a screwdriver.

NOTICE:

The final turn of the aiming screw should be made in the clockwise direction. If the screw is tightened excessively, loosen it and then retighten it, so that the final turn of the screw is in the clockwise direction.

HINT:

- **The low beam and high beam headlight are a unit. Adjusting the aim on the low beam to the correct position should also result in the high beam adjustment being correct.**
- **If it is not possible to correctly adjust headlight aim, check the bulb, headlight unit, and headlight unit reflector installation.**
- **The headlight aim moves up when turning the aiming screw clockwise, and moves down when turning the aiming screw counterclockwise.**

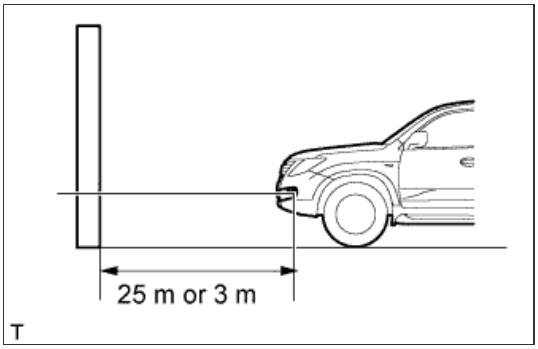
8. VEHICLE PREPARATION FOR FOG LIGHT AIMING ADJUSTMENT

a. Prepare the vehicle:

- Ensure there is no damage or deformation to the body around the fog lights.
- Fill the fuel tank.
- Make sure that the oil is filled to the specified level.
- Make sure that the coolant is filled to the specified level.
- Inflate the tires to the appropriate pressure.
- Unload the trunk and vehicle, ensuring that the spare tire, tools, and jack are also removed.
- Have a person of average weight (75 kg, 165.3 lb) sit in the driver seat.
- Vehicles with height adjustable suspension should have the vehicle height set to the lowest setting prior to adjusting the fog light aim.

9. PREPARATION FOR FOG LIGHT AIMING

a. Prepare the vehicle:



- Place the vehicle in a location that is dark enough to clearly observe the cutoff line. The cutoff line is a distinct line, below which light from the fog lights can be observed and above which it cannot.
- Place the vehicle at a 90° angle to the wall.
- Create a 25 m (82.0 ft.) distance between the vehicle (fog light bulb center) and the wall.
- Make sure that the vehicle is on a level surface.
- Bounce the vehicle up and down to settle the suspension.

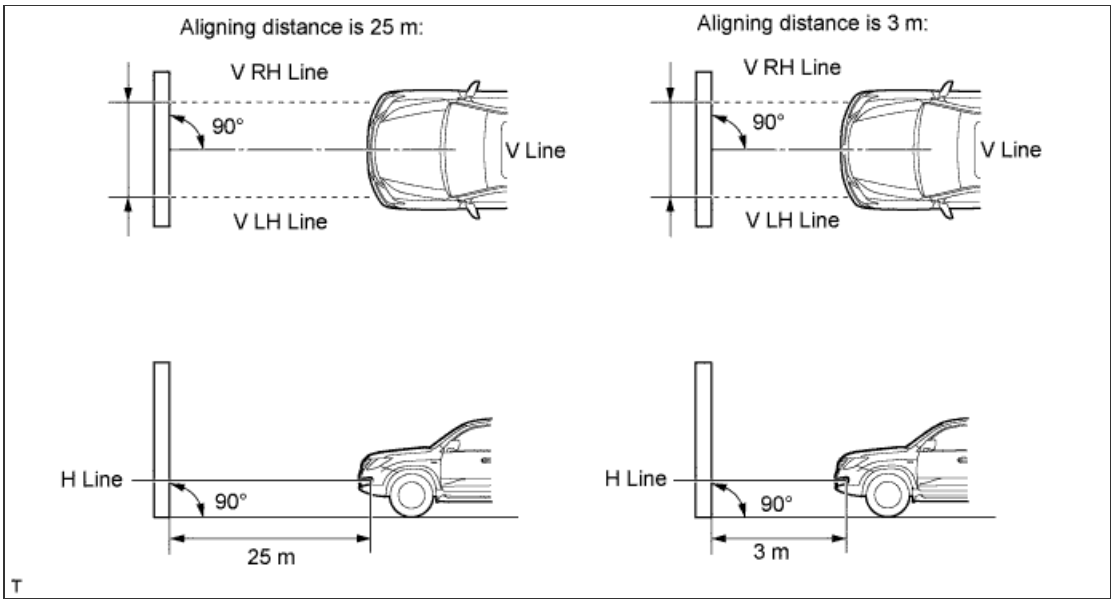
NOTICE:

A distance of 25 m (82.0 ft.) between the vehicle (fog light bulb center) and the wall is necessary for proper aim adjustment. If unavailable, secure a distance of exactly 3 m (9.84 ft.) for the check and adjustment. (The target zone will change with the distance, so follow the instructions in the illustration).

b. Prepare a piece of thick white paper approximately 2.0 m (6.56 ft.) (height) x 4.0 m (13.1 ft.) (width) to use as a screen.

c. Draw a vertical line down the center of the screen (V line).

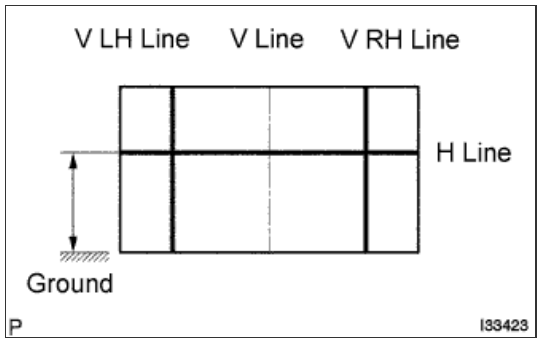
d. Set the screen as shown in the illustration.



HINT:

- **Stand the screen perpendicular to the ground.**
- **Align the V line on the screen with the center of the vehicle.**

e. Draw base lines (H, V LH and V RH lines) on the screen as shown in the illustration.



HINT:

Mark the fog light bulb center marks on the screen. If the center mark cannot be observed on the fog light, use the center of the fog light bulb or the name of the manufacture marked on the fog light as the center mark.

i. H line (Fog light height):
Draw a horizontal line across the screen so that it passes through the center marks. The H line should be at the same height as the fog light bulb center marks of the fog lights.

ii. V LH Line, V RH Line (Center mark position of left-hand (LH) and right-hand (RH) fog lights):
Draw two vertical lines so that they intersect the H line at each center mark.

10. INSPECT FOG LIGHT AIMING

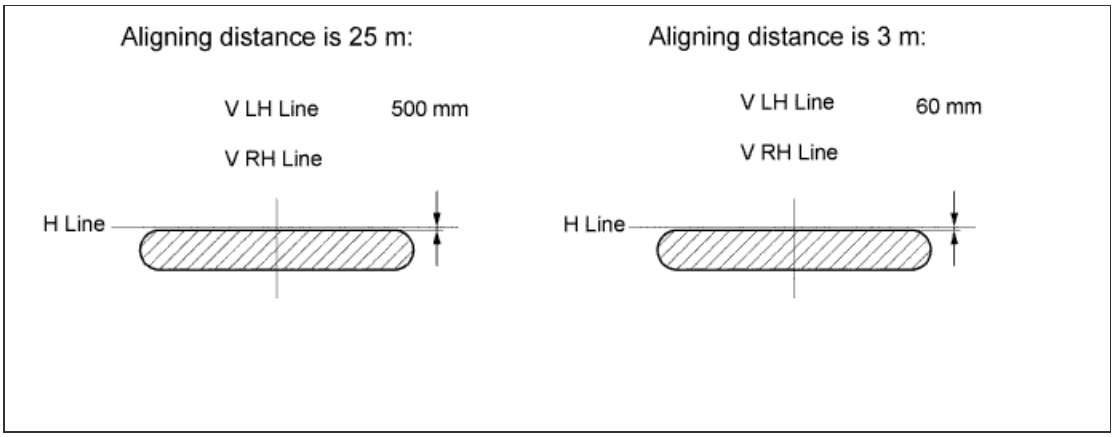
a. Cover the fog light or disconnect the connector of the fog light on the opposite side to prevent light from the fog light that is not being inspected from affecting the fog light aiming inspection.

NOTICE:

Do not keep the fog light covered for more than 3 minutes. The fog light lens is made of synthetic resin, which may melt or be damaged due to excessive heat.

b. Start the engine.

c. Turn on the fog light and check if the cutoff line falls within the specified area in the following illustration.



11. ADJUST FOG LIGHT AIMING

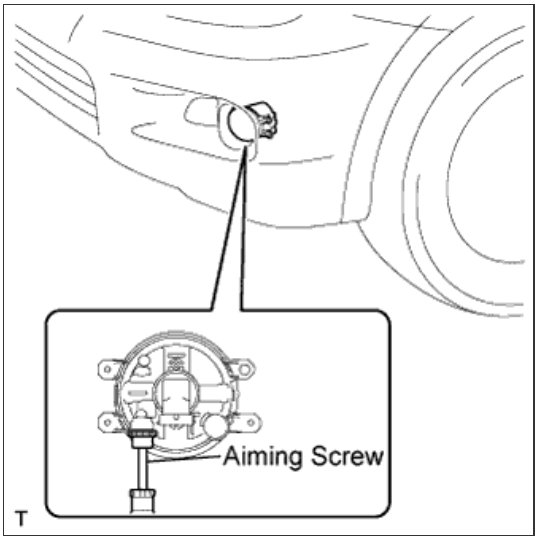
a. Adjust the aim vertically:
Adjust the aim of each fog light to the specified range by turning the aiming screw with a screwdriver.

NOTICE:

The final turn of the aiming screw should be made in the clockwise direction. If the screw is tightened excessively, loosen it and then retighten it, so that the final turn of the screw is in the clockwise direction.

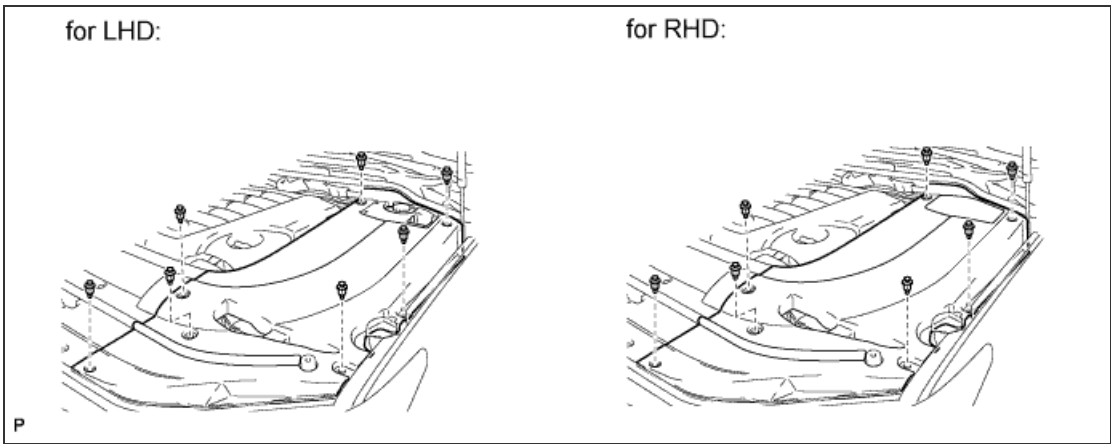
HINT:

If it is not possible to correctly adjust fog light aim, check the bulb, fog light unit, and fog light unit reflector installation.



12. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



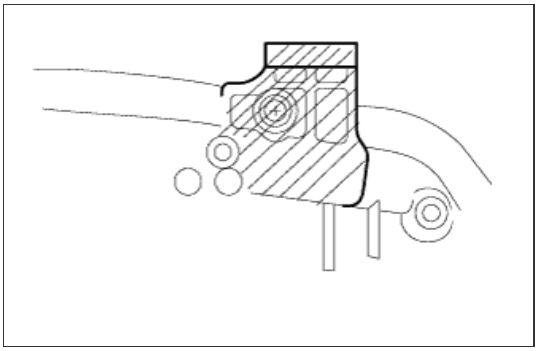
for Preparation Click here

1. INSTALL UPPER HEADLIGHT PROTECTOR RETAINER LH

HINT:

- **If the installation area of the headlight is damaged, use the supply retainer for low-cost repair.**
- **Ensure that the headlight is not damaged.**

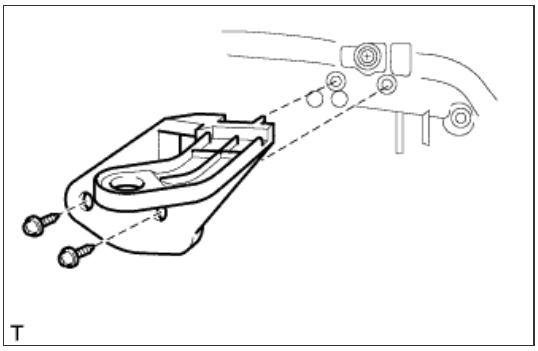
a. Cut off the part shaded in the illustration and smooth with sandpaper.



NOTICE:

After cutting off the part, place the headlight protector retainer against the bosses and gradually file away the old bracket if it interferes with the installation of the supply retainer.

b. Install the headlight protector retainer with the 2 screws.

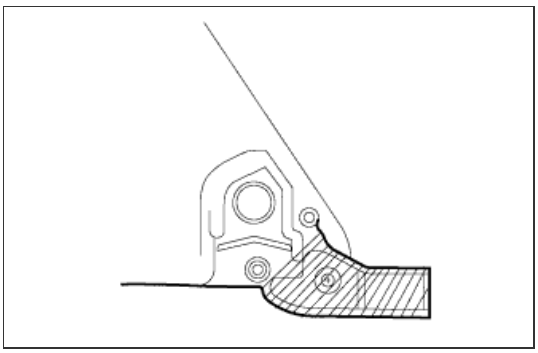


2. INSTALL LOWER HEADLIGHT PROTECTOR RETAINER LH

HINT:

- **If the installation area of the headlight is damaged, use the supply retainer for low-cost repair.**
- **Ensure that the headlight is not damaged.**

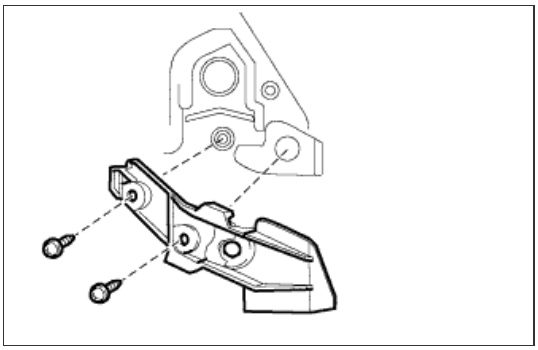
a. Cut off the part shaded in the illustration and smooth with sandpaper.



NOTICE:

After cutting off the part, place the headlight protector retainer against the bosses and gradually file away the old bracket if it interferes with the installation of the supply retainer.

b. Install the headlight protector retainer with the 2 screws.



3. INSTALL UPPER LH HEADLIGHT PROTECTOR RETAINER LH

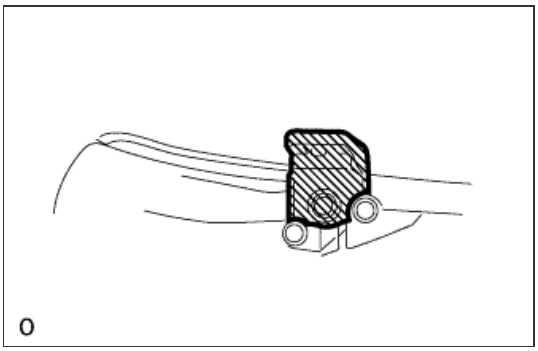
HINT:

- **If the installation area of the headlight is damaged, use the supply retainer for low-cost repair.**
- **Ensure that the headlight is not damaged.**

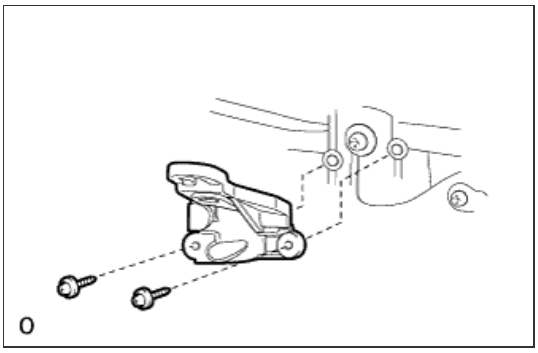
a. Cut off the part shaded in the illustration and smooth with sandpaper.

NOTICE:

After cutting off the part, place the headlight protector retainer against the bosses and gradually file away the old bracket if it interferes with the installation of the supply retainer.



b. Install the headlight protector retainer with the 2 screws.



4. INSTALL LOWER LH HEADLIGHT PROTECTOR RETAINER LH

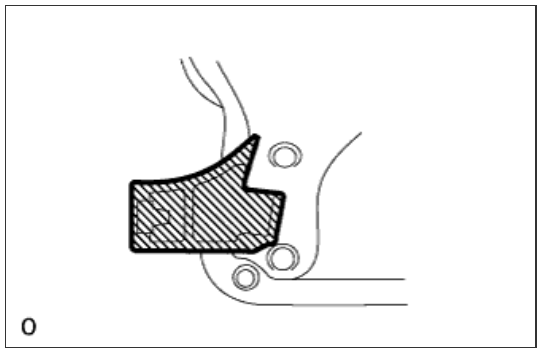
HINT:

- **If the installation area of the headlight is damaged, use the supply retainer for low-cost repair.**
- **Ensure that the headlight is not damaged.**

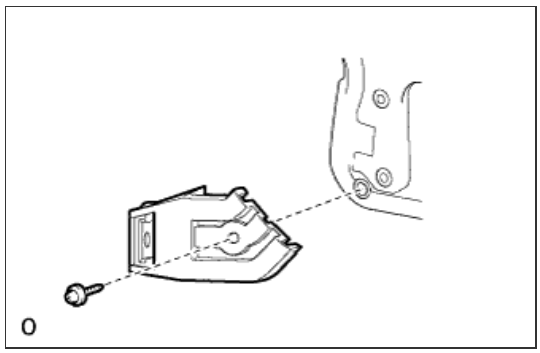
a. Cut off the part shaded in the illustration and smooth with sandpaper.

NOTICE:

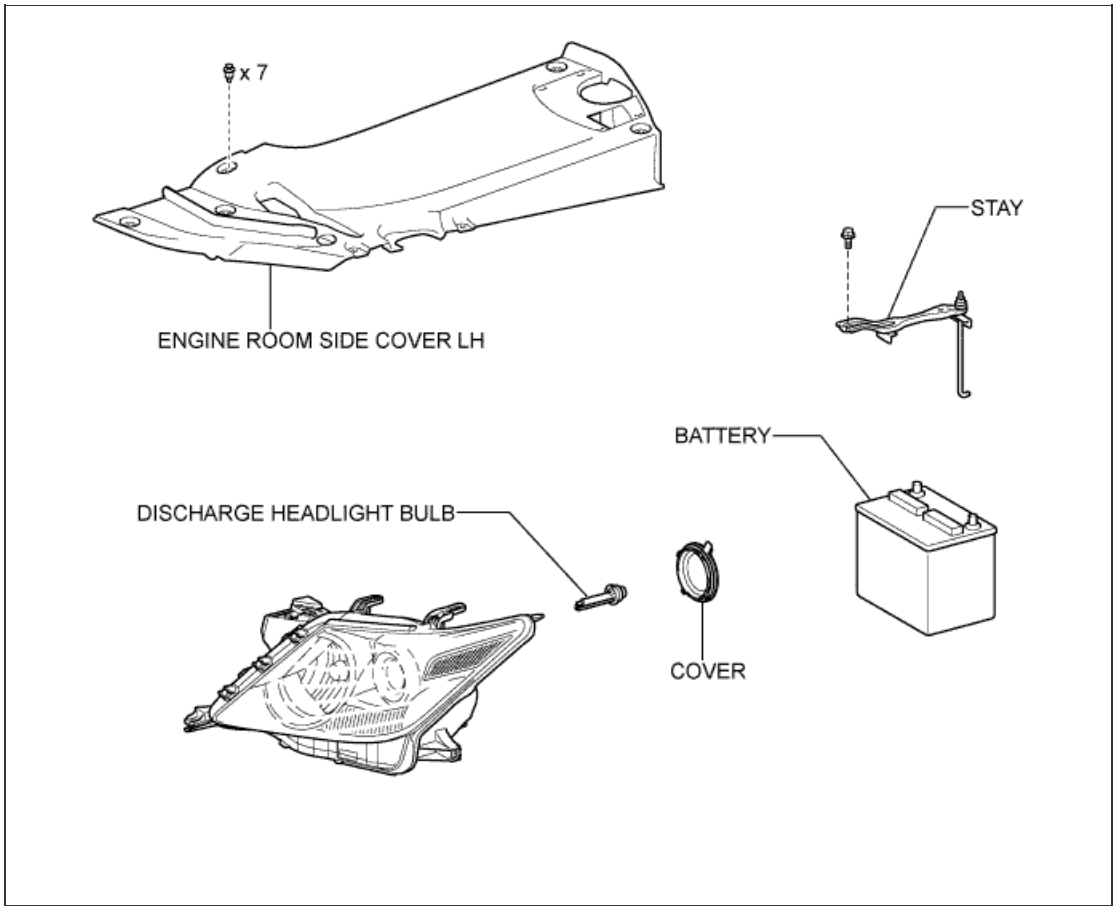
After cutting off the part, place the headlight protector retainer against the bosses and gradually file away the old bracket if it interferes with the installation of the supply retainer.



b. Install the headlight protector retainer with the screw.



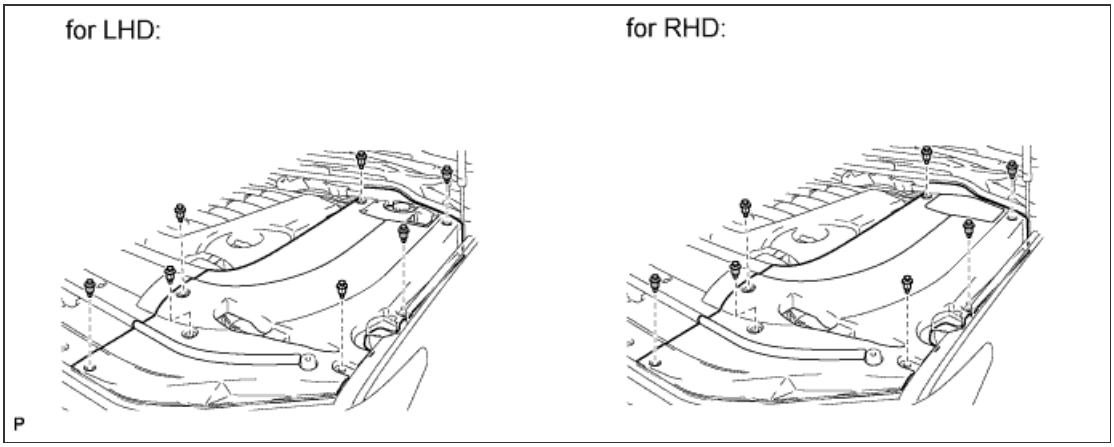
for Preparation [Click here]



for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



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).

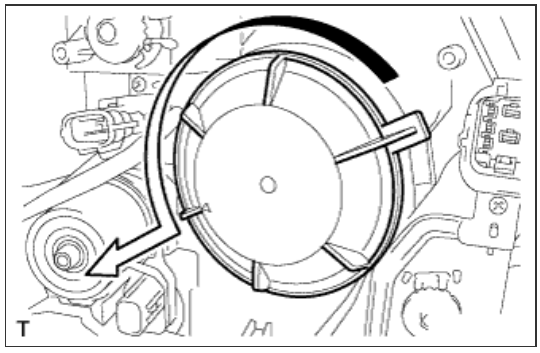
3. REMOVE BATTERY

a. Remove the nut and stay.

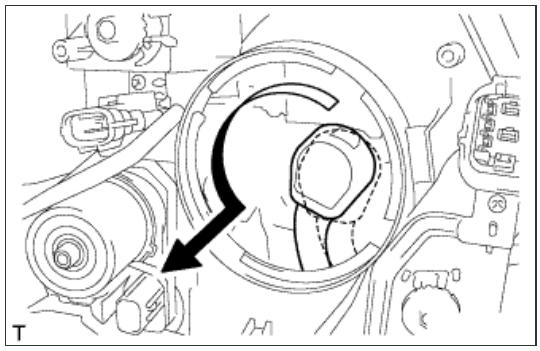
b. Remove the battery.

4. REMOVE DISCHARGE HEADLIGHT BULB

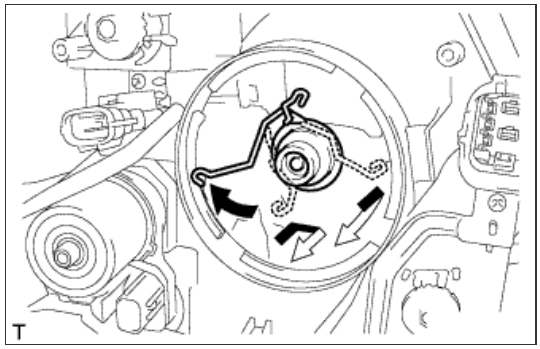
a. Turn the back cover in the direction indicated by the arrow and remove it.



b. Turn the headlight control ECU socket in the direction indicated by the arrow and disconnect it.



c. Release the set spring lock as shown in the illustration and remove the bulb.



NOTICE:

Do not touch the glass part of the bulb.

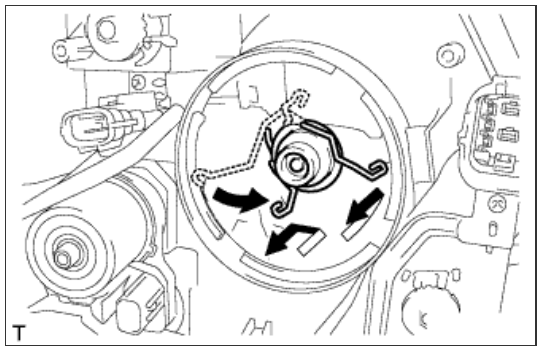
for Preparation Click here

1. INSTALL DISCHARGE HEADLIGHT BULB

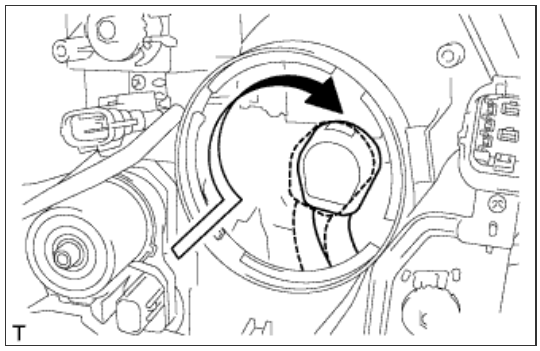
a. Lock the set spring as shown in the illustration to install the discharge headlight bulb.

NOTICE:

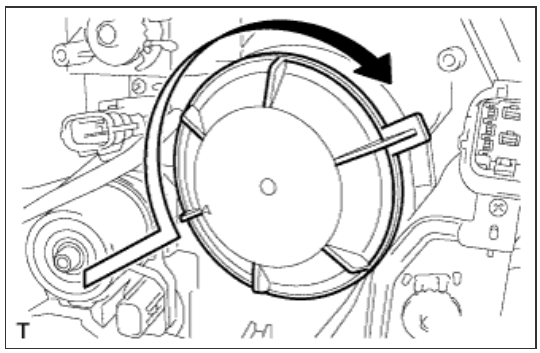
Do not touch the glass part of the bulb.



b. Turn the headlight control ECU socket in the direction indicated by the arrow to connect the socket.



c. Turn the back cover in the direction indicated by the arrow to install it.



2. INSTALL BATTERY

a. Install the battery.

b. Install the stay and nut.

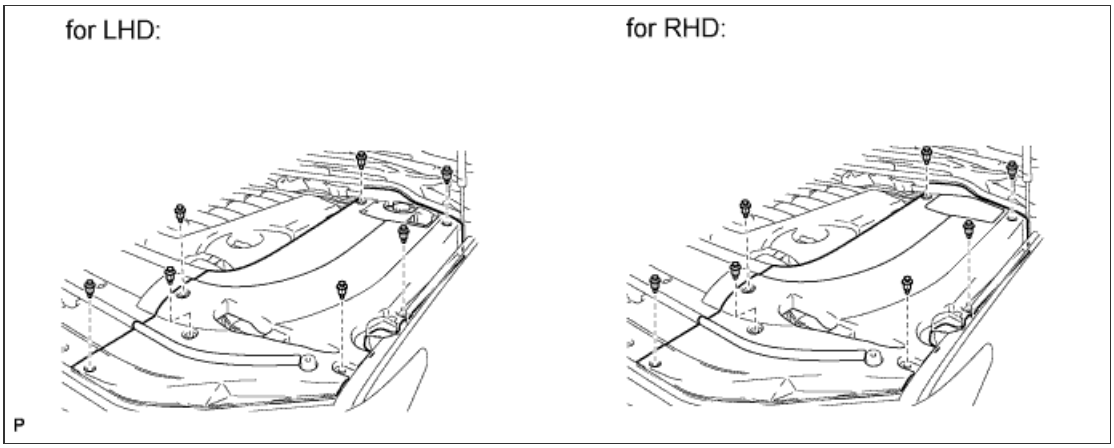
3. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

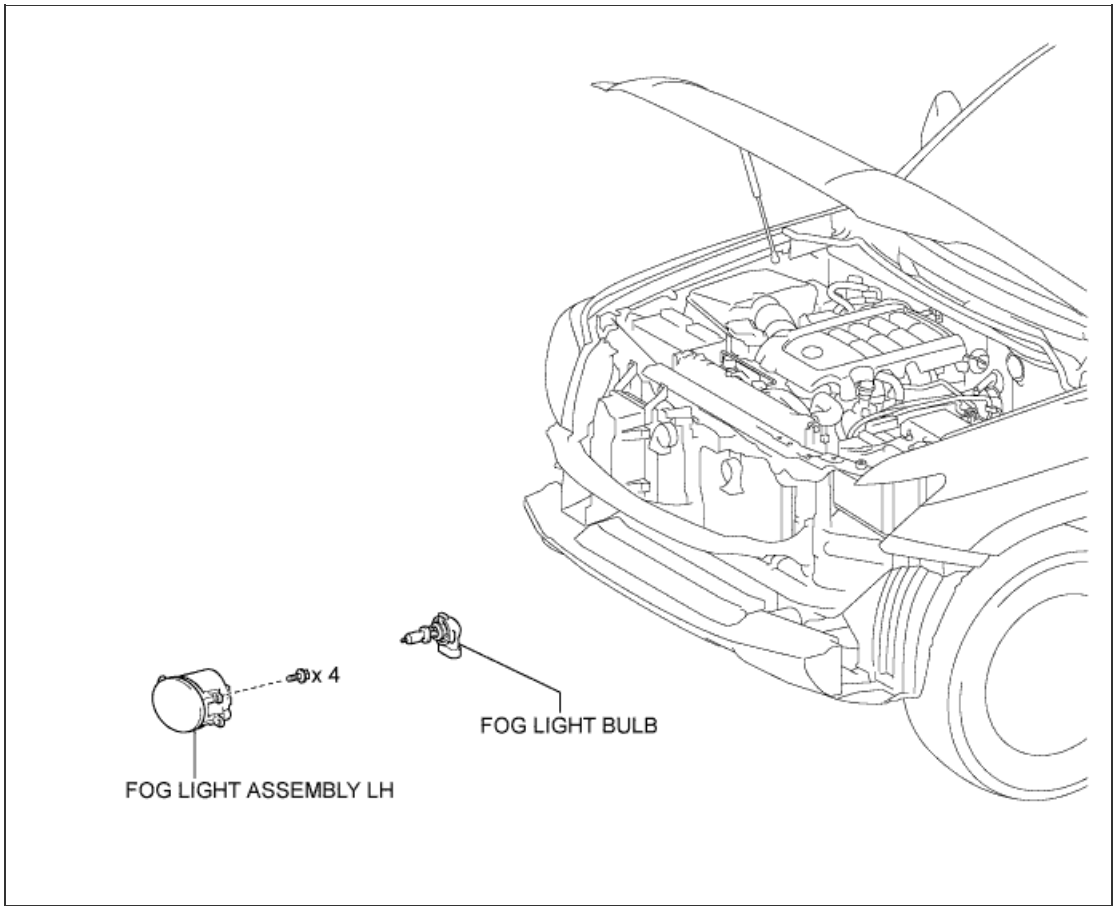
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

4. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



for Preparation Click here



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.**

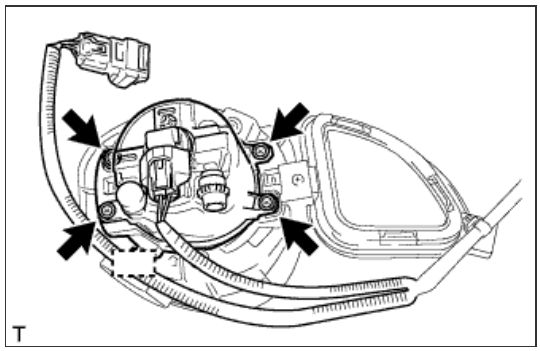
1. REMOVE FRONT BUMPER

a. Remove the front bumper (Click here).

2. REMOVE FOG LIGHT ASSEMBLY LH

a. Detach the clamp.

b. Remove the 4 screws and fog light.



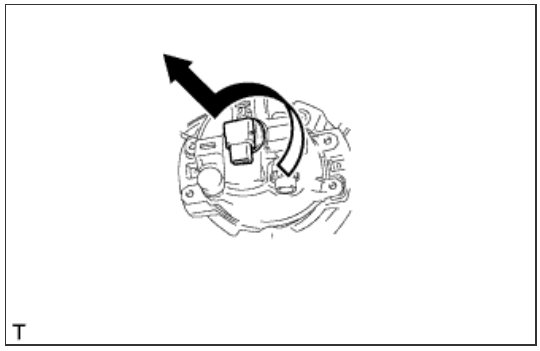
for Preparation Click here

HINT:

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

1. REMOVE FOG LIGHT BULB

a. Turn the fog light bulb in the direction indicated by the arrow in the illustration and remove it from the fog light unit.



for Preparation Click here

HINT:

It is possible that a bulb is incorrectly installed, affecting fog light aim. Bulb installation should be considered prior to performing the adjustment procedure.

1. VEHICLE PREPARATION FOR FOG LIGHT AIMING ADJUSTMENT

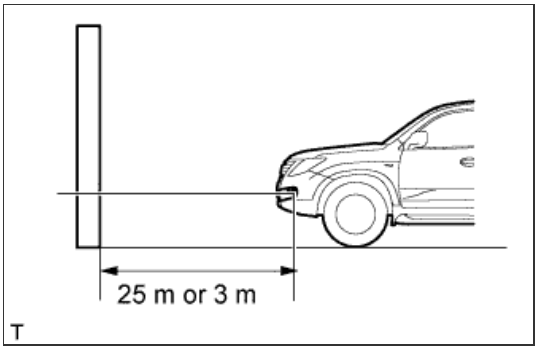
a. Prepare the vehicle:

- Ensure there is no damage or deformation to the body around the fog lights.
- Fill the fuel tank.
- Make sure that the oil is filled to the specified level.
- Make sure that the coolant is filled to the specified level.
- Inflate the tires to the appropriate pressure.
- Unload the trunk and vehicle, ensuring that the spare tire, tools, and jack are also removed.
- Have a person of average weight (75 kg, 165.3 lb) sit in the driver seat.
- Vehicles with height adjustable suspension should have the vehicle height set to the lowest setting prior to adjusting the fog light aim.

2. PREPARATION FOR FOG LIGHT AIMING

a. Prepare the vehicle:

- Place the vehicle in a location that is dark enough to clearly observe the cutoff line. The cutoff line is a distinct line, below which light from the fog lights can be observed and above which it cannot.
- Place the vehicle at a 90° angle to the wall.
- Create a 25 m (82.0 ft.) distance between the vehicle (fog light bulb center) and the wall.
- Make sure that the vehicle is on a level surface.
- Bounce the vehicle up and down to settle the suspension.



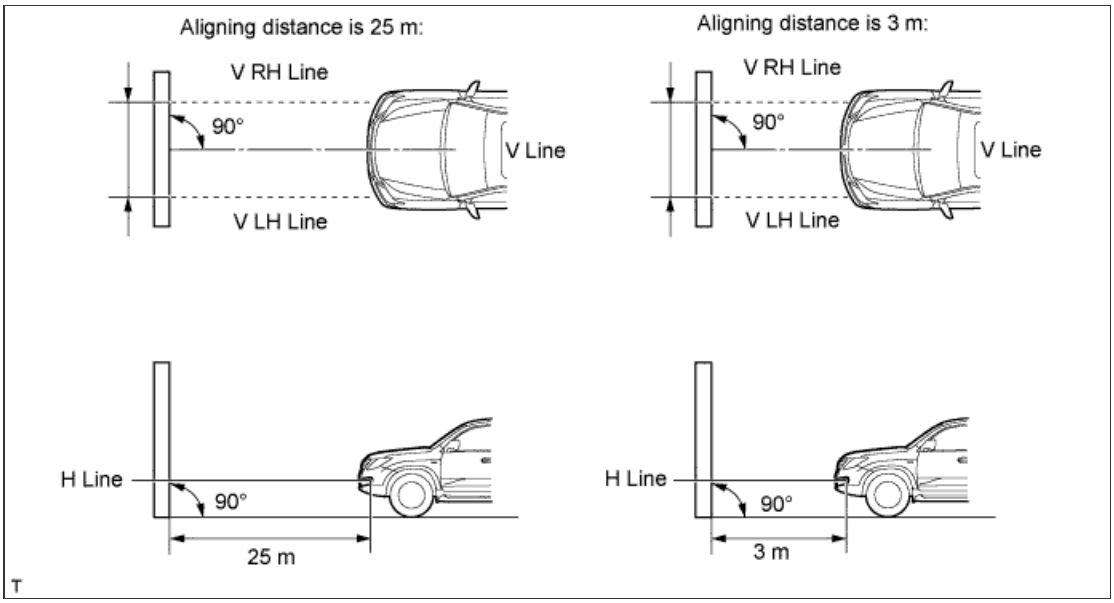
NOTICE:

A distance of 25 m (82.0 ft.) between the vehicle (fog light bulb center) and the wall is necessary for proper aim adjustment. If unavailable, secure a distance of exactly 3 m (9.84 ft.) for the check and adjustment. (The target zone will change with the distance, so follow the instructions in the illustration).

b. Prepare a piece of thick white paper approximately 2.0 m (6.56 ft.) (height) x 4.0 m (13.1 ft.) (width) to use as a screen.

c. Draw a vertical line down the center of the screen (V line).

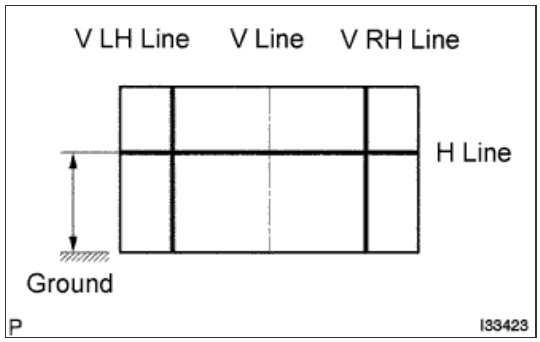
d. Set the screen as shown in the illustration.



HINT:

- **Stand the screen perpendicular to the ground.**
- **Align the V line on the screen with the center of the vehicle.**

e. Draw base lines (H, V LH and V RH lines) on the screen as shown in the illustration.



HINT:

Mark the fog light bulb center marks on the screen. If the center mark cannot be observed on the fog light, use the center of the fog light bulb or the name of the manufacture marked on the fog light as the center mark.

i. H line (Fog light height):
Draw a horizontal line across the screen so that it passes through the center marks. The H line should be at the same height as the fog light bulb center marks of the fog lights.

ii. V LH Line, V RH Line (Center mark position of left-hand (LH) and right-hand (RH) fog lights):
Draw two vertical lines so that they intersect the H line at each center mark.

3. INSPECT FOG LIGHT AIMING

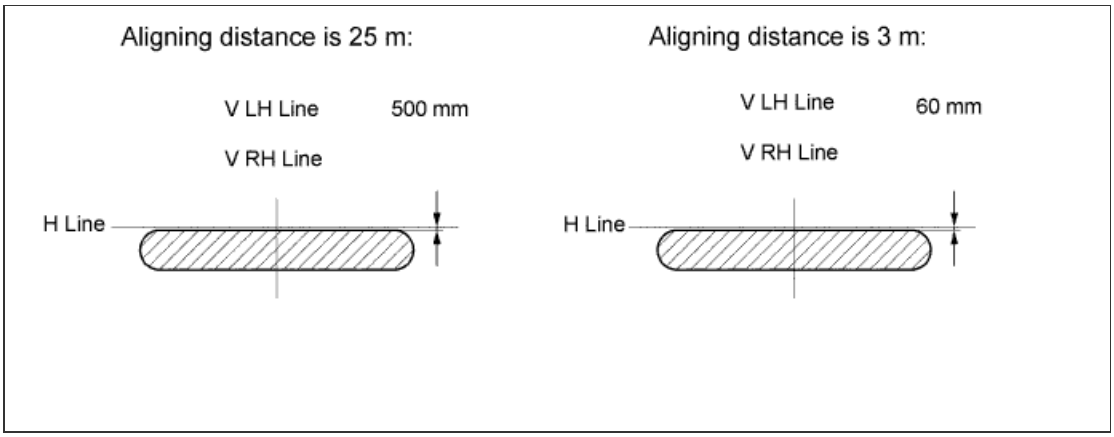
a. Cover the fog light or disconnect the connector of the fog light on the opposite side to prevent light from the fog light that is not being inspected from affecting the fog light aiming inspection.

NOTICE:

Do not keep the fog light covered for more than 3 minutes. The fog light lens is made of synthetic resin, which may melt or be damaged due to excessive heat.

b. Start the engine.

c. Turn on the fog light and check if the cutoff line falls within the specified area in the following illustration.



4. ADJUST FOG LIGHT AIMING

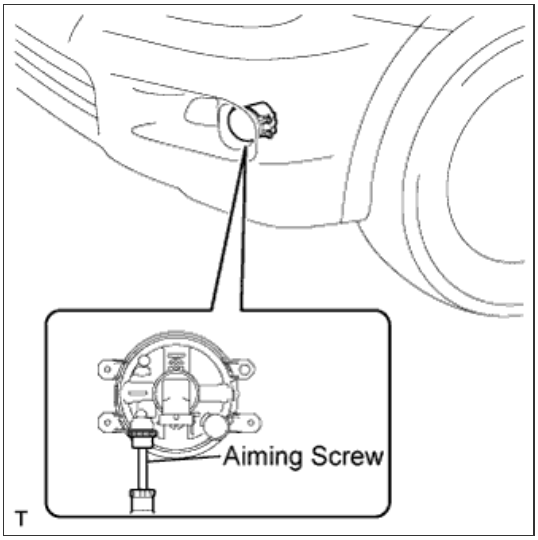
a. Adjust the aim vertically:
Adjust the aim of each fog light to the specified range by turning the aiming screw with a screwdriver.

NOTICE:

The final turn of the aiming screw should be made in the clockwise direction. If the screw is tightened excessively, loosen it and then retighten it, so that the final turn of the screw is in the clockwise direction.

HINT:

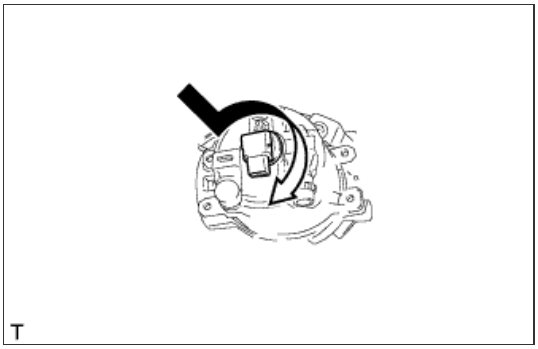
If it is not possible to correctly adjust fog light aim, check the bulb, fog light unit, and fog light unit reflector installation.



for Preparation Click here

1. INSTALL FOG LIGHT BULB

a. Turn the bulb in the direction indicated by the arrow and install it to the fog light unit.



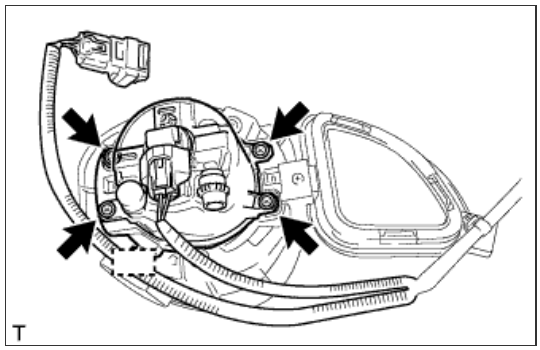
for Preparation Click here

1. INSTALL FOG LIGHT ASSEMBLY LH

a. Install the fog light with the 4 screws.

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

b. Attach the clamp.



2. INSTALL FRONT BUMPER

a. Install the front bumper (Click here).

3. VEHICLE PREPARATION FOR FOG LIGHT AIMING ADJUSTMENT

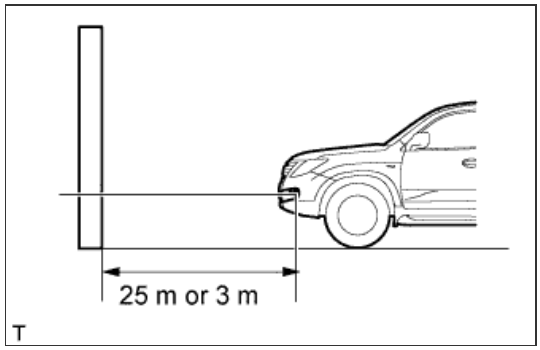
a. Prepare the vehicle:

- Ensure there is no damage or deformation to the body around the fog lights.
- Fill the fuel tank.
- Make sure that the oil is filled to the specified level.
- Make sure that the coolant is filled to the specified level.
- Inflate the tires to the appropriate pressure.
- Unload the trunk and vehicle, ensuring that the spare tire, tools, and jack are also removed.
- Have a person of average weight (75 kg, 165.3 lb) sit in the driver seat.
- Vehicles with height adjustable suspension should have the vehicle height set to the lowest setting prior to adjusting the fog light aim.

4. PREPARATION FOR FOG LIGHT AIMING

a. Prepare the vehicle:

- Place the vehicle in a location that is dark enough to clearly observe the cutoff line. The cutoff line is a distinct line, below which light from the fog lights can be observed and above which it cannot.
- Place the vehicle at a 90° angle to the wall.
- Create a 25 m (82.0 ft.) distance between the vehicle (fog light bulb center) and the wall.
- Make sure that the vehicle is on a level surface.
- Bounce the vehicle up and down to settle the suspension.



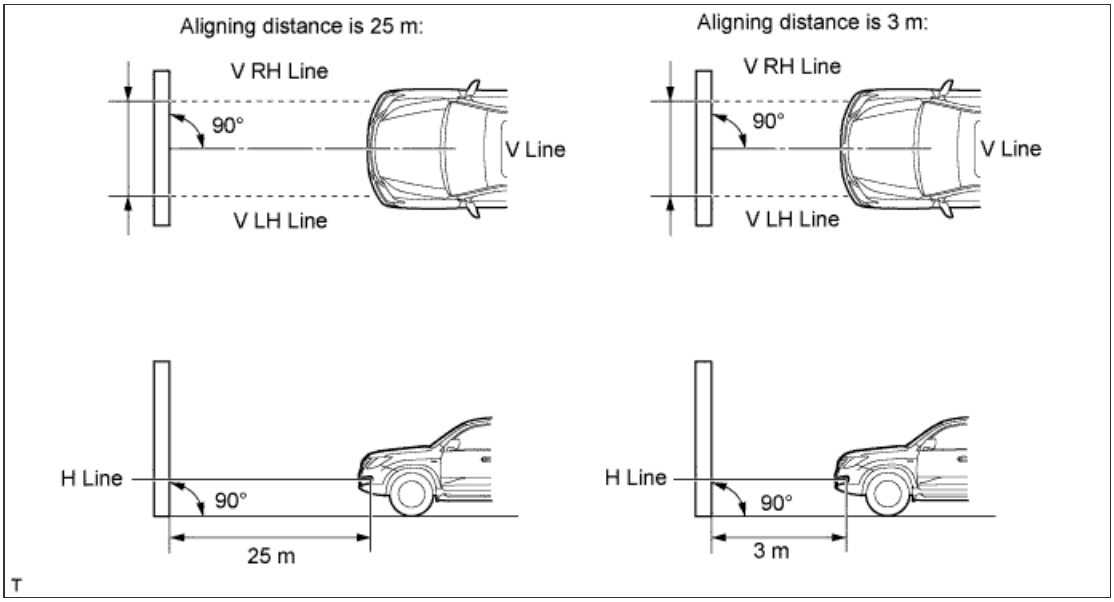
NOTICE:

A distance of 25 m (82.0 ft.) between the vehicle (fog light bulb center) and the wall is necessary for proper aim adjustment. If unavailable, secure a distance of exactly 3 m (9.84 ft.) for the check and adjustment. (The target zone will change with the distance, so follow the instructions in the illustration).

b. Prepare a piece of thick white paper approximately 2.0 m (6.56 ft.) (height) x 4.0 m (13.1 ft.) (width) to use as a screen.

c. Draw a vertical line down the center of the screen (V line).

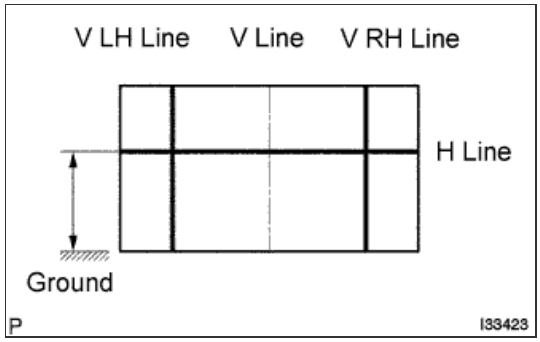
d. Set the screen as shown in the illustration.



HINT:

- **Stand the screen perpendicular to the ground.**
- **Align the V line on the screen with the center of the vehicle.**

e. Draw base lines (H, V LH and V RH lines) on the screen as shown in the illustration.



HINT:

Mark the fog light bulb center marks on the screen. If the center mark cannot be observed on the fog light, use the center of the fog light bulb or the name of the manufacture marked on the fog light as the center mark.

i. H line (Fog light height):
Draw a horizontal line across the screen so that it passes through the center marks. The H line should be at the same height as the fog light bulb center marks of the fog lights.

ii. V LH Line, V RH Line (Center mark position of left-hand (LH) and right-hand (RH) fog lights):
Draw two vertical lines so that they intersect the H line at each center mark.

5. INSPECT FOG LIGHT AIMING

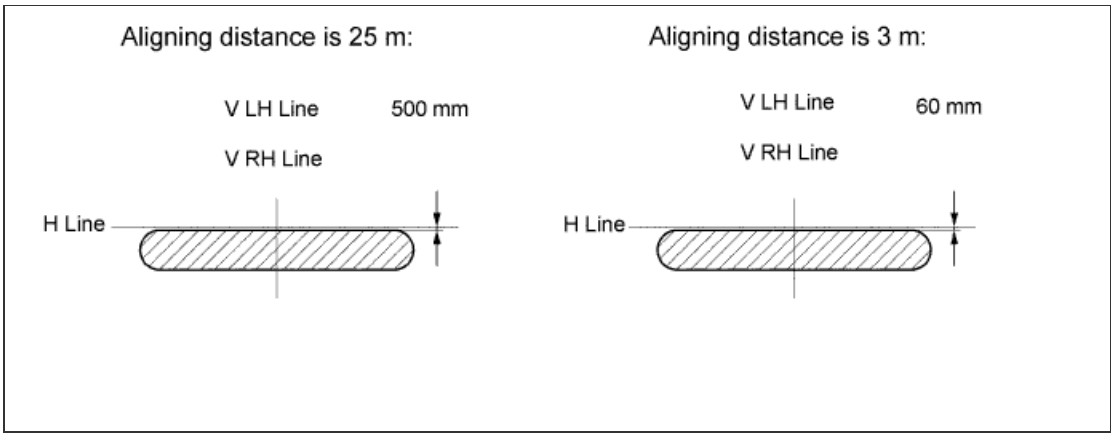
a. Cover the fog light or disconnect the connector of the fog light on the opposite side to prevent light from the fog light that is not being inspected from affecting the fog light aiming inspection.

NOTICE:

Do not keep the fog light covered for more than 3 minutes. The fog light lens is made of synthetic resin, which may melt or be damaged due to excessive heat.

b. Start the engine.

c. Turn on the fog light and check if the cutoff line falls within the specified area in the following illustration.



6. ADJUST FOG LIGHT AIMING

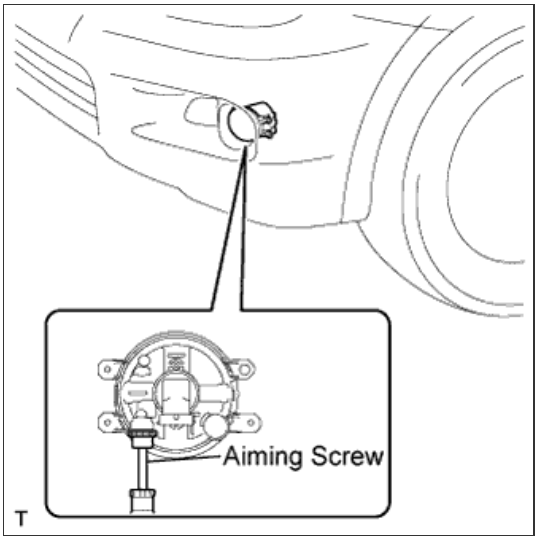
a. Adjust the aim vertically:
Adjust the aim of each fog light to the specified range by turning the aiming screw with a screwdriver.

NOTICE:

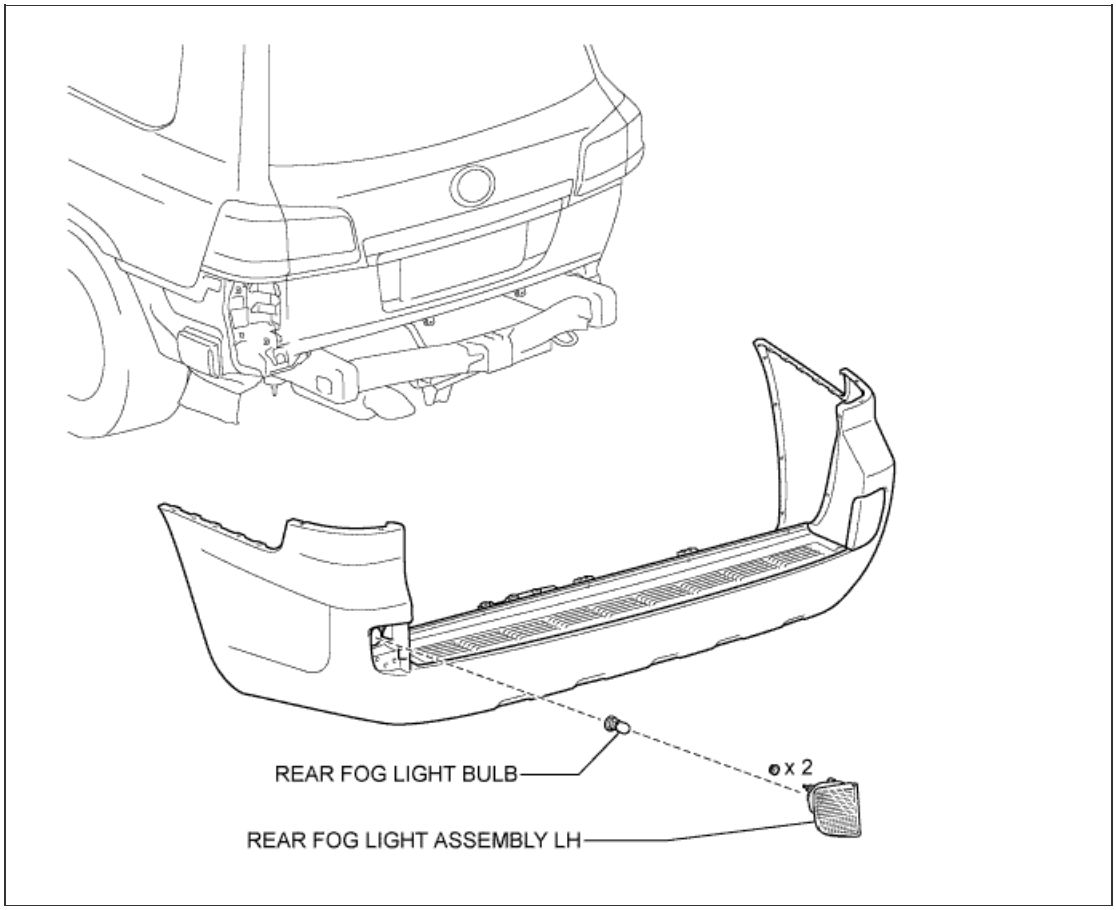
The final turn of the aiming screw should be made in the clockwise direction. If the screw is tightened excessively, loosen it and then retighten it, so that the final turn of the screw is in the clockwise direction.

HINT:

If it is not possible to correctly adjust fog light aim, check the bulb, fog light unit, and fog light unit reflector installation.



for Preparation Click here



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 BUMPER

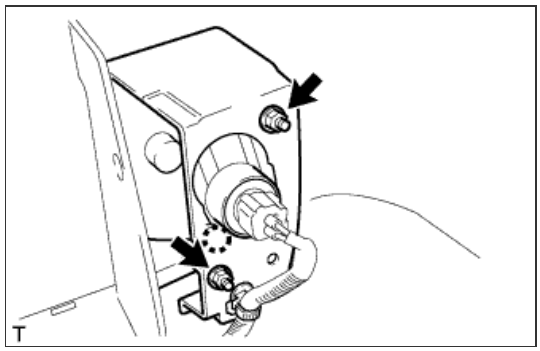
a. Remove the rear bumper (Click here).

2. REMOVE REAR FOG LIGHT ASSEMBLY LH

a. Remove the 2 nuts.

b. Disconnect the connectors.

c. Detach the claw and remove the fog light.



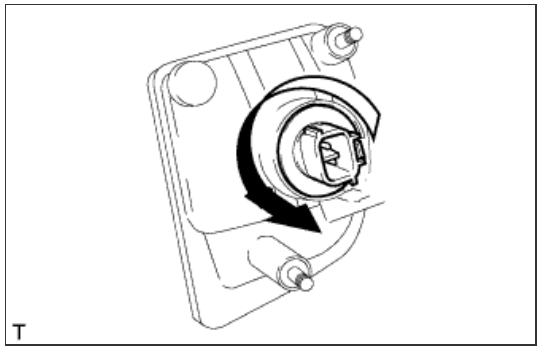
for Preparation Click here

HINT:

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

1. REMOVE REAR FOG LIGHT BULB

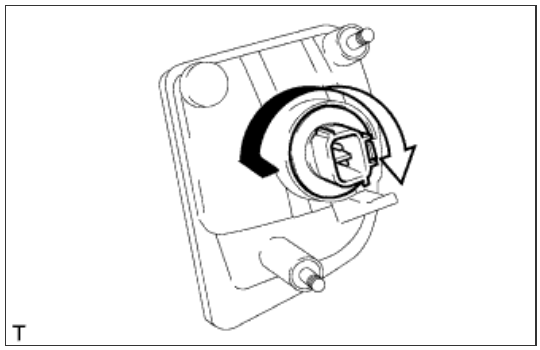
a. Turn the bulb in the direction indicated by the arrow in the illustration.



for Preparation Click here

1. INSTALL REAR FOG LIGHT BULB

a. Turn the bulb in the direction indicated by the arrow and install it.



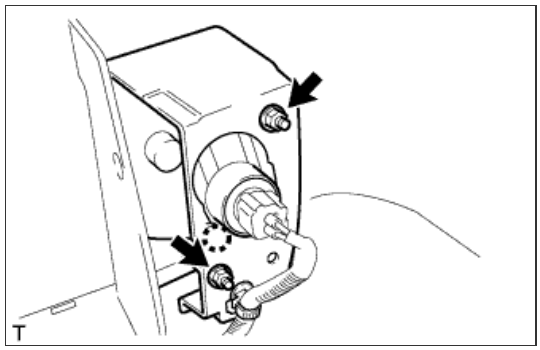
for Preparation Click here

1. INSTALL REAR FOG LIGHT ASSEMBLY LH

a. Attach the claw.

b. Connect the connectors.

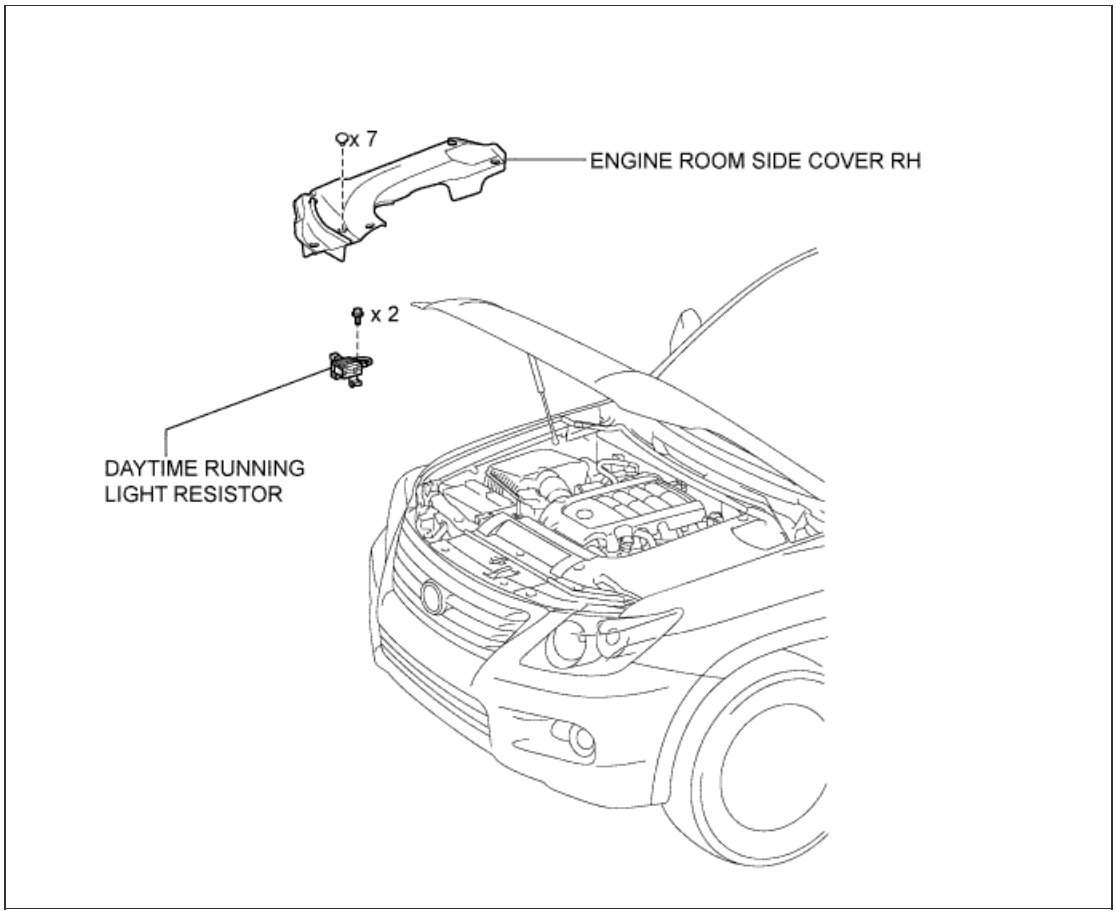
c. Install the fog light with the 2 nuts.



2. INSTALL REAR BUMPER

a. Install the rear bumper (Click here).

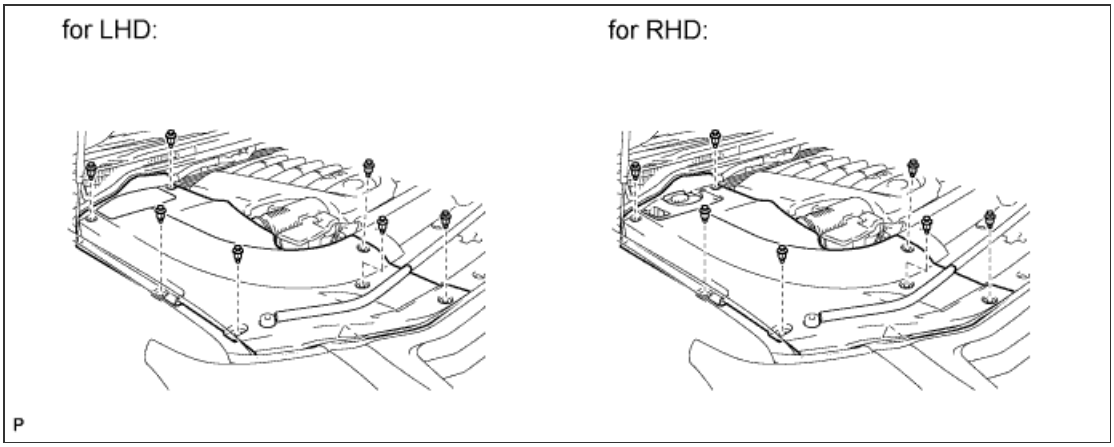
for Preparation Click here



for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER RH

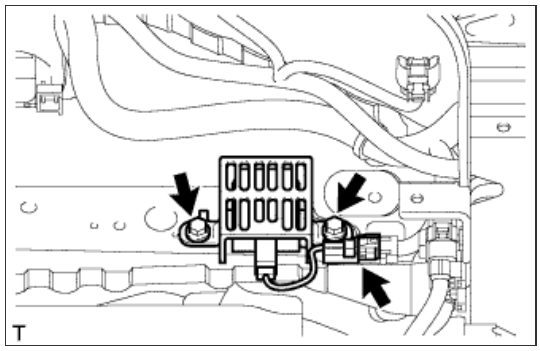
a. Remove the 7 clips and engine room side cover.



2. REMOVE DAYTIME RUNNING LIGHT RESISTOR

a. Disconnect the connector.

b. Remove the 2 bolts and light resistor.



for Preparation Click here

1. INSPECT DAYTIME RUNNING LIGHT RESISTOR

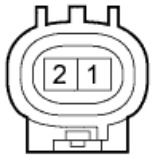
a. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Condition	Specified Condition
1 - 2	Always	0.94 to 1.04 Ω

If the result is not as specified, replace the daytime running light resistor.

Component without harness connected:
(Daytime Running Light Resistor)



for Preparation Click here

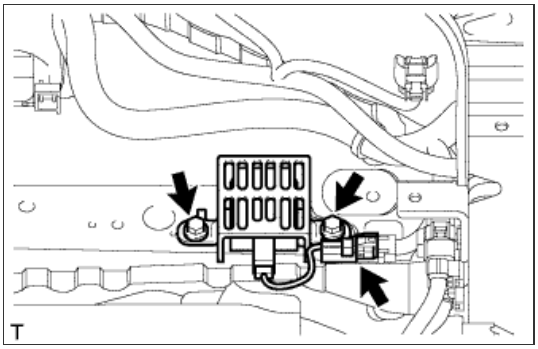
HINT:

A bolt without a torque specification is shown in the standard bolt chart (Click here).

1. INSTALL DAYTIME RUNNING LIGHT RESISTOR

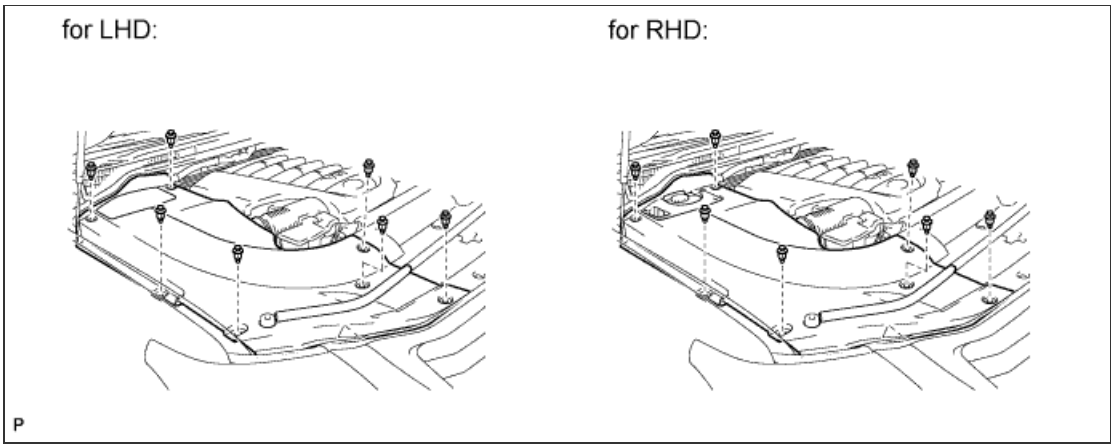
a. Connect the connector.

b. Install the light resistor with the 2 bolts.

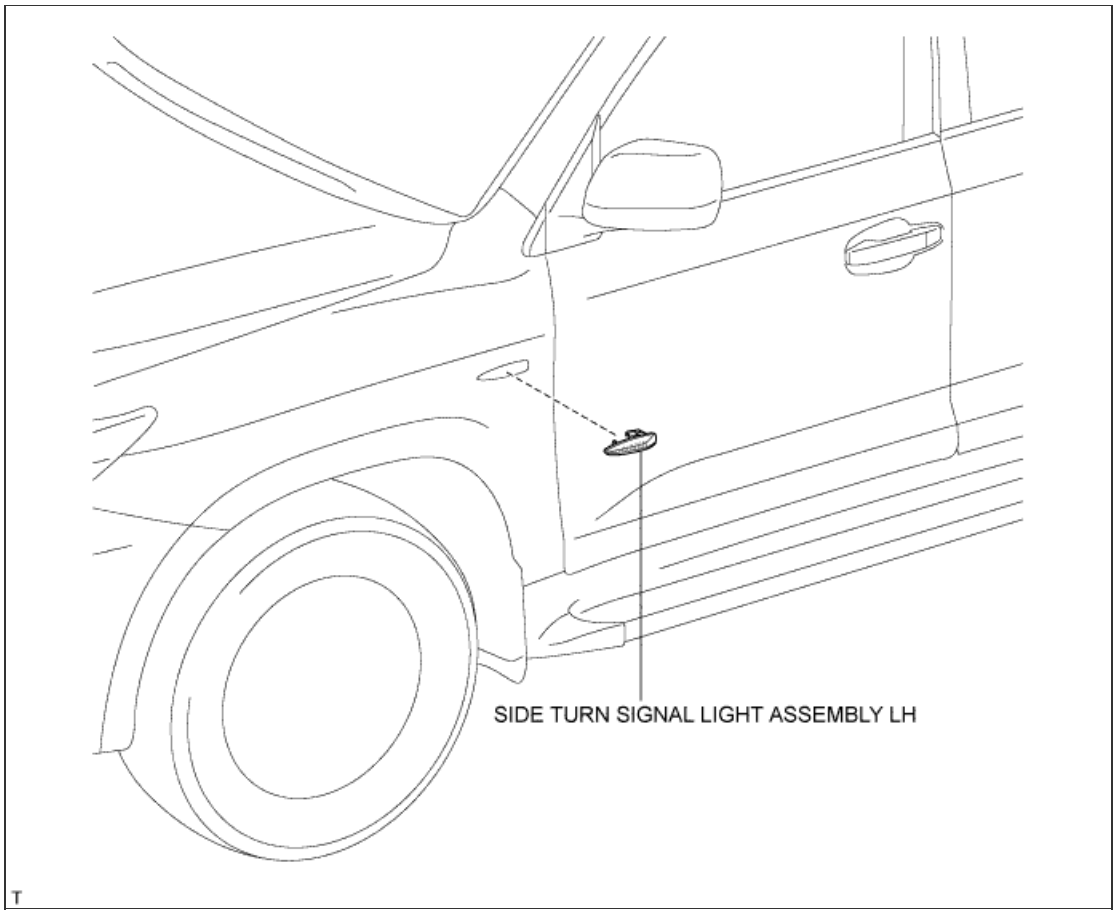


2. INSTALL ENGINE ROOM SIDE COVER RH

a. Install the engine room side cover with the 7 clips.



for Preparation Click here



for Preparation Click here

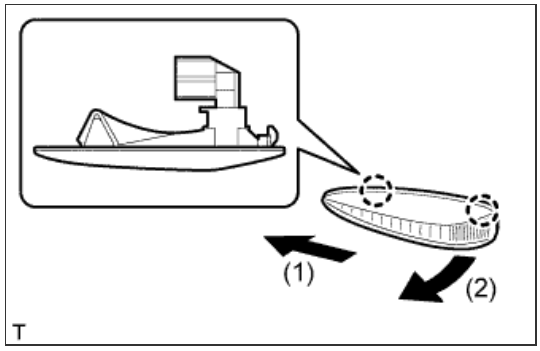
HINT:

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

1. REMOVE SIDE TURN SIGNAL LIGHT ASSEMBLY LH

a. Detach the 2 claws in the order shown in the illustration and remove the side turn signal light.

b. Disconnect the connector.

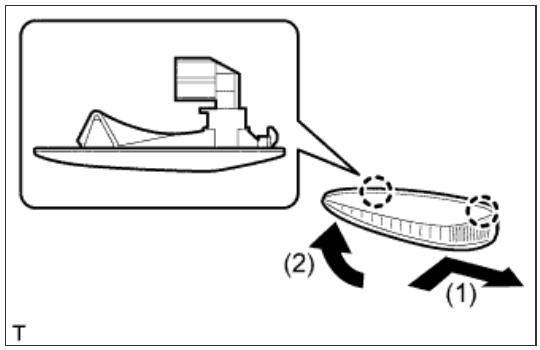


for Preparation Click here

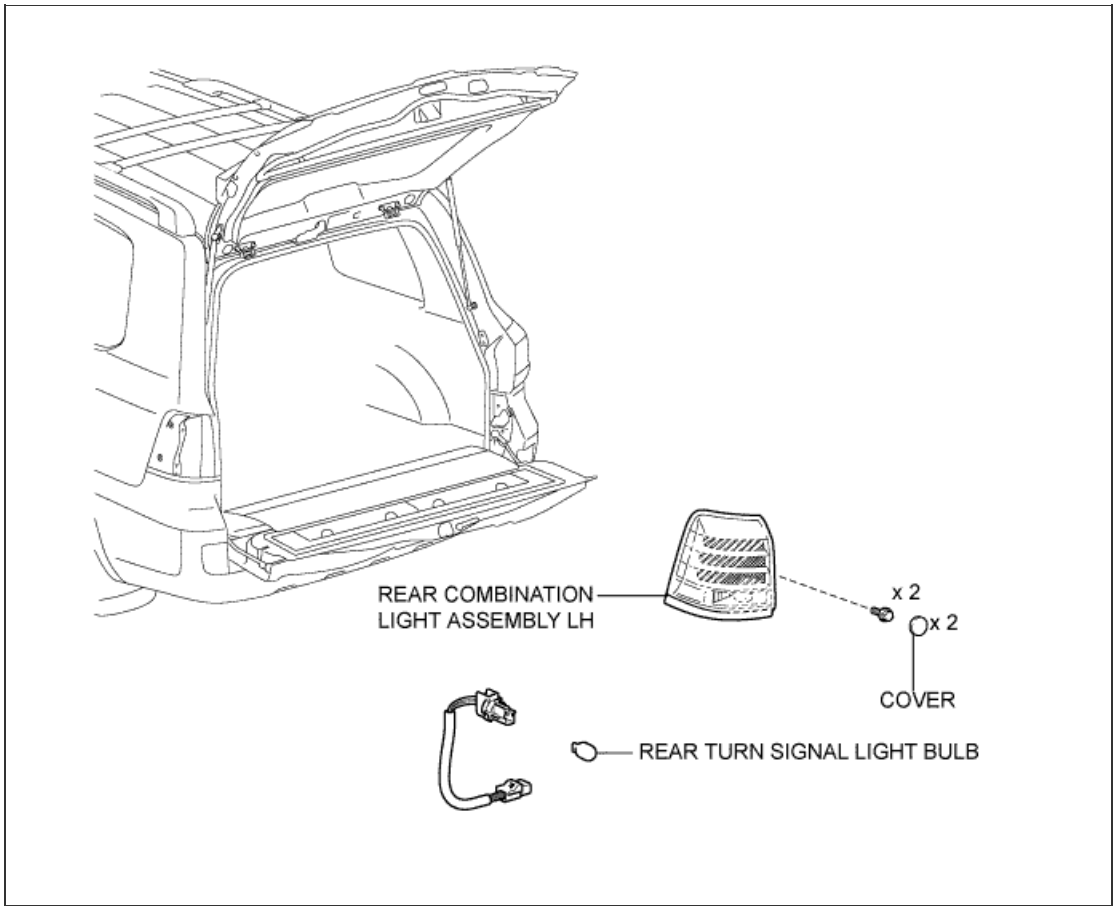
1. INSTALL SIDE TURN SIGNAL LIGHT ASSEMBLY LH

a. Connect the connector.

b. Attach the 2 claws in the order shown in the illustration to install the turn signal light.



for Preparation Click here



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.**

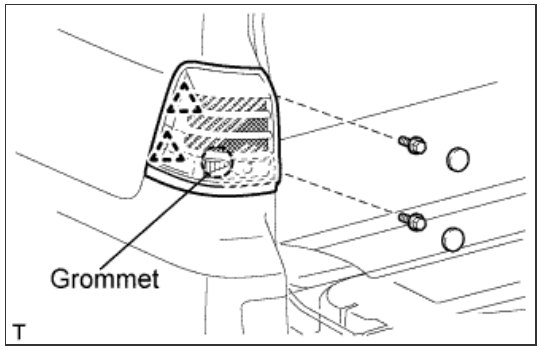
1. REMOVE REAR COMBINATION LIGHT ASSEMBLY LH

a. Remove the 2 covers.

b. Remove the 2 bolts.

c. Detach the 2 clips and remove the rear combination light.

d. Disconnect the connector.



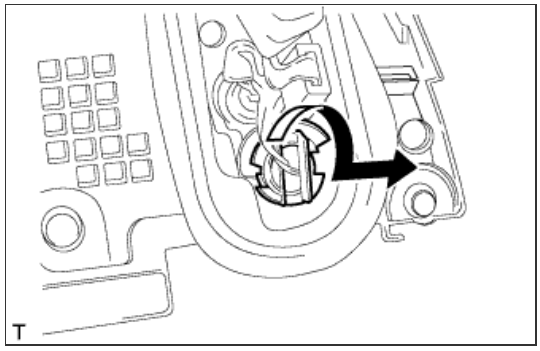
for Preparation Click here

HINT:

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

1. REMOVE REAR TURN SIGNAL LIGHT BULB

a. Turn the bulb in the direction indicated by the arrow and remove it.



for Preparation Click here

1. INSPECT REAR COMBINATION LIGHT ASSEMBLY LH

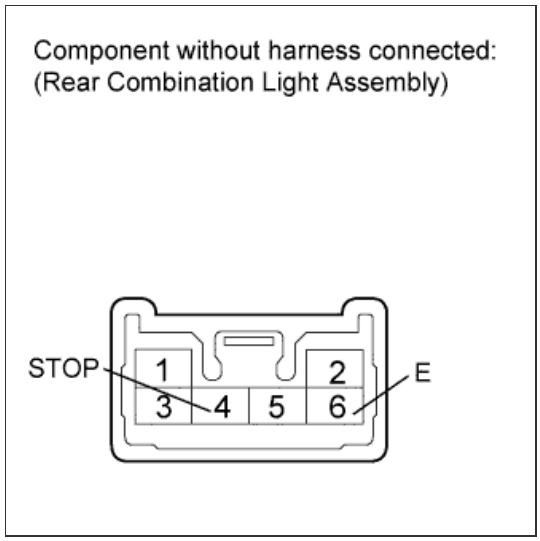
a. Check the stop light.

i. Apply battery voltage to the connector, and check the LED illumination condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → 4 (STOP) Battery negative (-) → 6 (E)	LED illuminates

If the result is not as specified, replace the rear combination light assembly.



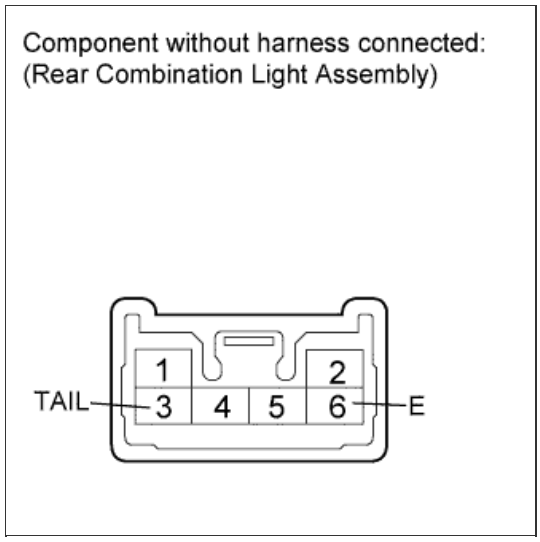
b. Check the taillight.

i. Apply battery voltage to the connector, and check the LED illumination condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → 3 (TAIL) Battery negative (-) → 6 (E)	LED illuminates

If the result is not as specified, replace the rear combination light assembly.



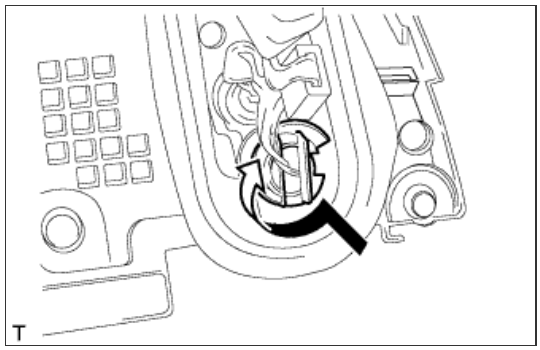
for Preparation Click here

1. INSTALL REAR TURN SIGNAL LIGHT BULB

a. Install the bulb to the socket.

b. Insert the bulb/socket unit into the combination light.

c. Turn the bulb/socket unit in the direction indicated by the arrow to install it.



for Preparation Click here

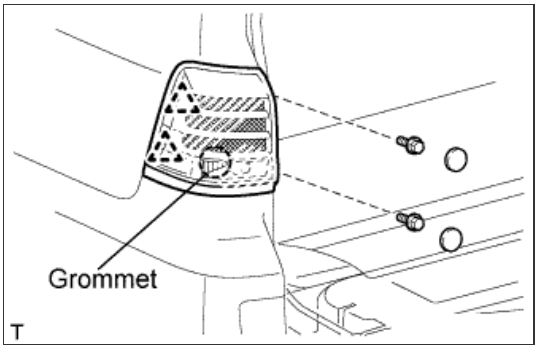
1. INSTALL REAR COMBINATION LIGHT ASSEMBLY LH

a. Connect the connector.

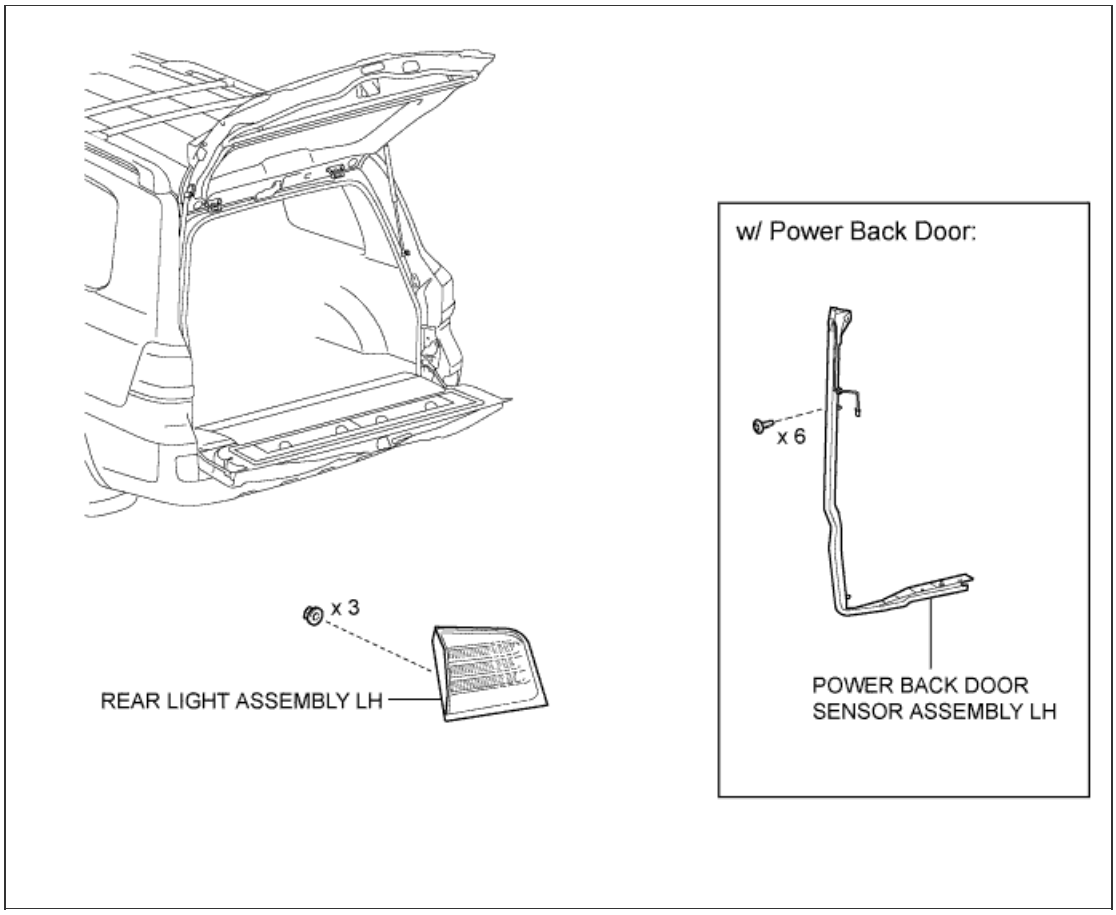
b. Attach the 2 clips to install the rear combination light.

c. Install the 2 bolts.

d. Install the 2 covers.



for Preparation Click here



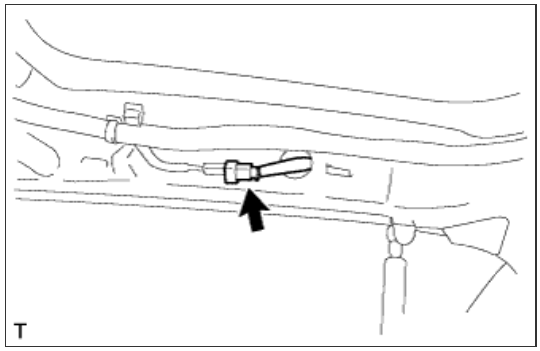
for Preparation Click here

HINT:

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

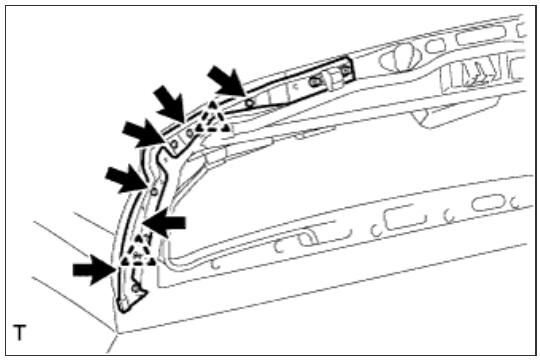
1. REMOVE POWER BACK DOOR SENSOR ASSEMBLY LH (w/ Power Back Door)

a. Disconnect the connector.



b. Using a T25 "TORX" wrench, remove the 6 screws.

c. Detach the 2 clips and remove the power back door sensor assembly LH.

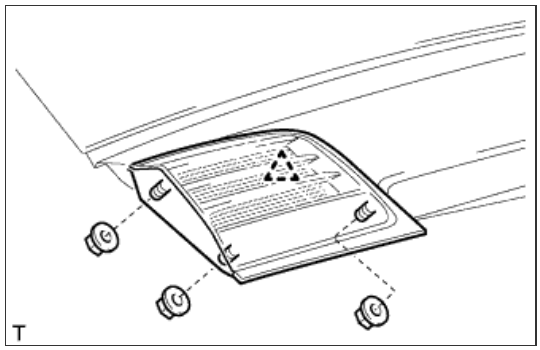


2. REMOVE REAR LIGHT ASSEMBLY LH

a. Disconnect the connector.

b. Remove the 3 nuts.

c. Detach the clip and remove the rear light.



for Preparation Click here

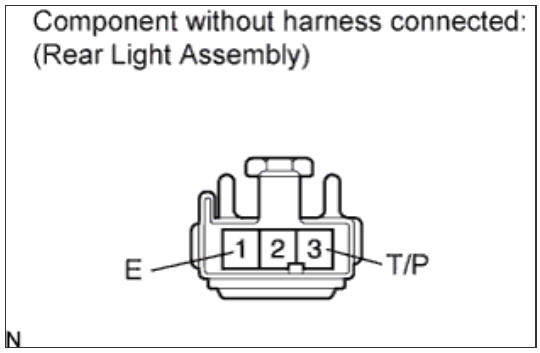
1. INSPECT REAR LIGHT ASSEMBLY LH

a. Apply battery voltage to the connector, and check the LED illumination condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 3 (T/P) Battery negative (-) → Terminal 1 (E)	LED illuminates

If the result is not as specified, there may be a malfunction on the rear light assembly.



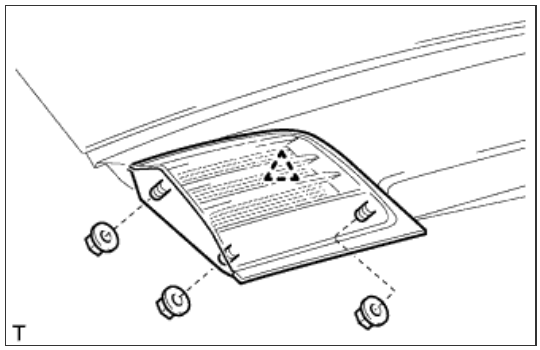
for Preparation Click here

1. INSTALL REAR LIGHT ASSEMBLY LH

a. Attach the clip to install the rear light.

b. Install the 3 nuts.

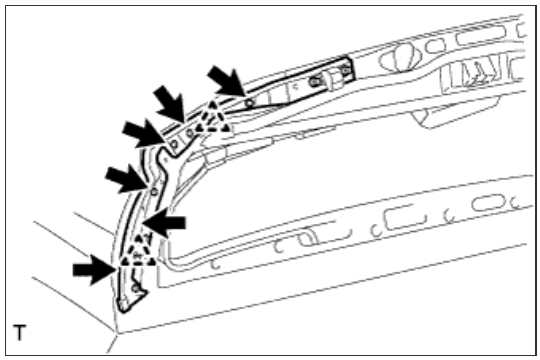
c. Connect the connector.



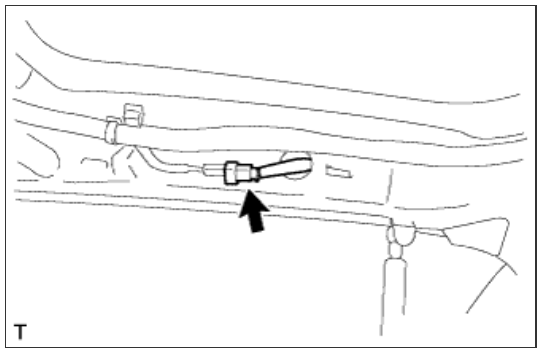
2. INSTALL POWER BACK DOOR SENSOR ASSEMBLY LH (w/ Power Back Door)

a. Attach the 2 clips to install the power back door sensor assembly LH.

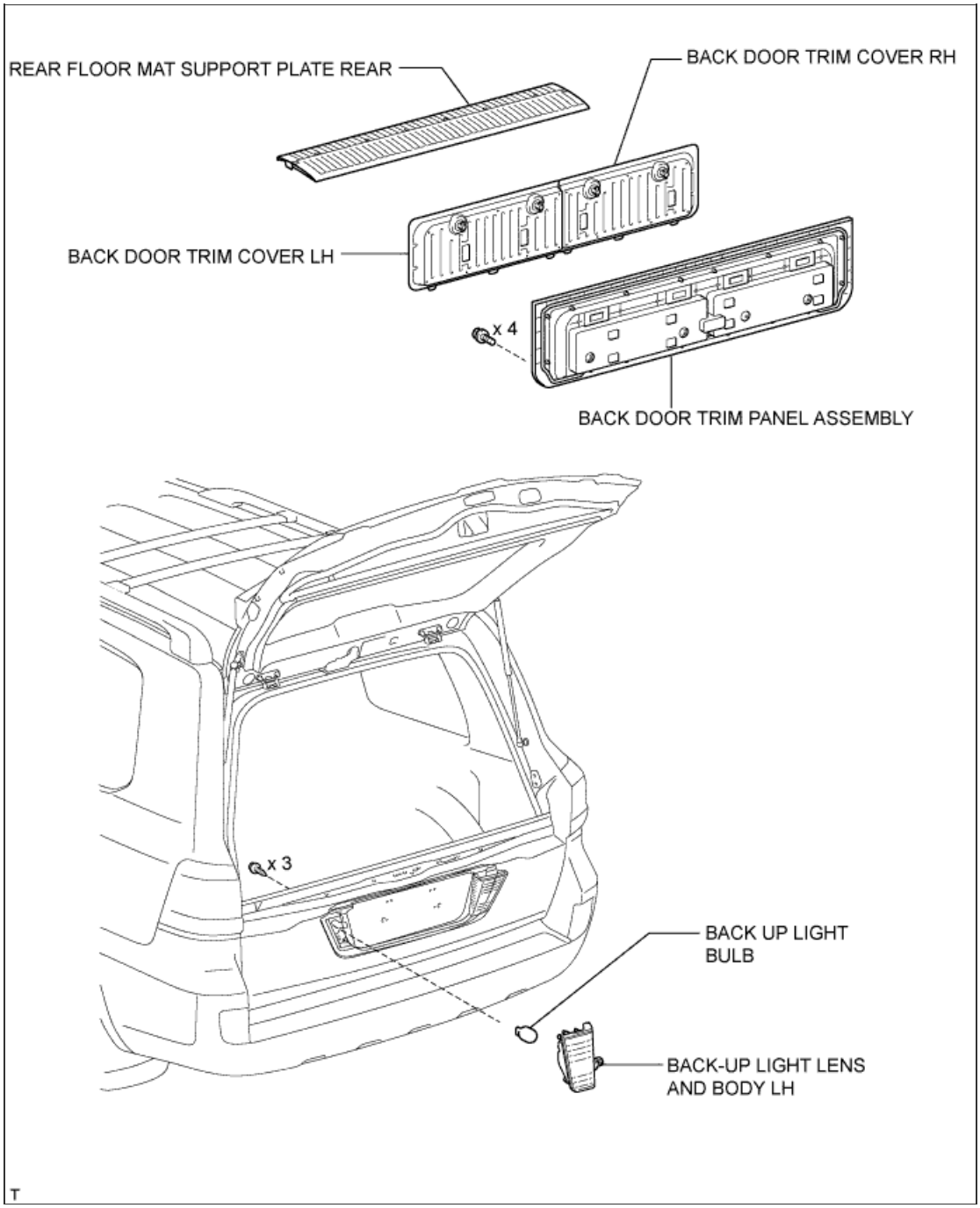
b. Using a T25 "TORX" wrench, install the 6 screws.



c. Connect the connector.



for Preparation Click here



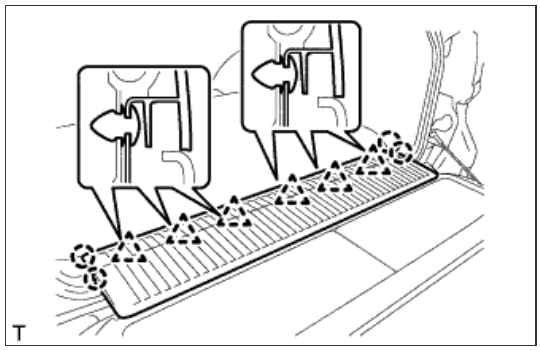
for Preparation Click here

HINT:

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

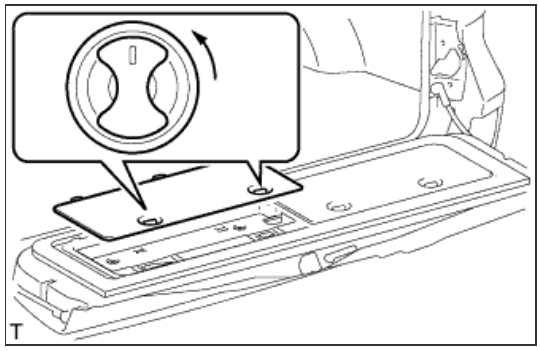
1. REMOVE REAR FLOOR MAT SUPPORT PLATE REAR

a. Detach the 6 clips and 4 claws, and remove the support plate.



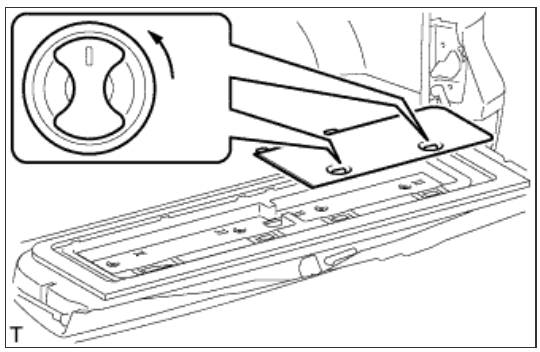
2. REMOVE BACK DOOR TRIM COVER LH

a. Remove the back door trim cover LH as shown in the illustration.



3. REMOVE BACK DOOR TRIM COVER RH

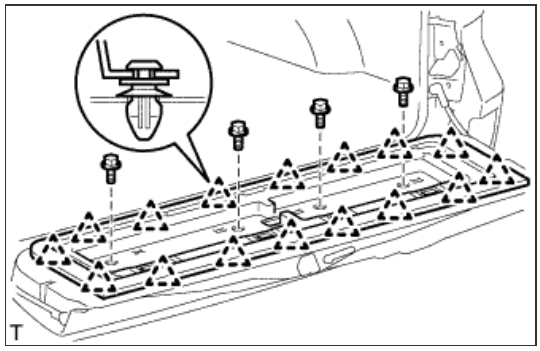
a. Remove the back door trim cover RH as shown in the illustration.



4. REMOVE BACK DOOR TRIM PANEL ASSEMBLY

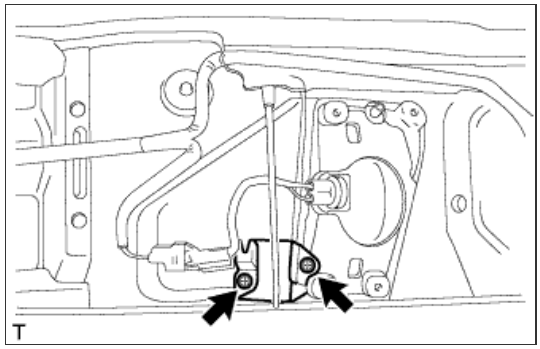
a. Remove the 4 bolts.

b. Detach the 16 clips and remove the back door trim panel.



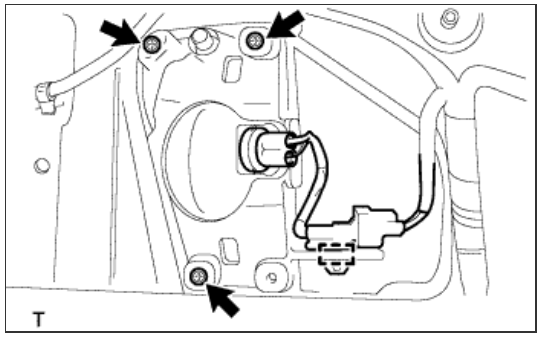
5. REMOVE BACK-UP LIGHT LENS AND BODY LH

a. Remove the 2 screws and bracket.



b. Detach the clip and disconnect the connector.

c. Remove the 3 screws and light lens and body.



for Preparation Click here

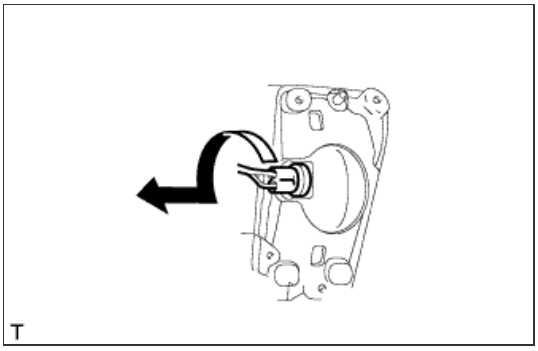
HINT:

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

1. REMOVE BACK UP LIGHT BULB

a. Turn the bulb/socket unit in the direction indicated by the arrow and remove it.

b. Remove the bulb from the socket.



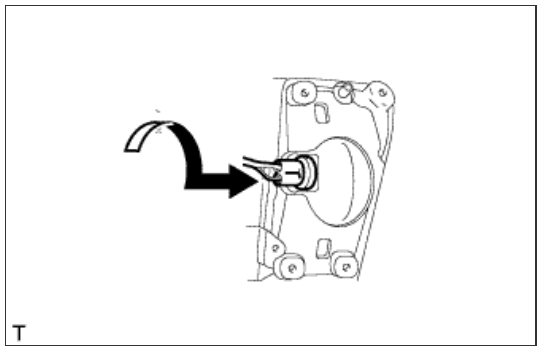
for Preparation Click here

1. INSTALL BACK UP LIGHT BULB

a. Install the bulb to the socket.

b. Insert the bulb/socket unit into the back-up light.

c. Turn the bulb/socket unit in the direction indicated by the arrow to install it.

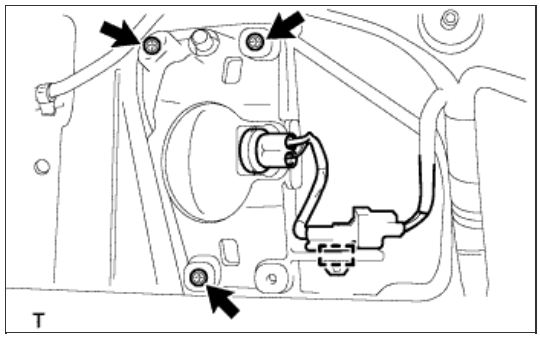


for Preparation Click here

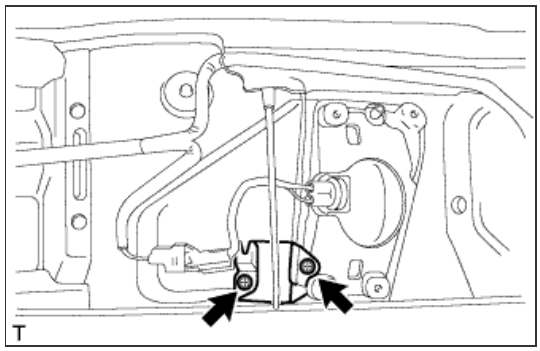
1. INSTALL BACK-UP LIGHT LENS AND BODY LH

a. Install the light lens and body with the 3 screws.

b. Attach the clip and connect the connector.



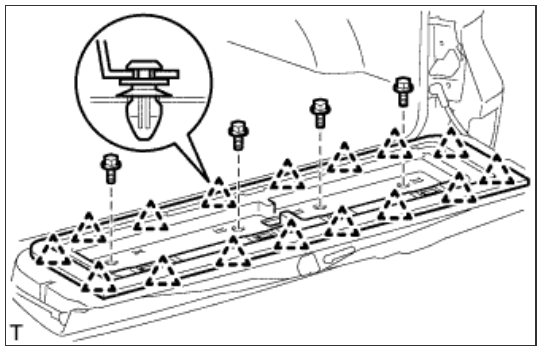
c. Install the bracket with the 2 screws.



2. INSTALL BACK DOOR TRIM PANEL ASSEMBLY

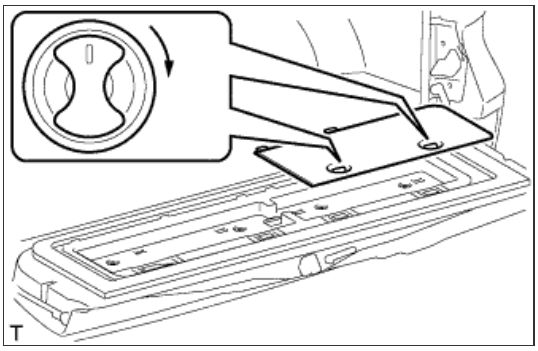
a. Attach the 16 clips to install the back door trim panel.

b. Install the 4 bolts.



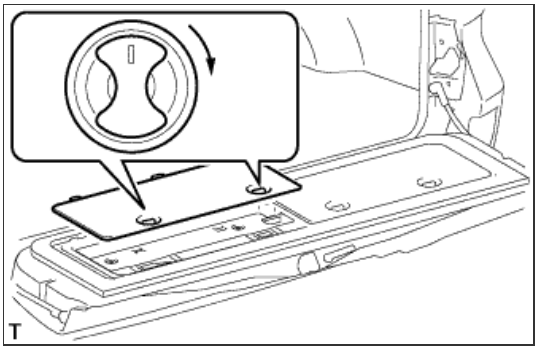
3. INSTALL BACK DOOR TRIM COVER RH

a. Install the back door trim cover RH as shown in the illustration.



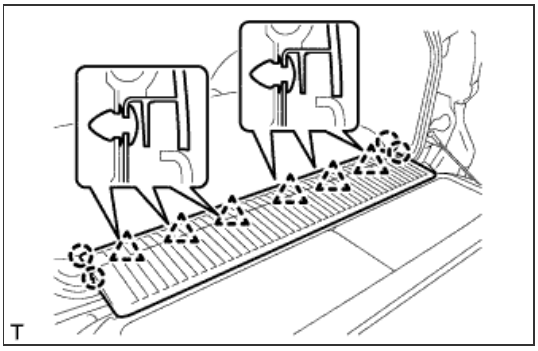
4. INSTALL BACK DOOR TRIM COVER LH

a. Install the back door trim cover LH as shown in the illustration.

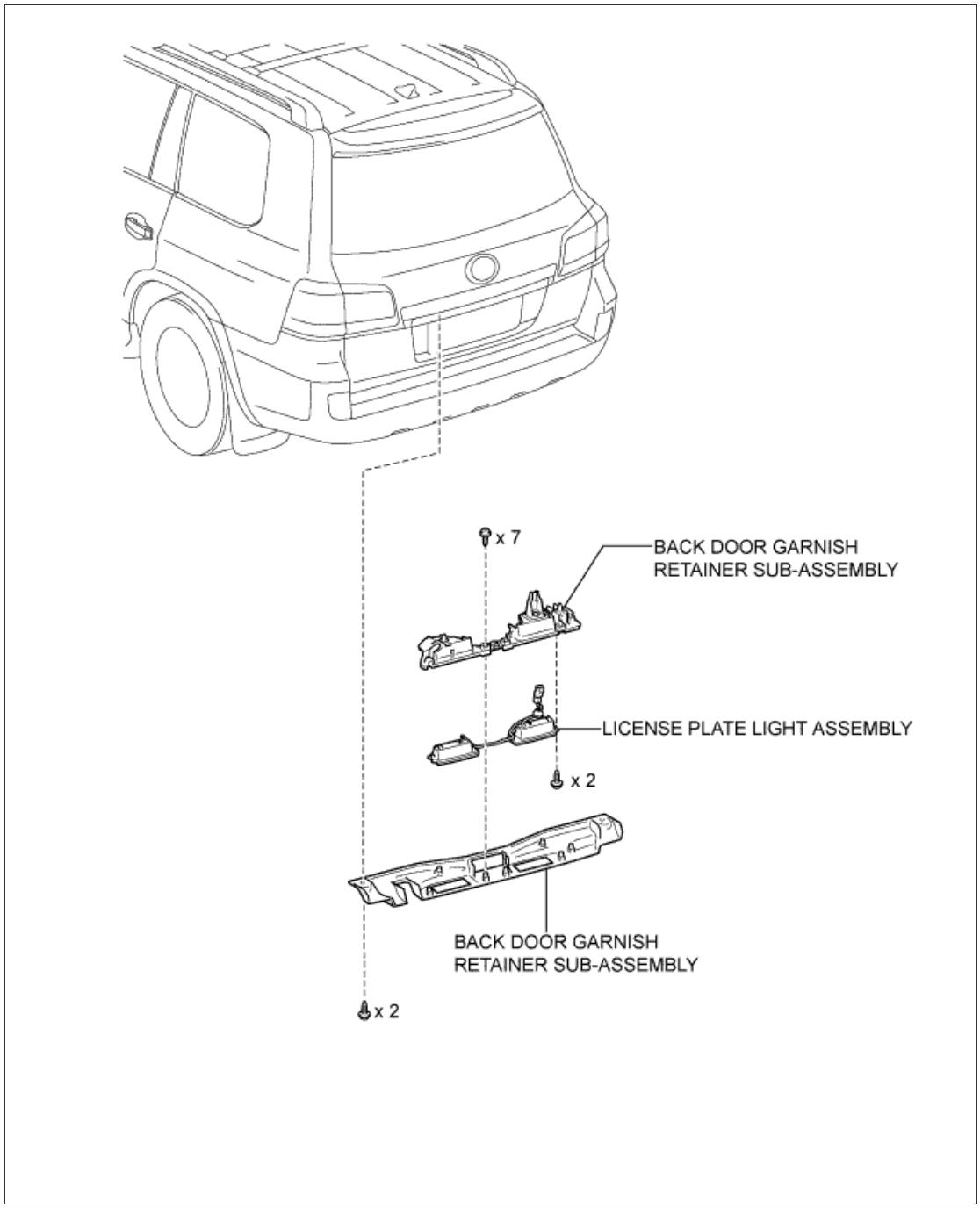


5. INSTALL REAR FLOOR MAT SUPPORT PLATE REAR

a. Attach the 6 clips and 4 claws to install the support plate.



for Preparation Click here

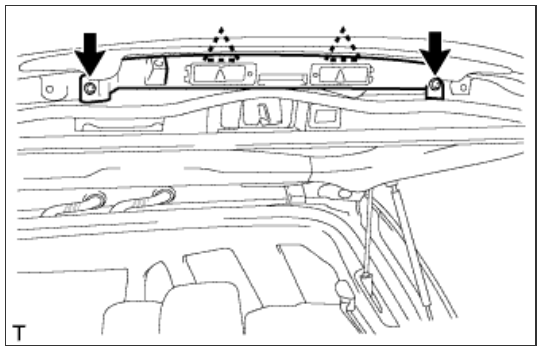


for Preparation Click here

1. REMOVE BACK DOOR GARNISH RETAINER SUB-ASSEMBLY

a. Using a T30 "TORX" socket wrench, detach the 2 clips and remove the 2 screws and garnish.

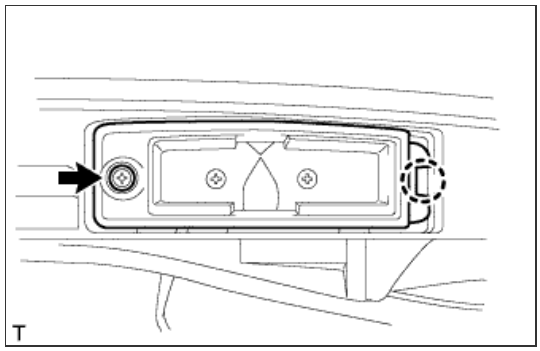
b. Disconnect the connector.



2. REMOVE LICENSE PLATE LIGHT ASSEMBLY

a. Remove the 2 screws.

b. Detach the 2 claws and remove the 2 lights.



for Preparation Click here

1. INSPECT LICENSE PLATE LIGHT ASSEMBLY

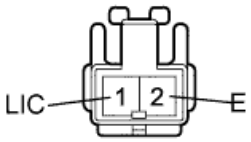
a. Apply battery voltage to the connector, and check the LED illumination condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 (LIC) Battery negative (-) → Terminal 2 (E)	LED illuminates

If the result is not as specified, there may be a malfunction in the license plate light assembly.

Component without harness connected:
(License Plate Light Assembly)

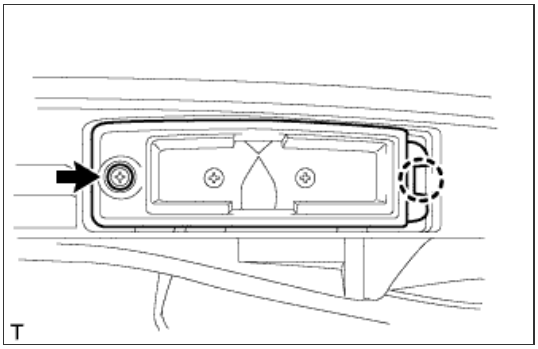


for Preparation Click here

1. INSTALL LICENSE PLATE LIGHT ASSEMBLY

a. Attach the 2 claws to install the 2 lights.

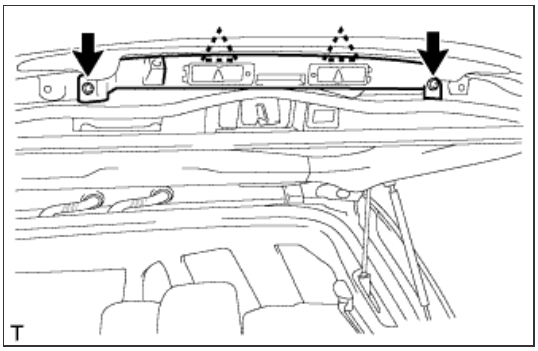
b. Install the 2 screws.



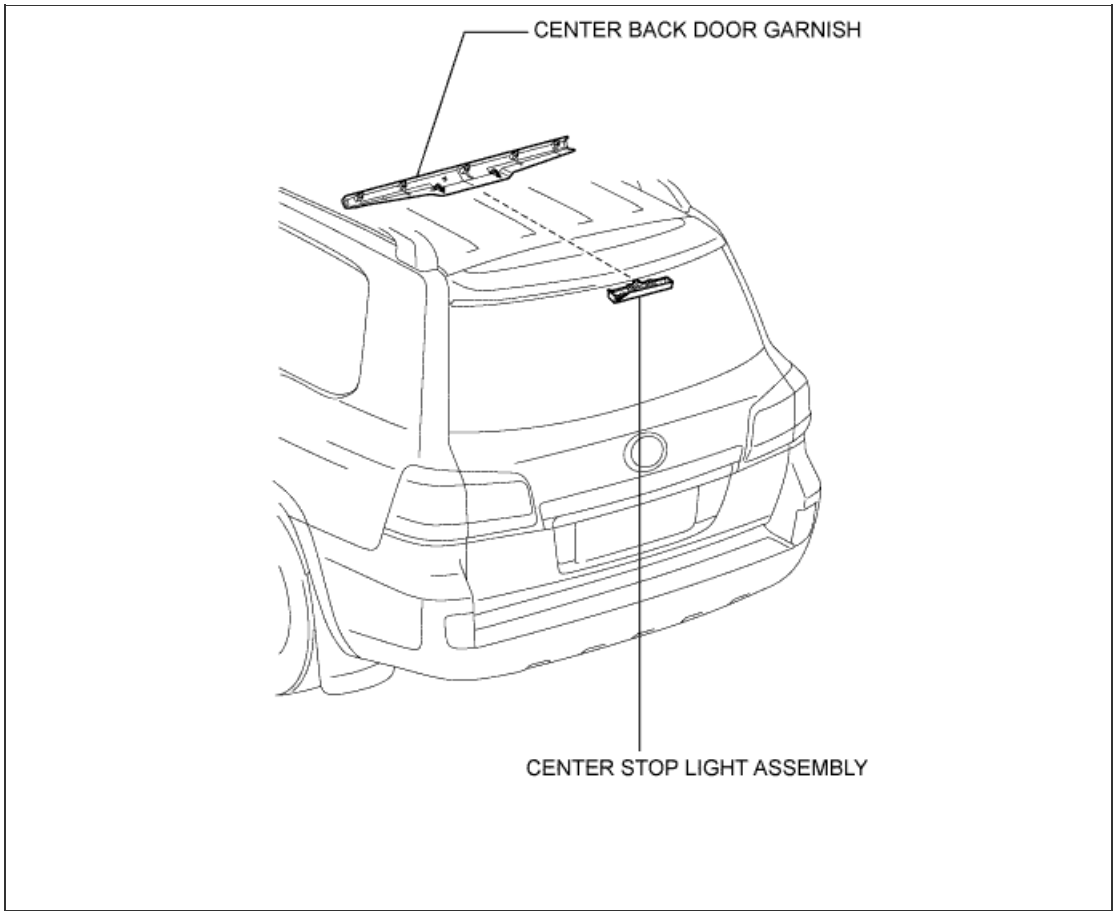
2. INSTALL BACK DOOR GARNISH RETAINER SUB-ASSEMBLY

a. Connect the connector.

b. Using a T30 "TORX" socket wrench, attach the 2 clips and install the garnish with the 2 screws.



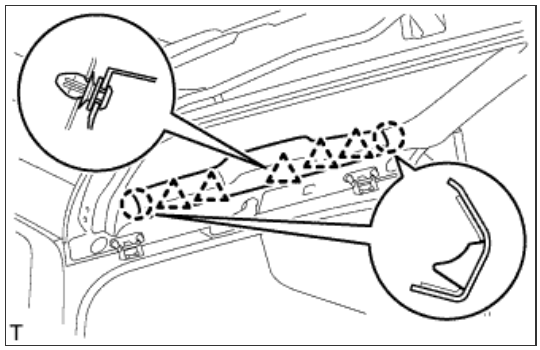
for Preparation Click here



for Preparation Click here

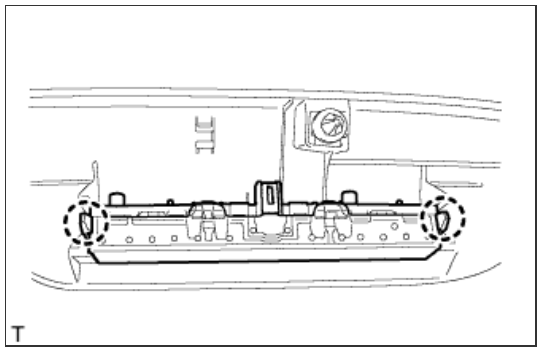
1. REMOVE CENTER BACK DOOR GARNISH

a. Detach the 5 clips and 2 claws, and remove the back door garnish.



2. REMOVE CENTER STOP LIGHT ASSEMBLY

a. Detach the 2 claws and remove the stop light.



for Preparation Click here

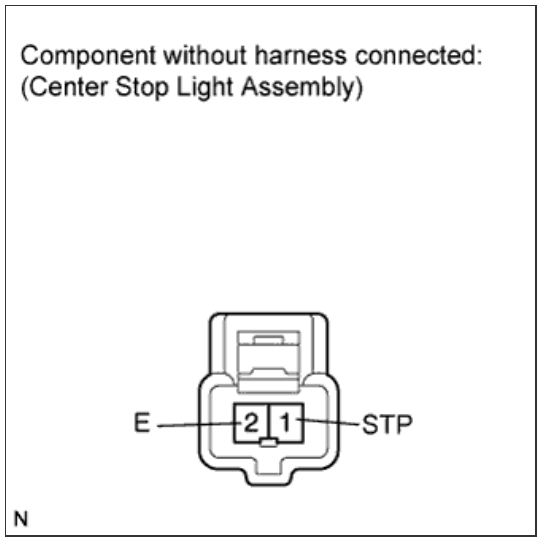
1. INSPECT CENTER STOP LIGHT ASSEMBLY

a. Apply battery voltage to the connector, and check the LED illumination condition.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 (STP) Battery negative (-) → Terminal 2 (E)	LED illuminates

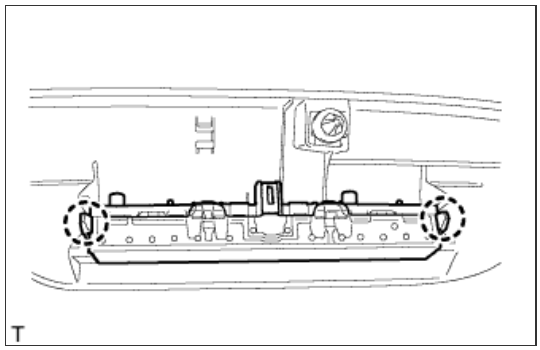
If the result is not as specified, replace the center stop light assembly.



for Preparation Click here

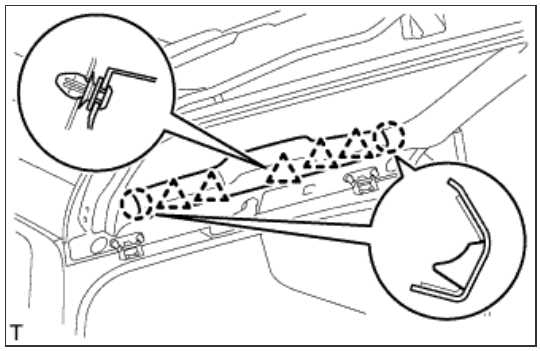
1. INSTALL CENTER STOP LIGHT ASSEMBLY

a. Attach the 2 claws to install the stop light.

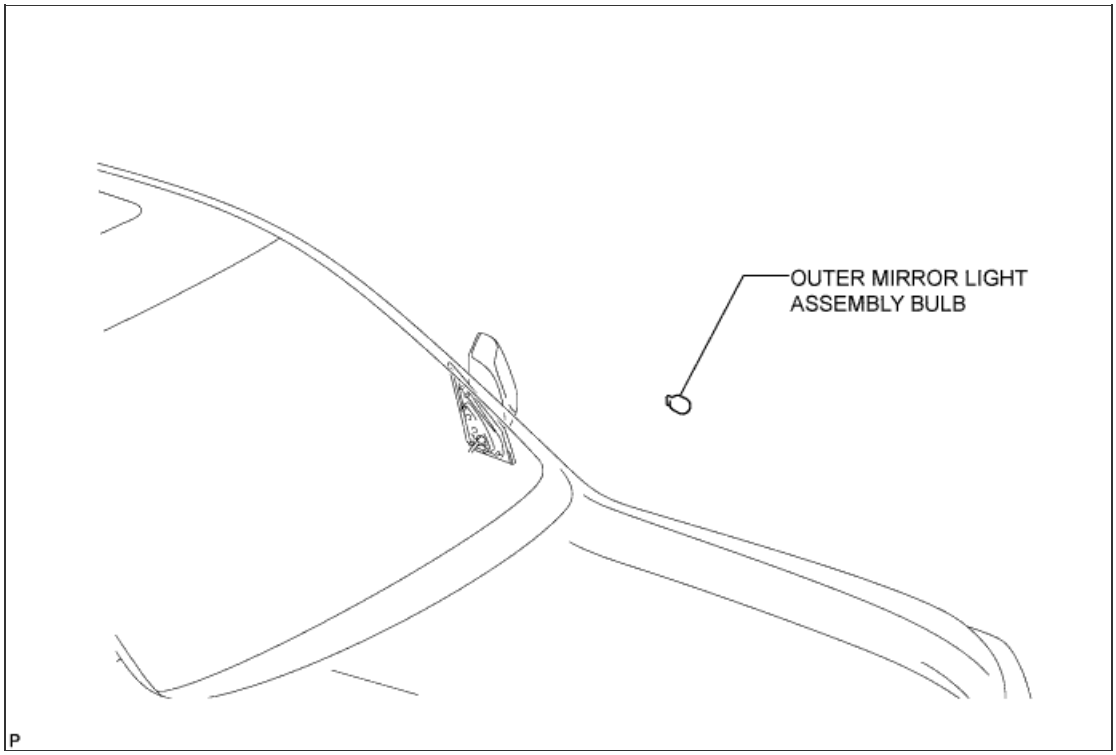


2. INSTALL CENTER BACK DOOR GARNISH

a. Attach the 5 clips and 2 claws to install the back door garnish.



for Preparation Click here



for Preparation Click here

HINT:

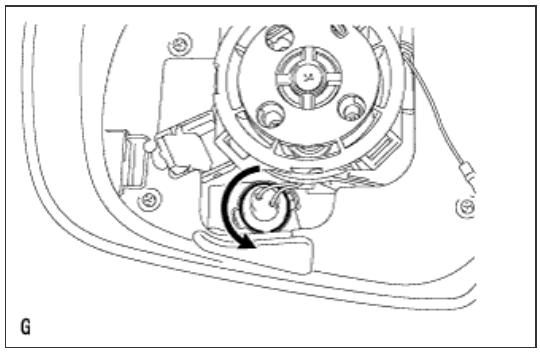
- **Use the same procedures for the RH side and LH side.**
- **The procedures listed below are for the LH side.**

1. REMOVE OUTER REAR VIEW MIRROR GLASS LH

a. Remove the outer mirror glass (Click here).

2. REMOVE OUTER MIRROR LIGHT ASSEMBLY BULB

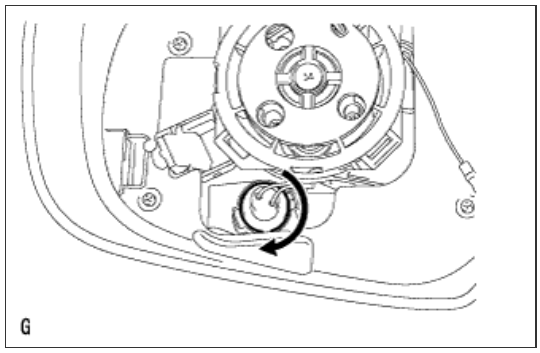
a. Turn the outer mirror bulb in the direction indicated by the arrow in the illustration and remove it from the outer mirror.



for Preparation Click here

1. INSTALL OUTER MIRROR LIGHT ASSEMBLY BULB

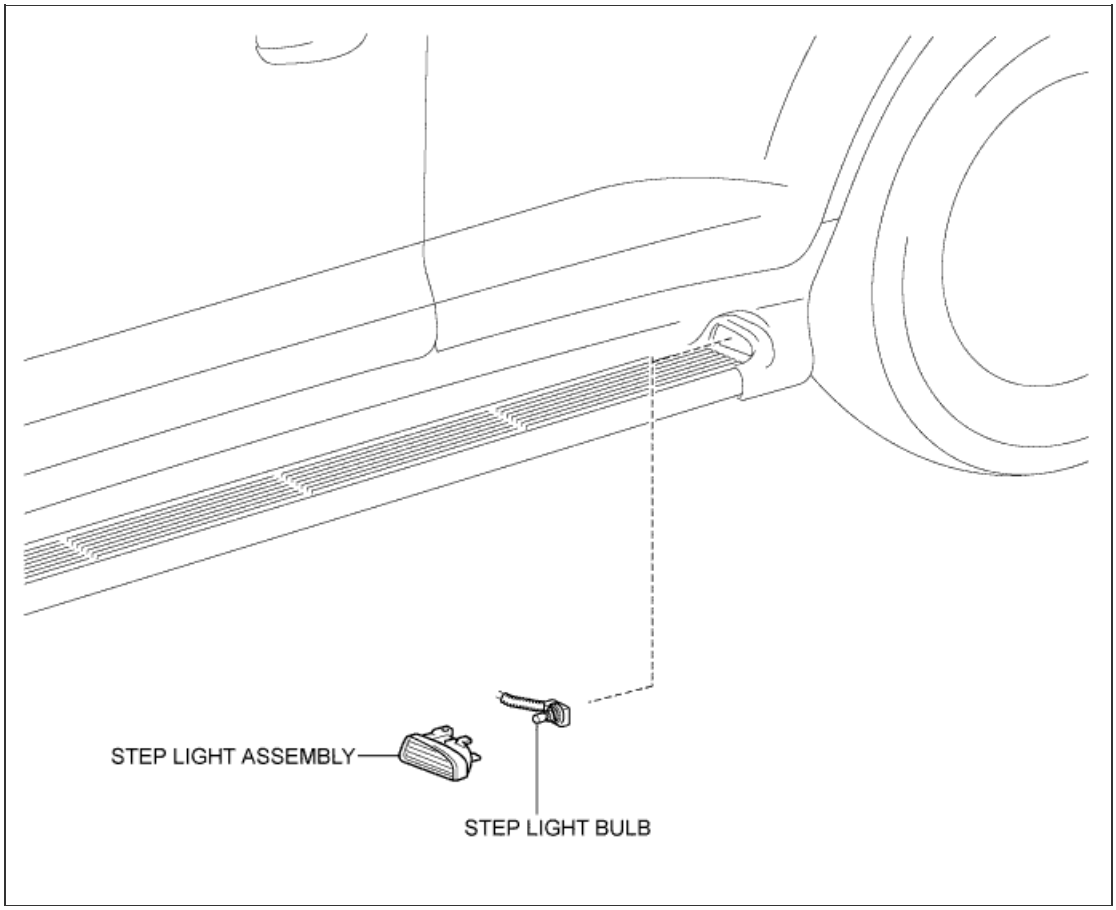
a. Turn the bulb in the direction indicated by the arrow and install it to the outer mirror.



2. INSTALL OUTER REAR VIEW MIRROR GLASS LH

a. Install the outer mirror glass (Click here).

for Preparation Click here



for Preparation Click here

HINT:

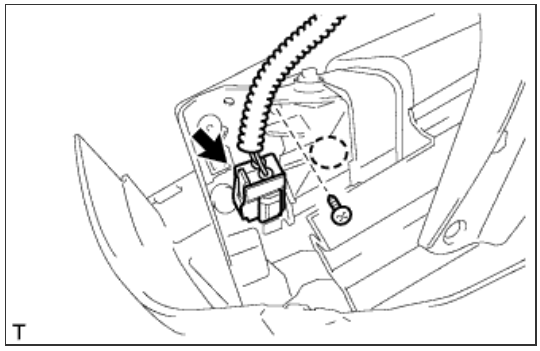
- **Use the same procedures for the RH side and LH side.**
- **The procedures listed below are for the LH side.**

1. REMOVE STEP LIGHT ASSEMBLY

a. Remove the screw.

b. Disconnect the connector.

c. Detach the claw and remove the light.



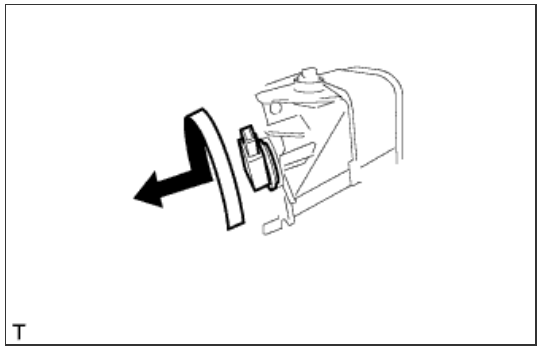
for Preparation Click here

HINT:

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

1. REMOVE STEP LIGHT BULB

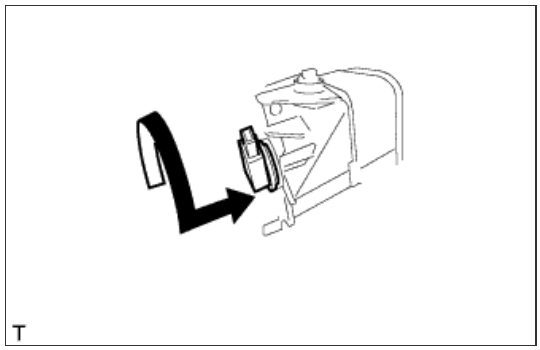
a. Turn the bulb in the direction indicated by the arrow and remove it.



for Preparation Click here

1. INSTALL STEP LIGHT BULB

a. Turn the bulb in the direction indicated by the arrow to install it.



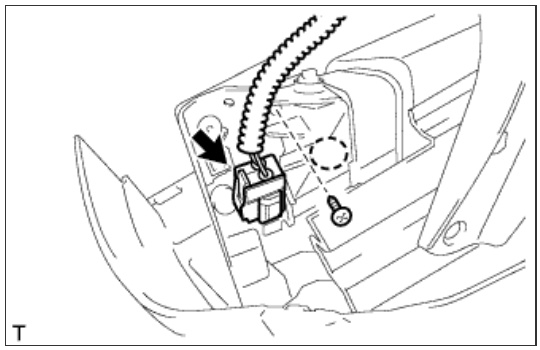
for Preparation Click here

1. INSTALL STEP LIGHT ASSEMBLY

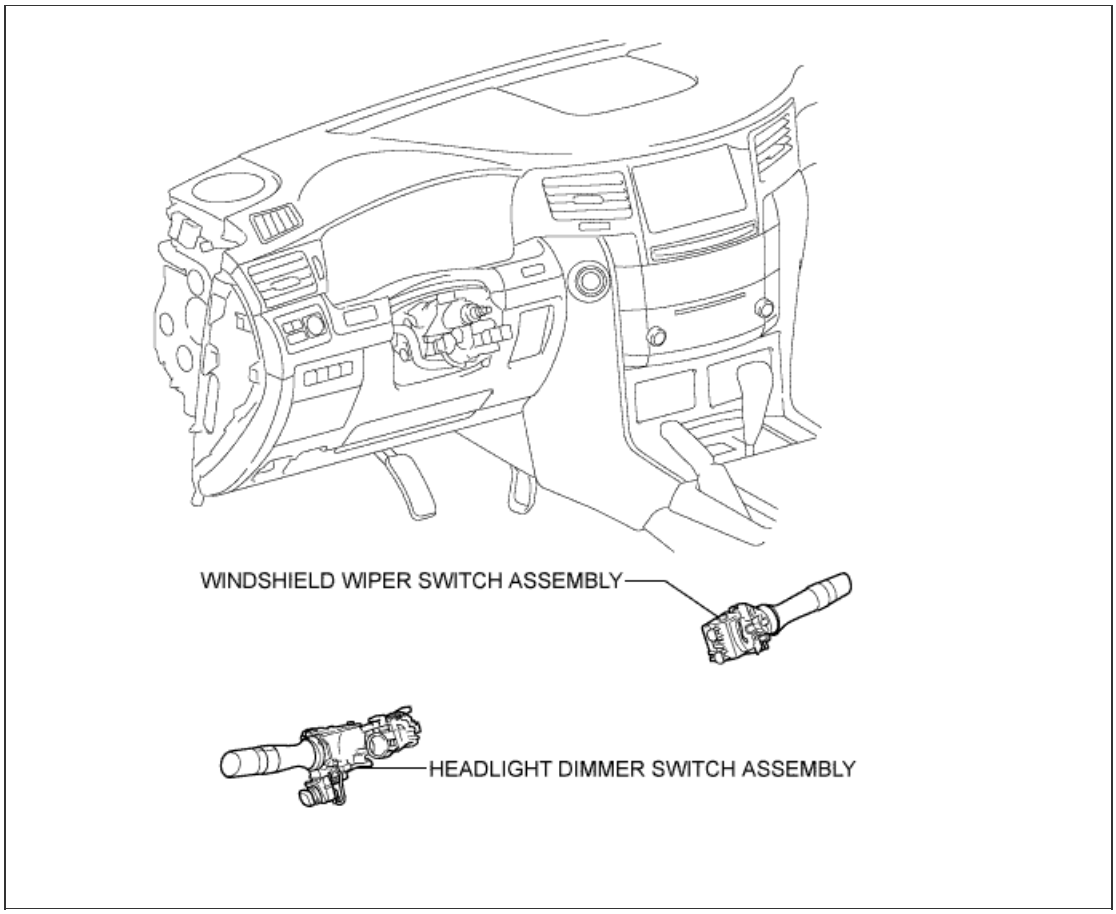
a. Attach the claw to install the light.

b. Connect the connector.

c. Install the screw.



for Preparation Click here



for Preparation Click here

1. REMOVE SPIRAL CABLE

a. Remove the spiral cable (Click here).

2. REMOVE WINDSHIELD WIPER SWITCH ASSEMBLY

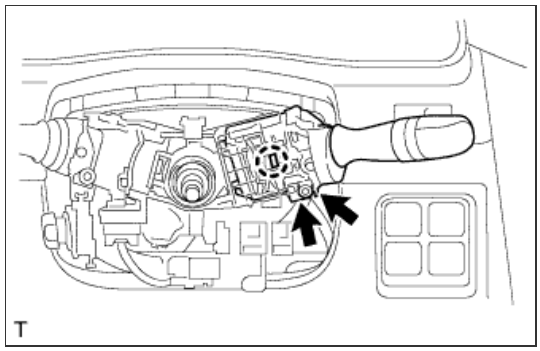
a. Using a screwdriver, detach the claw and remove the windshield wiper switch.

HINT:

Tape the screwdriver tip before use.

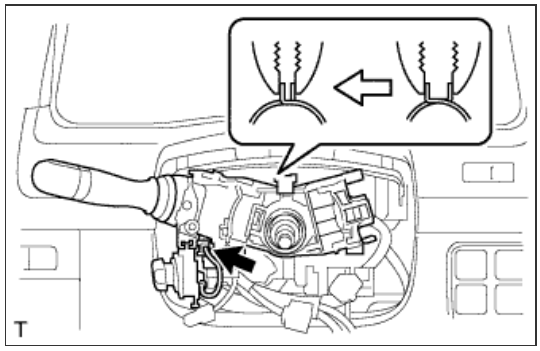
NOTICE:

If the claw is pressed forcefully, it will break.



3. REMOVE HEADLIGHT DIMMER SWITCH ASSEMBLY

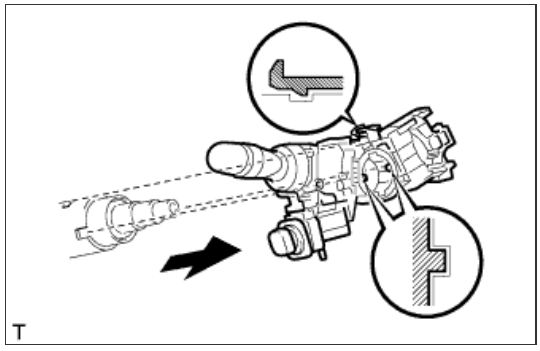
a. Disconnect the connector.



b. While loosening the band clamp as shown in the illustration, detach the claw to remove the dimmer switch.

NOTICE:

If the claw is pressed forcefully, it will break.



for Preparation Click here

1. REMOVE SPIRAL CABLE

a. Remove the spiral cable (Click here).

2. REMOVE WINDSHIELD WIPER SWITCH ASSEMBLY

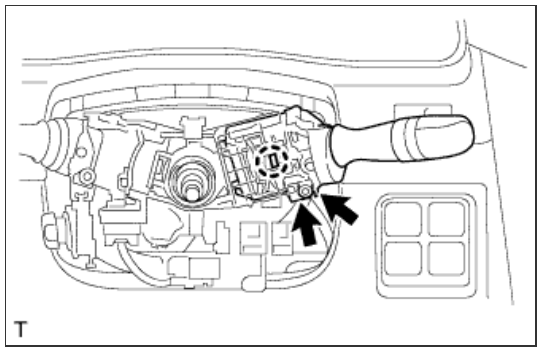
a. Using a screwdriver, detach the claw and remove the windshield wiper switch.

HINT:

Tape the screwdriver tip before use.

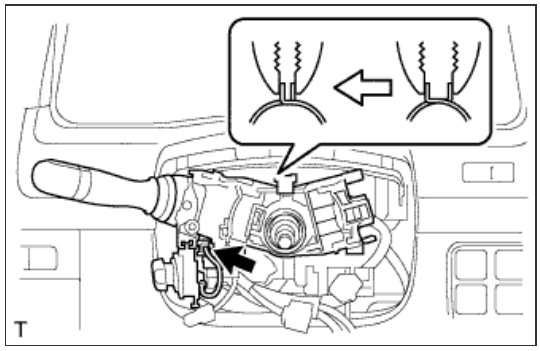
NOTICE:

If the claw is pressed forcefully, it will break.



3. REMOVE HEADLIGHT DIMMER SWITCH ASSEMBLY

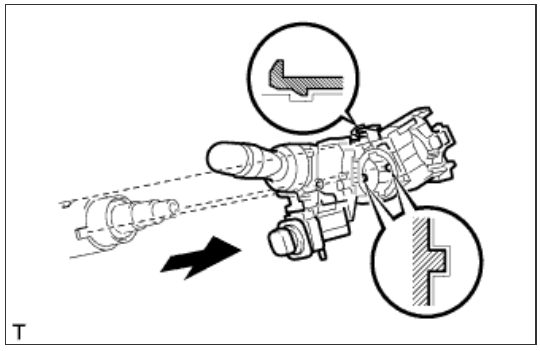
a. Disconnect the connector.



b. While loosening the band clamp as shown in the illustration, detach the claw to remove the dimmer switch.

NOTICE:

If the claw is pressed forcefully, it will break.



for Preparation Click here

1. INSPECT HEADLIGHT DIMMER SWITCH ASSEMBLY (for LHD)

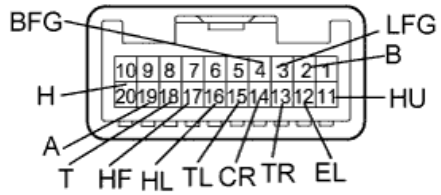
a. Inspect the light control switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
20 (H) - 12 (EL)	Light control switch off	10 kΩ or higher
18 (T) - 12 (EL)		
18 (T) - 12 (EL)	Light control switch tail	Below 1 Ω
18 (T) - 12 (EL)	Light control switch head	Below 1 Ω
20 (H) - 12 (EL)		

Component without harness connected:
(Headlight Dimmer Switch)



b. Inspect the headlight dimmer switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
11 (HU) - 12 (EL)	Headlight dimmer switch flash	Below 1 Ω
17 (HF) - 12 (EL)		
16 (HL) - 12 (EL)	Headlight dimmer switch low beam	Below 1 Ω
11 (HU) - 12 (EL)	Headlight dimmer switch hi beam	Below 1 Ω

HINT:

Perform the "LOW BEAM" and "HI BEAM" inspection with the light control switch on "HEAD".

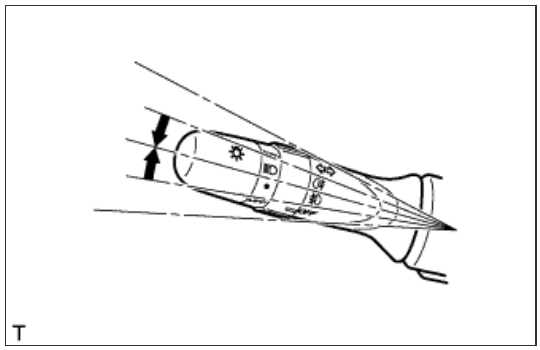
c. Inspect the turn signal switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
14 (CR) - 12 (EL)	Turn signal switch right turn	Below 1 Ω
13 (TR) - 12 (EL)		
13 (TR) - 12	Turn signal	

(EL)	switch right lane change	Below 1 Ω
14 (CR) - 12 (EL)	Turn signal switch neutral	10 kΩ or higher
13 (TR) - 12 (EL)		
15 (TL) - 12 (EL)		
15 (TL) - 12 (EL)	Turn signal switch left lane change	Below 1 Ω
14 (CR) - 12 (EL)	Turn signal switch left turn	Below 1 Ω
15 (TL) - 12 (EL)		



d. Inspect the front fog light.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
4 (BFG) - 3 (LFG)	Front fog light switch off	10 kΩ or higher
4 (BFG) - 3 (LFG)	Front fog light switch on	Below 1 Ω

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

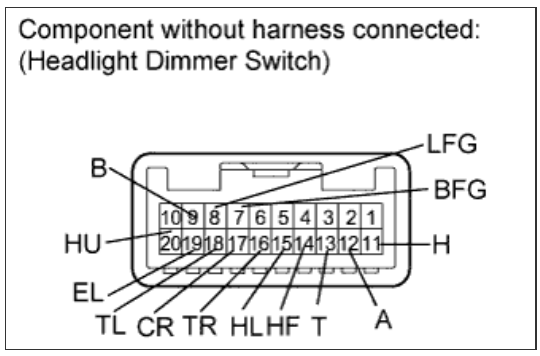
2. INSPECT HEADLIGHT DIMMER SWITCH ASSEMBLY (for RHD)

a. Inspect the light control switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
11 (H) - 19 (EL)	Light control switch off	10 kΩ or higher
13 (T) - 19 (EL)		
13 (T) - 19 (EL)	Light control switch tail	Below 1 Ω
13 (T) - 19 (EL)	Light control switch head	Below 1 Ω
11 (H) - 19 (EL)		



b. Inspect the headlight dimmer switch.

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
20 (HU) - 19 (EL)	Headlight dimmer switch flash	Below 1 Ω
14 (HF) - 19 (EL)		
15 (HL) - 19 (EL)	Headlight dimmer switch low beam	Below 1 Ω
20 (HU) - 19	Headlight dimmer switch	Below 1 Ω

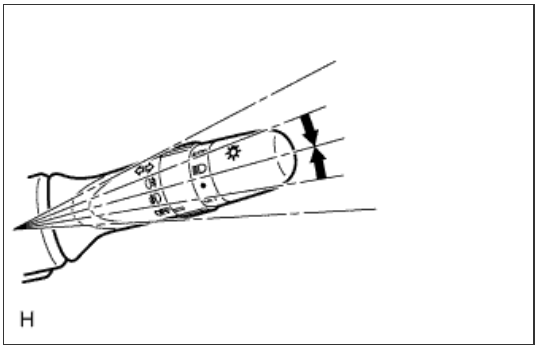
(EL)	hi beam	

HINT:

Perform the "LOW BEAM" and "HI BEAM" inspection with the light control switch on "HEAD".

c. Inspect the turn signal switch.

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



Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
17 (CR) - 19 (EL)	Turn signal switch right turn	Below 1 Ω
16 (TR) - 19 (EL)		
16 (TR) - 19 (EL)	Turn signal switch right lane change	Below 1 Ω
17 (CR) - 19 (EL)	Turn signal switch neutral	10 kΩ or higher
16 (TR) - 19 (EL)		
18 (TL) - 19 (EL)		
18 (TL) - 19 (EL)	Turn signal switch left lane change	Below 1 Ω
17 (CR) - 19 (EL)	Turn signal switch left turn	Below 1 Ω
18 (TL) - 19 (EL)		

d. Inspect the front fog light

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

Standard Resistance:

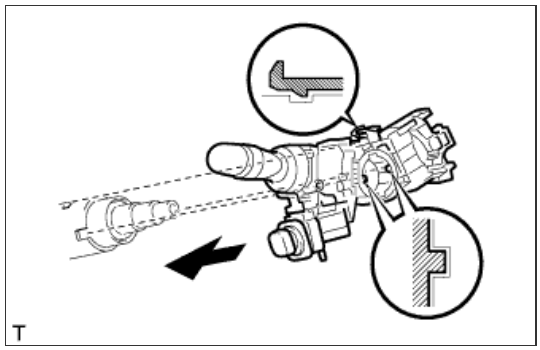
Tester Connection	Switch Condition	Specified Condition
7 (BFG) - 8 (LFG)	Front fog light switch off	10 kΩ or higher
7 (BFG) - 8 (LFG)	Front fog light switch on	Below 1 Ω

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

for Preparation Click here

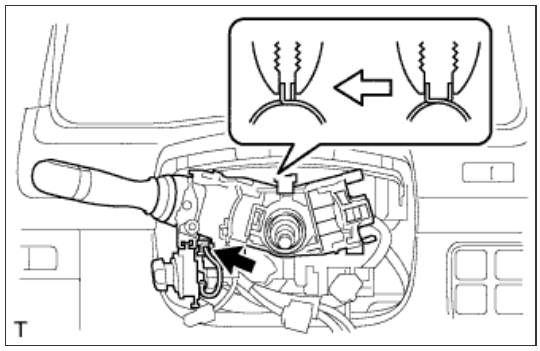
1. INSTALL HEADLIGHT DIMMER SWITCH ASSEMBLY

a. Install the headlight dimmer switch onto the steering column making sure that the stopper protrusions and cutout parts align.



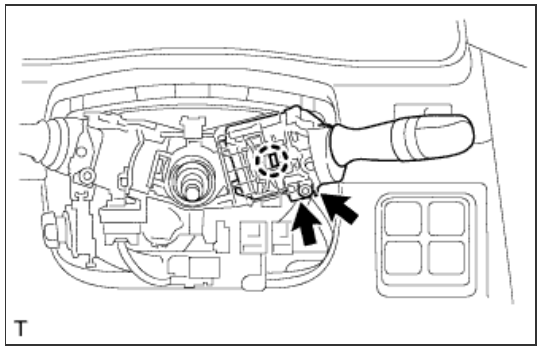
b. While loosening the band clamp, attach the claw to install the headlight dimmer switch.

c. Connect the connector.



2. INSTALL WINDSHIELD WIPER SWITCH ASSEMBLY

a. Attach the claw to install the wiper switch.



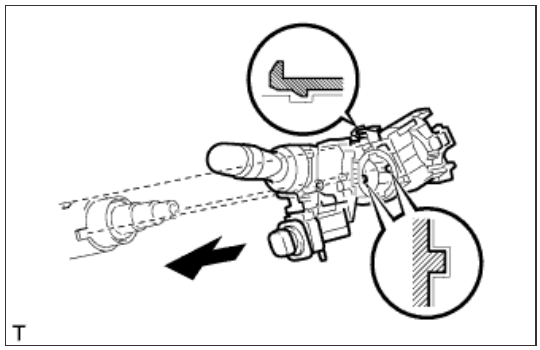
3. INSTALL SPIRAL CABLE

a. Install the spiral cable (Click here).

for Preparation Click here

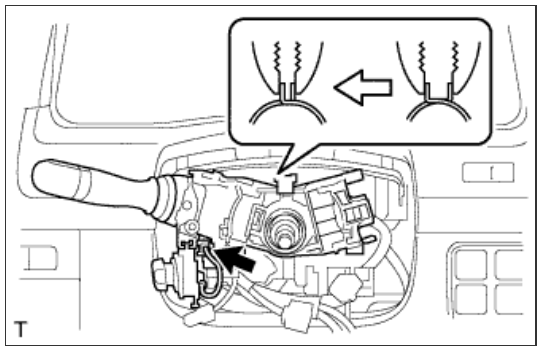
1. INSTALL HEADLIGHT DIMMER SWITCH ASSEMBLY

a. Install the headlight dimmer switch onto the steering column making sure that the stopper protrusions and cutout parts align.



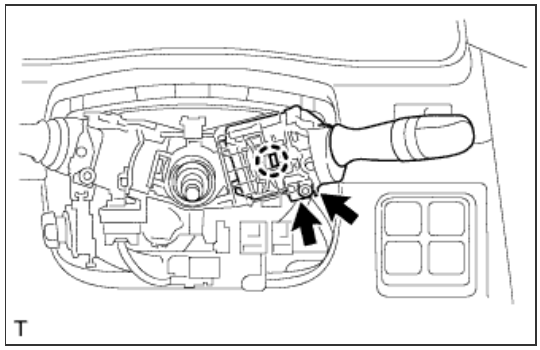
b. While loosening the band clamp, attach the claw to install the headlight dimmer switch.

c. Connect the connector.



2. INSTALL WINDSHIELD WIPER SWITCH ASSEMBLY

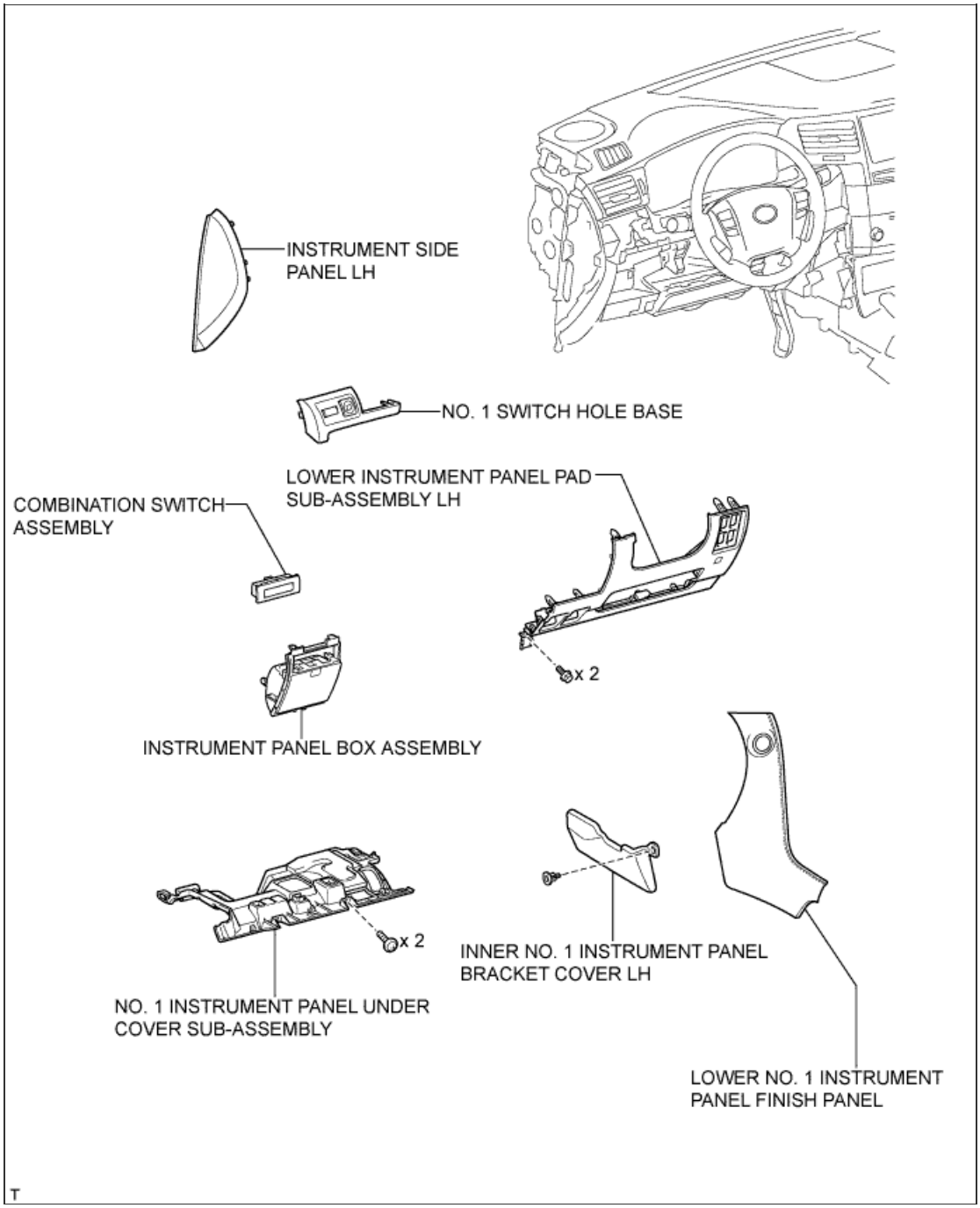
a. Attach the claw to install the wiper switch.



3. INSTALL SPIRAL CABLE

a. Install the spiral cable (Click here).

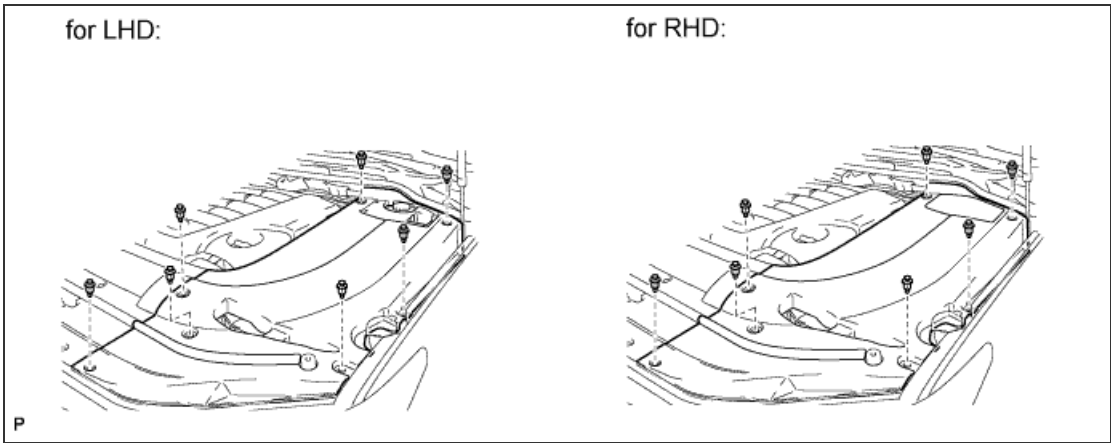
for Preparation [Click here]



for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



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.

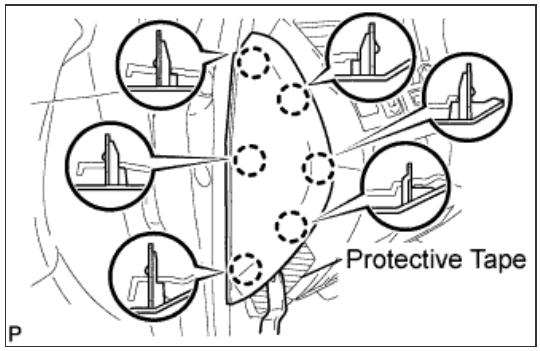
NOTICE:

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

3. REMOVE INSTRUMENT SIDE PANEL LH

a. Place protective tape as shown in the illustration.

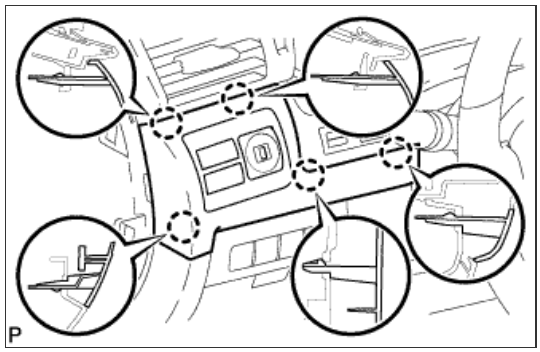
b. Using a moulding remover, detach the 6 claws and remove the side panel.



4. REMOVE NO. 1 SWITCH HOLE BASE

a. Detach the 5 claws.

b. Disconnect the connectors and remove the switch hole base.

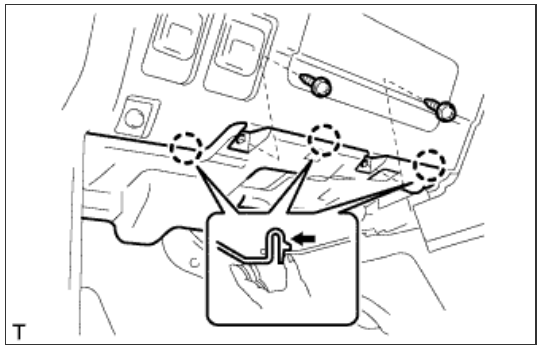


5. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Remove the 2 screws.

b. Detach the 3 claws.

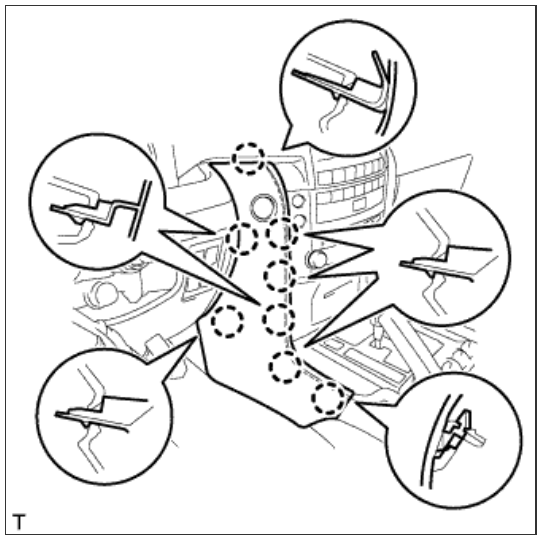
c. Remove the under cover and disconnect the connectors.



6. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Detach the 8 claws.

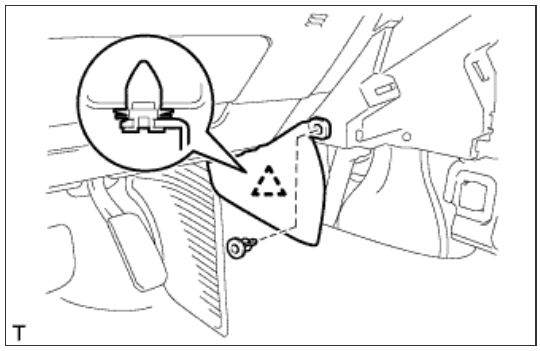
b. Disconnect the connector and remove the panel pad.



7. REMOVE INNER NO. 1 INSTRUMENT PANEL BRACKET COVER LH

a. Remove the clip.

b. Detach the clip and remove the cover.

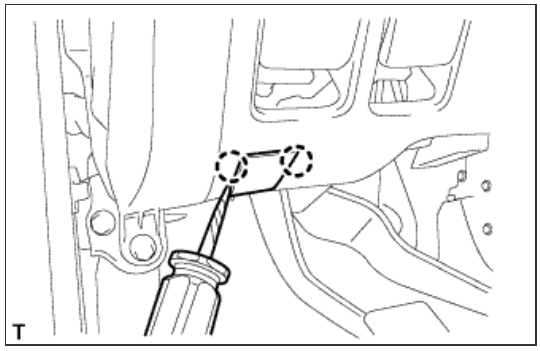


8. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

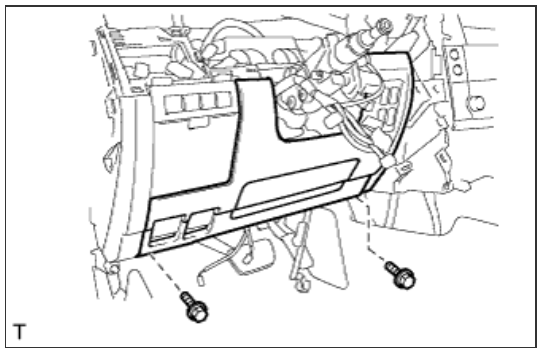
a. Using a screwdriver, detach the 2 claws and open the hole cover.

HINT:

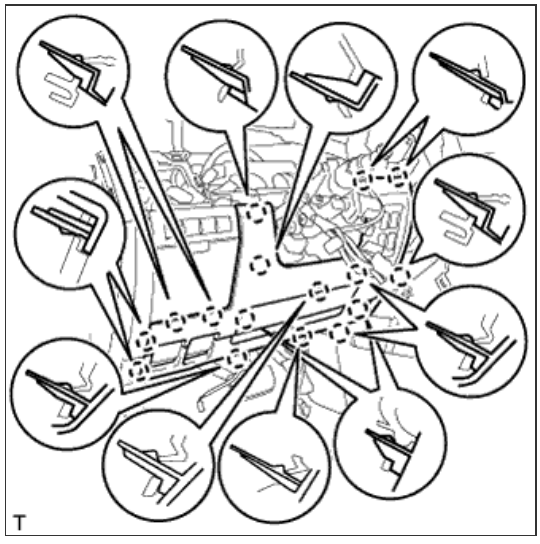
Tape the screwdriver tip before use.



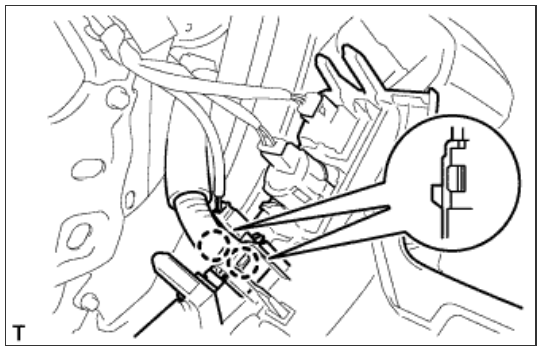
b. Remove the 2 bolts.



c. Detach the 16 claws.

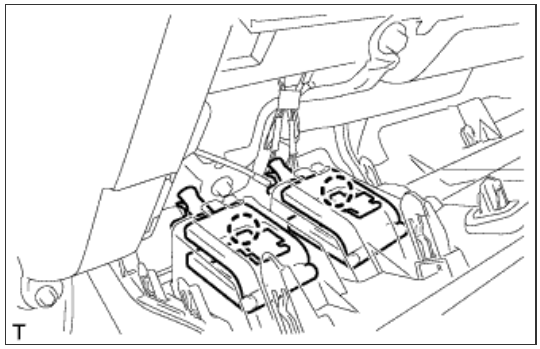


d. Detach the 2 claws and remove the sensor.



e. Detach the 2 claws and disconnect the 2 control cables.

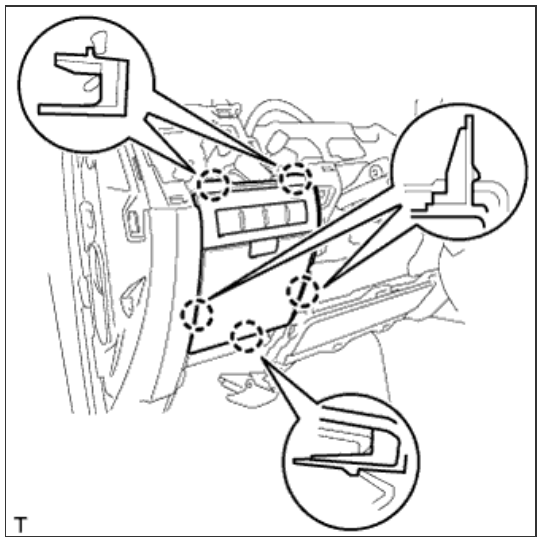
f. Remove the finish panel and then disconnect the connectors.



9. REMOVE INSTRUMENT PANEL BOX ASSEMBLY

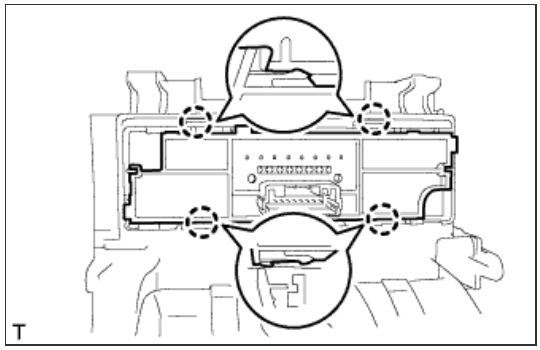
a. Detach the 5 claws.

b. Remove the box and then disconnect the connectors.



10. REMOVE COMBINATION SWITCH ASSEMBLY

a. Detach the 4 claws and remove the switch.



for Preparation Click here

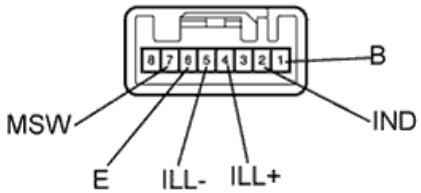
1. INSPECT COMBINATION SWITCH ASSEMBLY

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 (B) - 2 (IND)	AC main switch off	10 kΩ or higher
	AC main switch on	Below 1 Ω
7 (MSW) - 6 (E)	AFS off switch off	10 kΩ or higher
	AFS off switch on	Below 1 Ω

Component without harness connected:
(Combination Switch Assembly)



b. Apply battery voltage to the connector, and check the LED illumination condition.

OK:

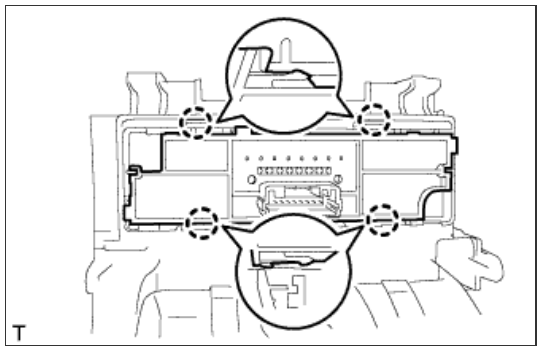
Measurement Condition	Specified Condition
Battery positive (+) → Terminal 4 (ILL+) Battery negative (-) → Terminal 5 (ILL-)	LED illuminates

If the result is not as specified, there may be a malfunction in the combination switch assembly.

for Preparation Click here

1. INSTALL COMBINATION SWITCH ASSEMBLY

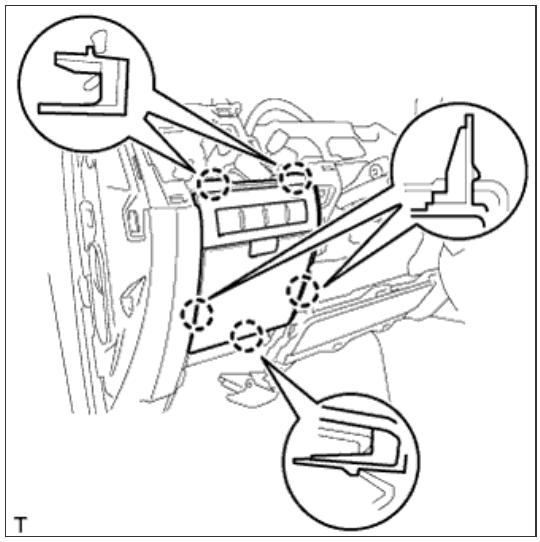
a. Attach the 4 claws to install the switch.



2. INSTALL INSTRUMENT PANEL BOX ASSEMBLY

a. Connect the connectors.

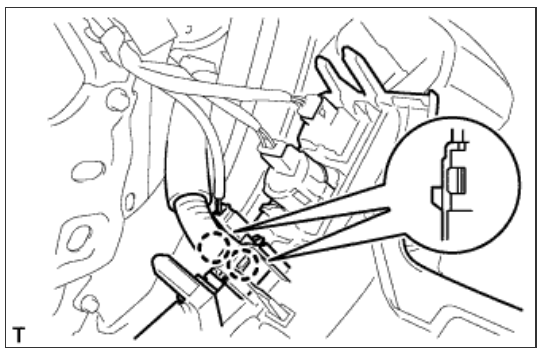
b. Attach the 5 claws to install the box.



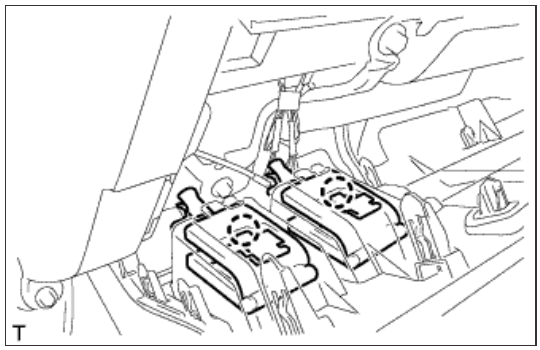
3. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

a. Connect the connectors.

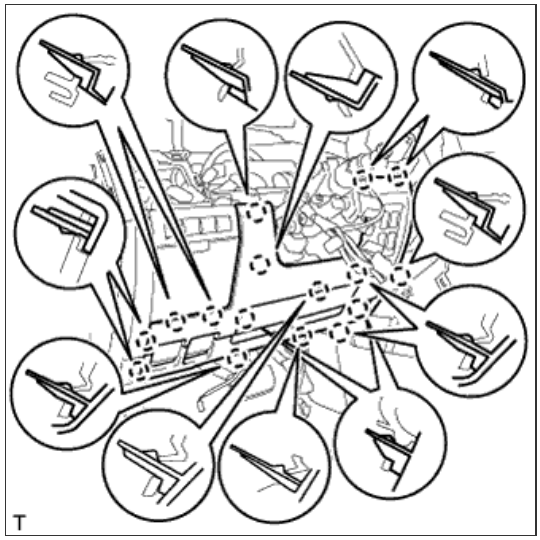
b. Attach the 2 claws to install the sensor.



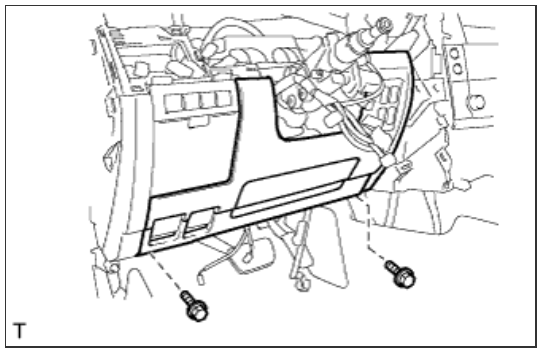
c. Attach the 2 claws to connect the 2 control cables.



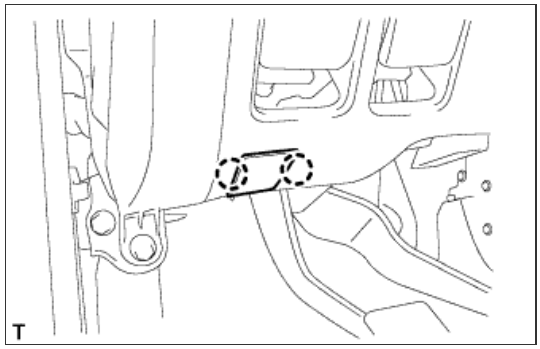
d. Attach the 16 claws to install the finish panel.



e. Install the 2 bolts.



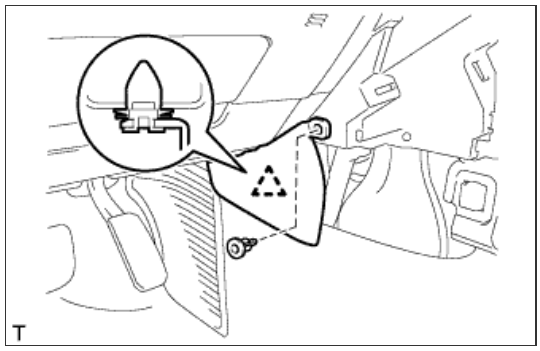
f. Attach the 2 claws to close the hole cover.



4. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER LH

a. Attach the clip to install the cover.

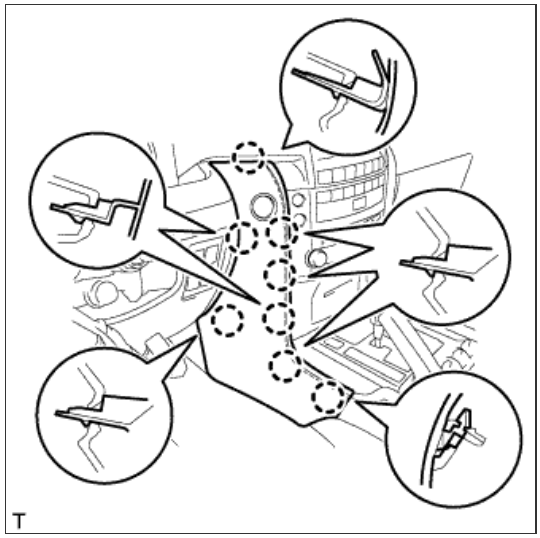
b. Install the clip.



5. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY LH

a. Connect the connector.

b. Attach the 8 claws to install the panel pad.

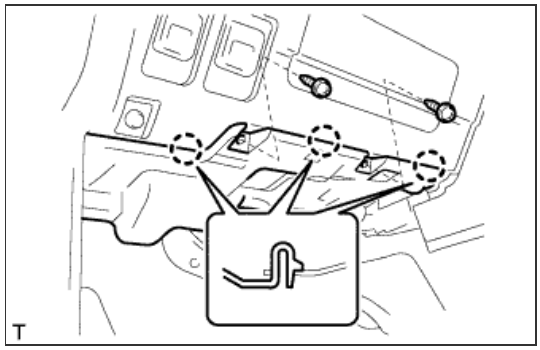


6. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Connect the connectors.

b. Attach the 3 claws to install the under cover.

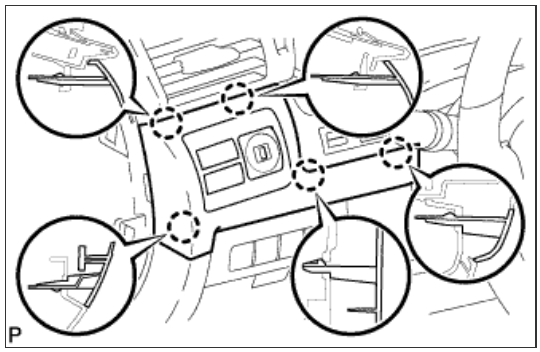
c. Install the 2 screws.



7. INSTALL NO. 1 SWITCH HOLE BASE

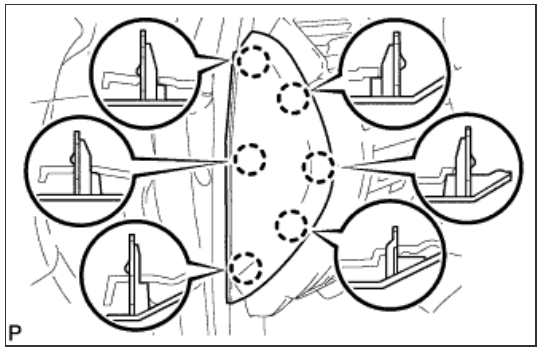
a. Connect the connectors.

b. Attach the 5 claws to install the switch hole base.



8. INSTALL INSTRUMENT SIDE PANEL LH

a. Attach the 6 claws to install the side panel.



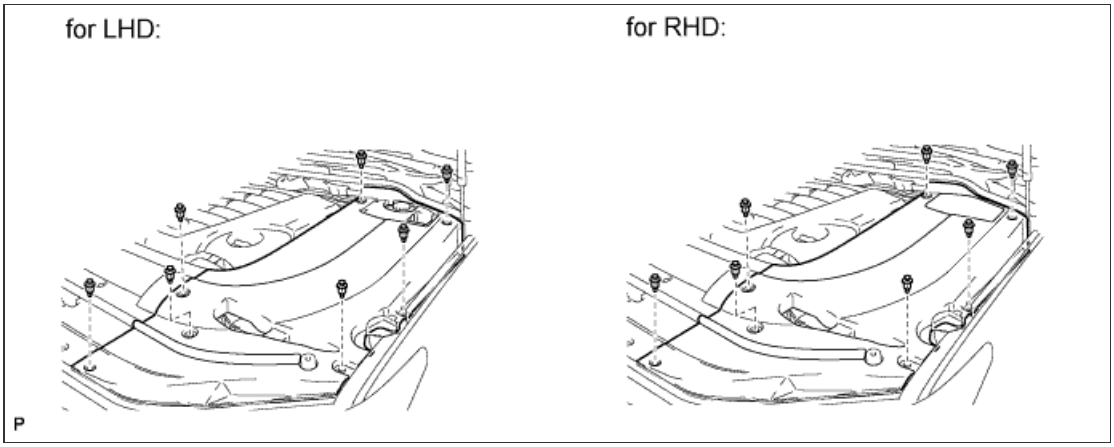
9. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

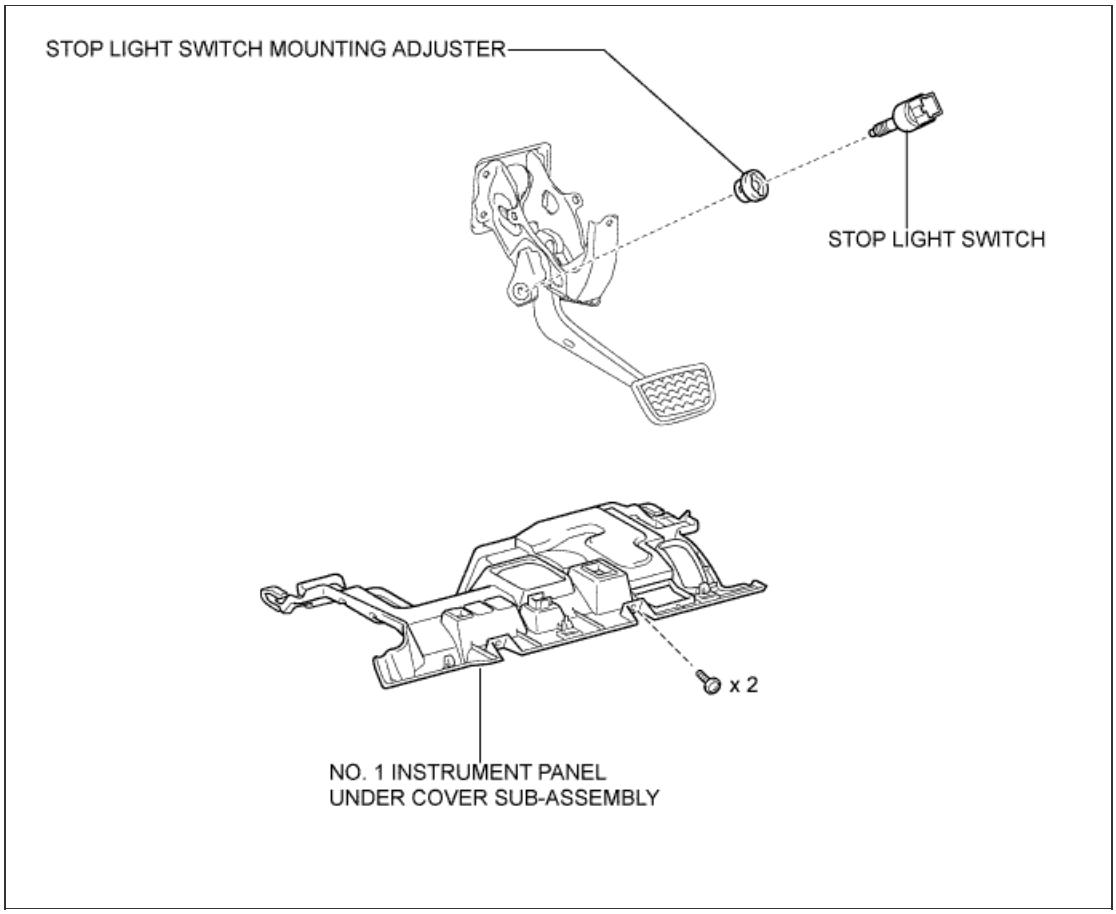
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

10. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



for Preparation Click here



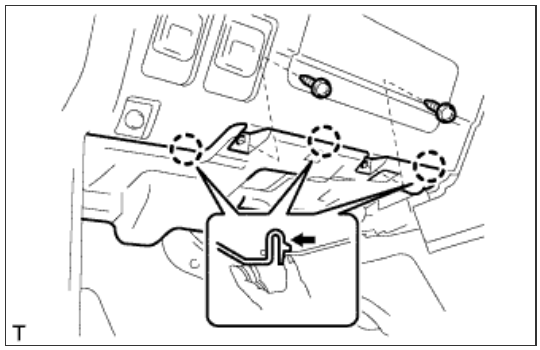
for Preparation Click here

1. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Remove the 2 screws.

b. Detach the 3 claws.

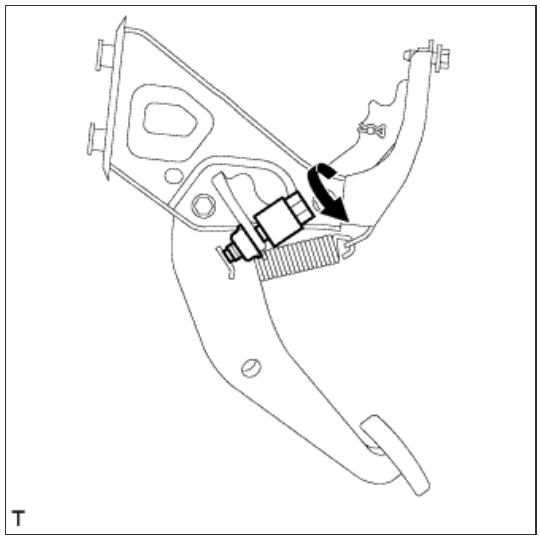
c. Remove the under cover and disconnect the connectors.



2. REMOVE STOP LIGHT SWITCH

a. Disconnect the connector.

b. Turn the stop light switch counterclockwise, and remove the stop light switch.



3. REMOVE STOP LIGHT SWITCH MOUNTING ADJUSTER

a. Remove the stop light switch mounting adjuster.

for Preparation Click here

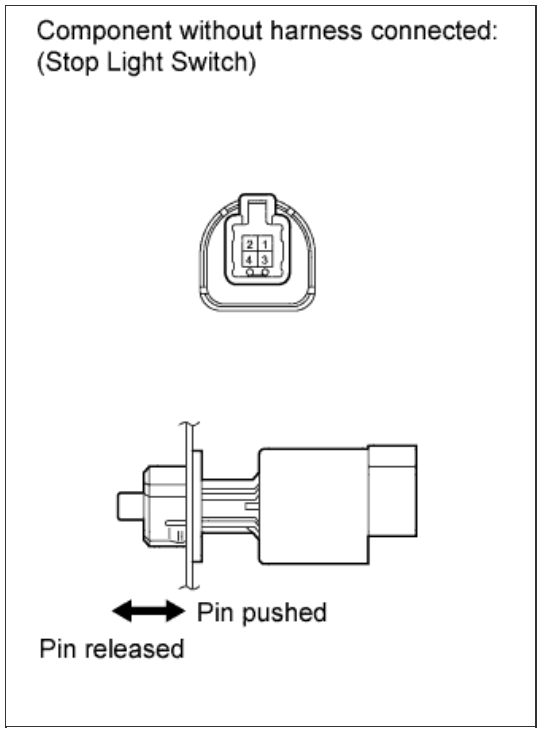
1. INSPECT STOP LIGHT SWITCH

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 - 2	Pin pushed	10 kΩ higher
	Pin released	Below 1 Ω
3 - 4	Pin pushed	Below 1 Ω
	Pin released	10 kΩ higher

If the result is not as specified, there may be a malfunction on the switch.



for Preparation Click here

1. INSTALL STOP LIGHT SWITCH MOUNTING ADJUSTER

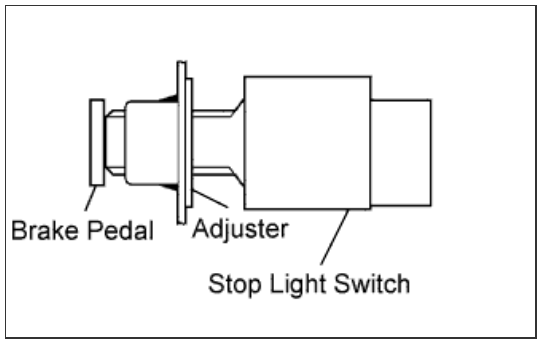
a. Install a new stop light switch mounting adjuster to the pedal support.

2. INSTALL STOP LIGHT SWITCH

a. Install the stop light switch to the adjuster until it slightly touches the brake pedal.

NOTICE:

Do not depress the brake pedal.



b. Turn the stop light switch quarter in clockwise to install it.

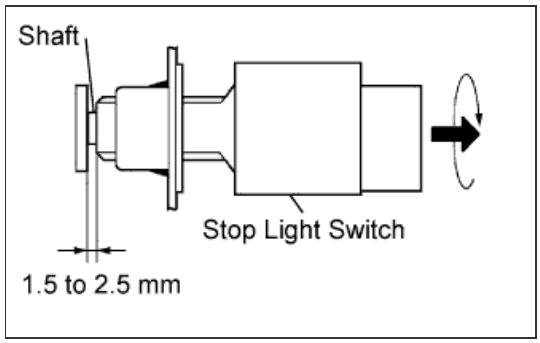
NOTICE:

Do not depress the brake pedal.

Torque:
1.5 N*m{ 15 kgf*cm , 13 in.*lbf }

NOTICE:

- **Do not apply a force of 98 N or more to the switch body.**
- **Less than 1.5 N*m.**



c. Check the stop light switch clearance.

Stop light switch clearance:
1.5 to 2.5 mm (0.0590 to 0.0984 in.)

d. Connect the wire harness clamp to the pedal support.

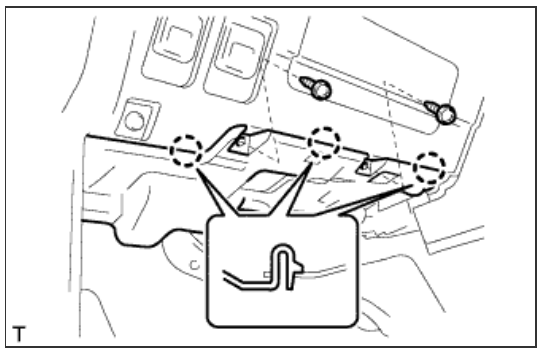
e. Connect the connector to the stop light switch.

3. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

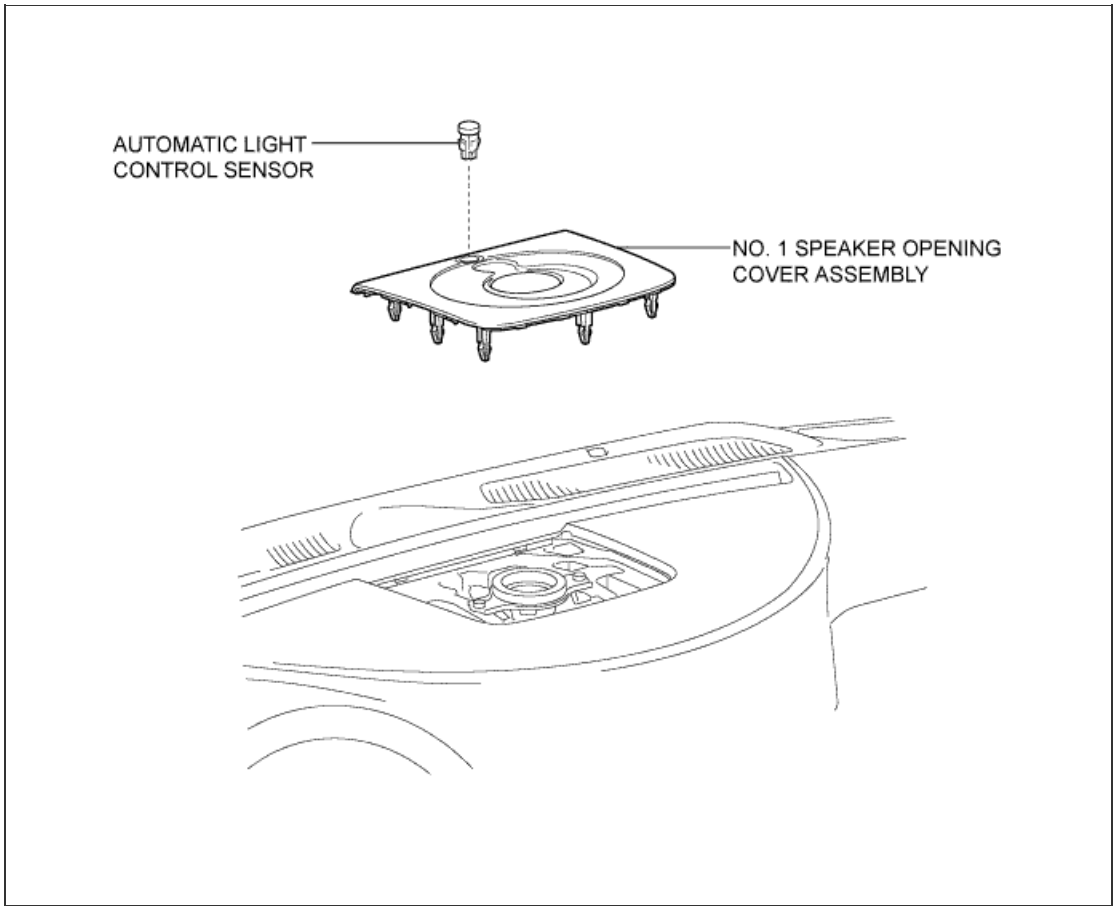
a. Connect the connectors.

b. Attach the 3 claws to install the under cover.

c. Install the 2 screws.



for Preparation Click here



for Preparation Click here

1. INSPECT AUTOMATIC LIGHT CONTROL SENSOR

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

Standard Voltage:

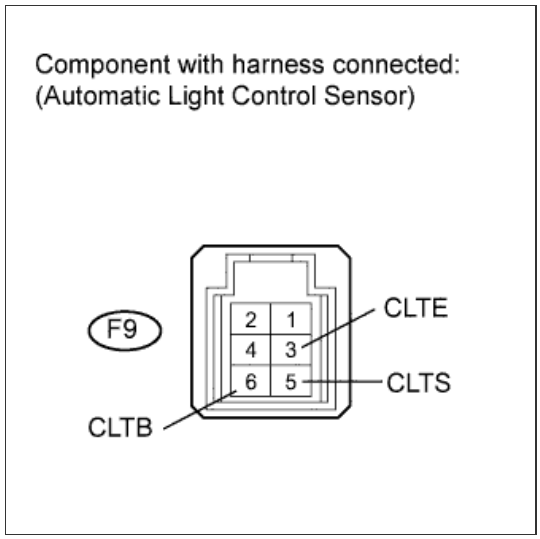
Tester Connection	Switch Condition	Specified Condition
F9-6 (CLTB) - F9-3 (CLTE)	Engine switch on (IG)	11 to 14 V

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

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
F9-3 (CLTE) - Body ground	Always	Below 1 Ω

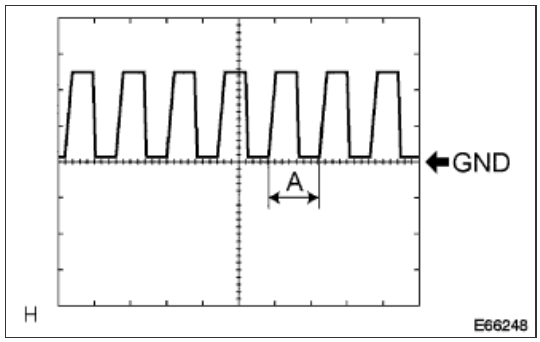
c. Reconnect the F9 sensor connector.



d. Check the waveform of the F9 sensor connector.

Waveform:

Tester Connection	Tool Setting	Switch Condition	Specified Condition
F9-3 (CLTE) - F9-5 (CLTS)	5 V/DIV., 5 msec./ DIV.	Engine switch on (IG), headlight dimmer switch on AUTO	Correct waveform is as shown



If the result is not as specified, there may be a malfunction in the sensor.

HINT:

If the ambient light becomes brighter, width A becomes narrower.

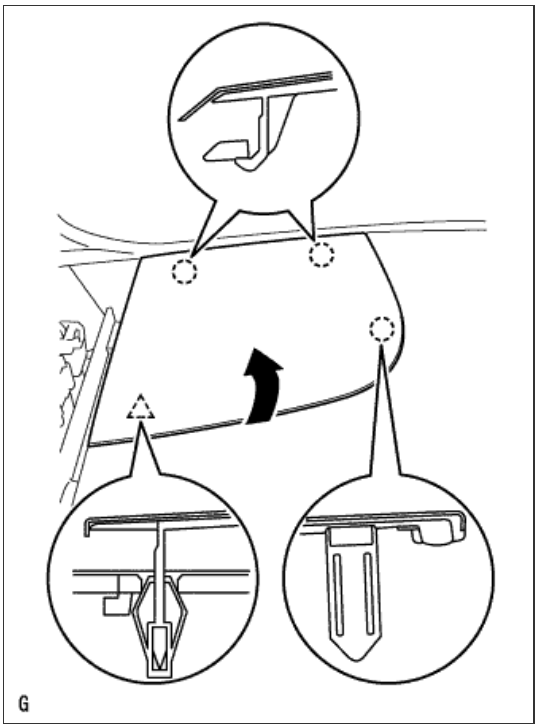
for Preparation Click here

1. REMOVE MULTI-DISPLAY ASSEMBLY

a. Remove the multi-display assembly (Click here).

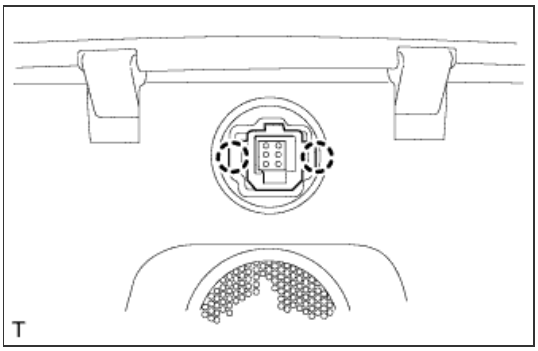
2. REMOVE NO. 1 SPEAKER OPENING COVER ASSEMBLY

a. Detach the claw and clip on the near side. Then, raise the panel towards the front of the vehicle in the direction of the arrow and detach the 2 claws to remove the panel.



3. REMOVE AUTOMATIC LIGHT CONTROL SENSOR

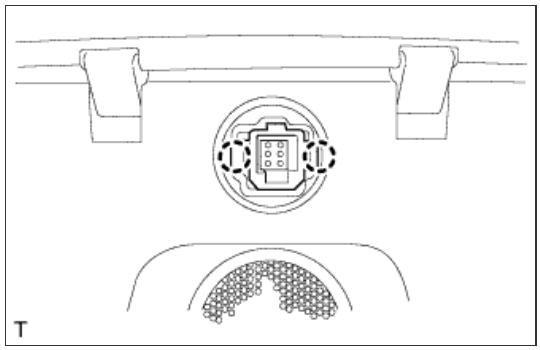
a. Detach the 2 claws and remove the light control sensor.



for Preparation Click here

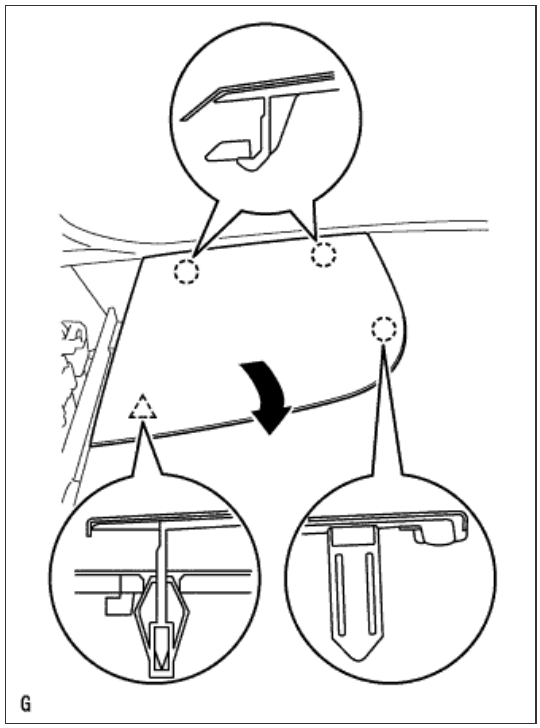
1. INSTALL AUTOMATIC LIGHT CONTROL SENSOR

a. Attach the 2 claws to install the light control sensor.



2. INSTALL NO. 1 SPEAKER OPENING COVER ASSEMBLY

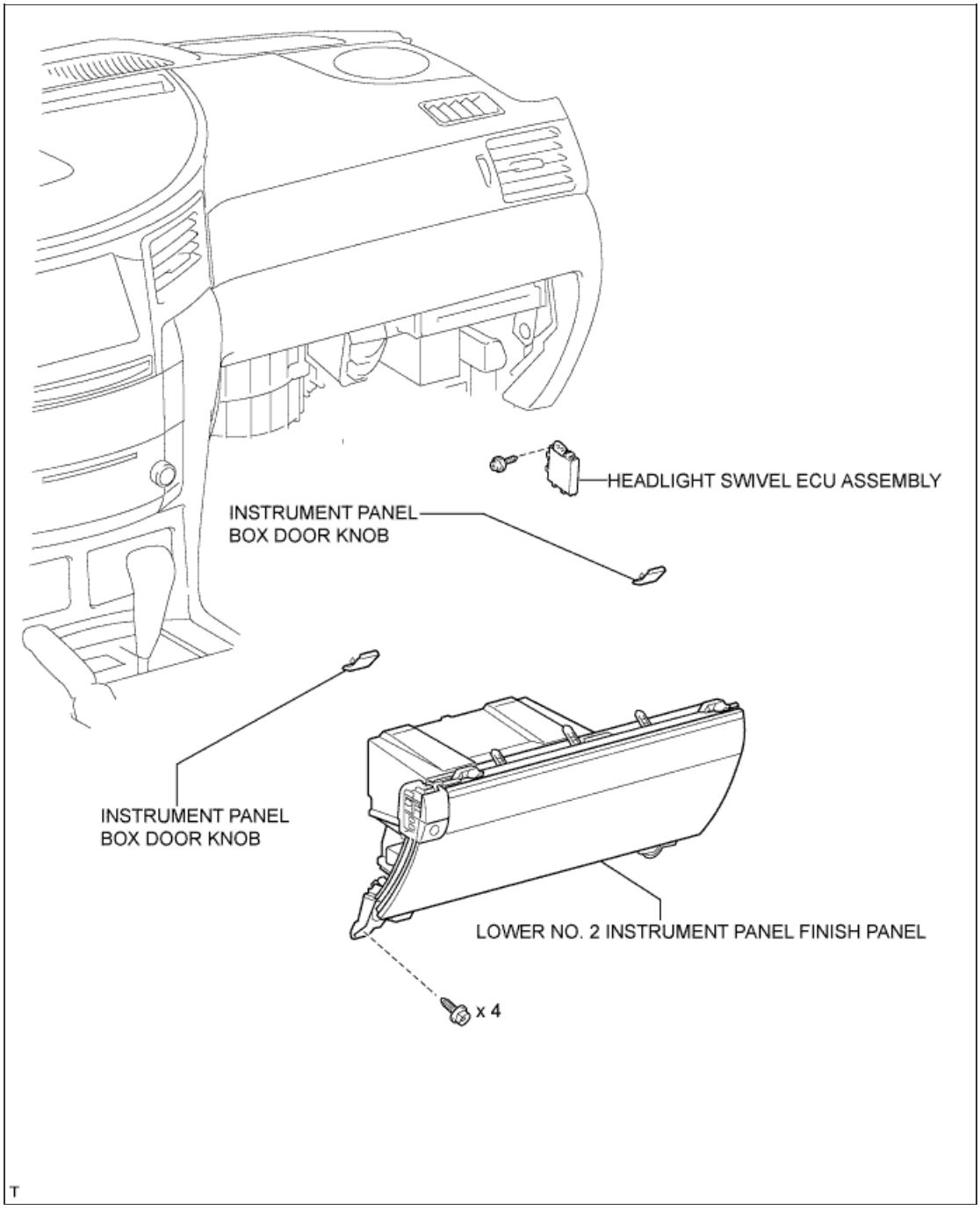
a. Hook the 2 claws on the far side to the instrument panel to attach them. Then, lower the panel towards the rear of the vehicle in the direction of the arrow, and attach the claw and clip on the front side to install the panel.



3. INSTALL MULTI-DISPLAY ASSEMBLY

a. Install the multi-display assembly (Click here).

for Preparation Click here



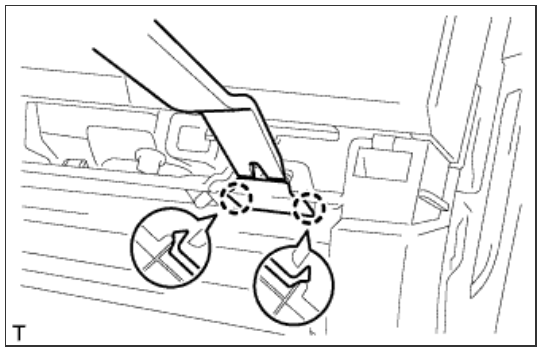
for Preparation Click here

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 knob.

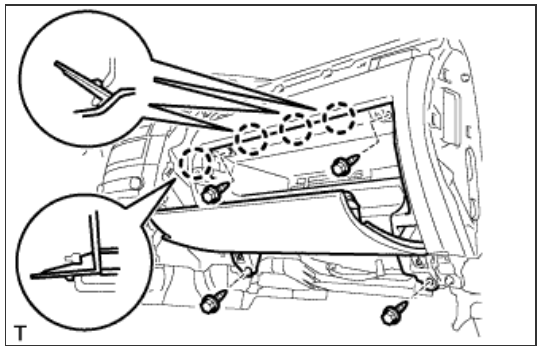


3. REMOVE LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Remove the 4 bolts.

b. Detach the 4 claws.

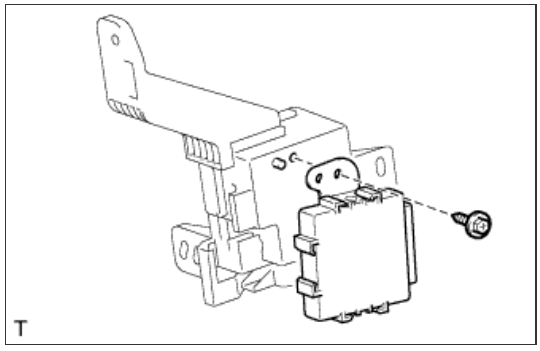
c. Remove the finish panel and then disconnect the connector.



4. REMOVE HEADLIGHT SWIVEL ECU ASSEMBLY

a. Disconnect the connector.

b. Remove the screw and ECU.

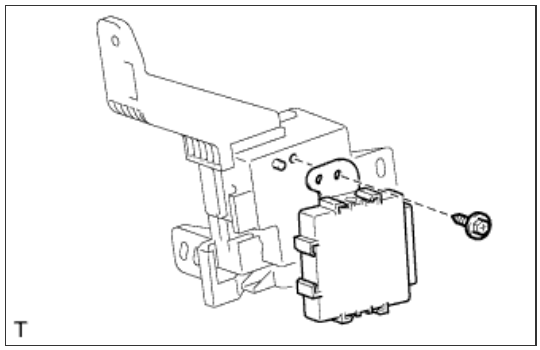


for Preparation Click here

1. INSTALL HEADLIGHT SWIVEL ECU ASSEMBLY

a. Install the ECU with the screw.

b. Connect the connector.

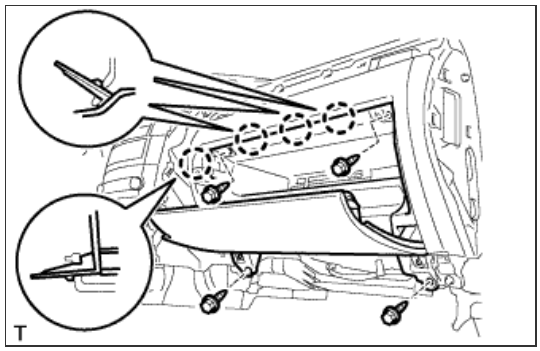


2. INSTALL LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Connect the connector.

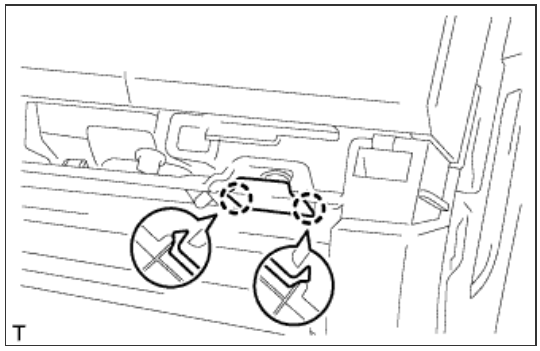
b. Attach the 4 claws to install the finish panel.

c. Install the 4 bolts.



3. INSTALL INSTRUMENT PANEL BOX DOOR KNOB

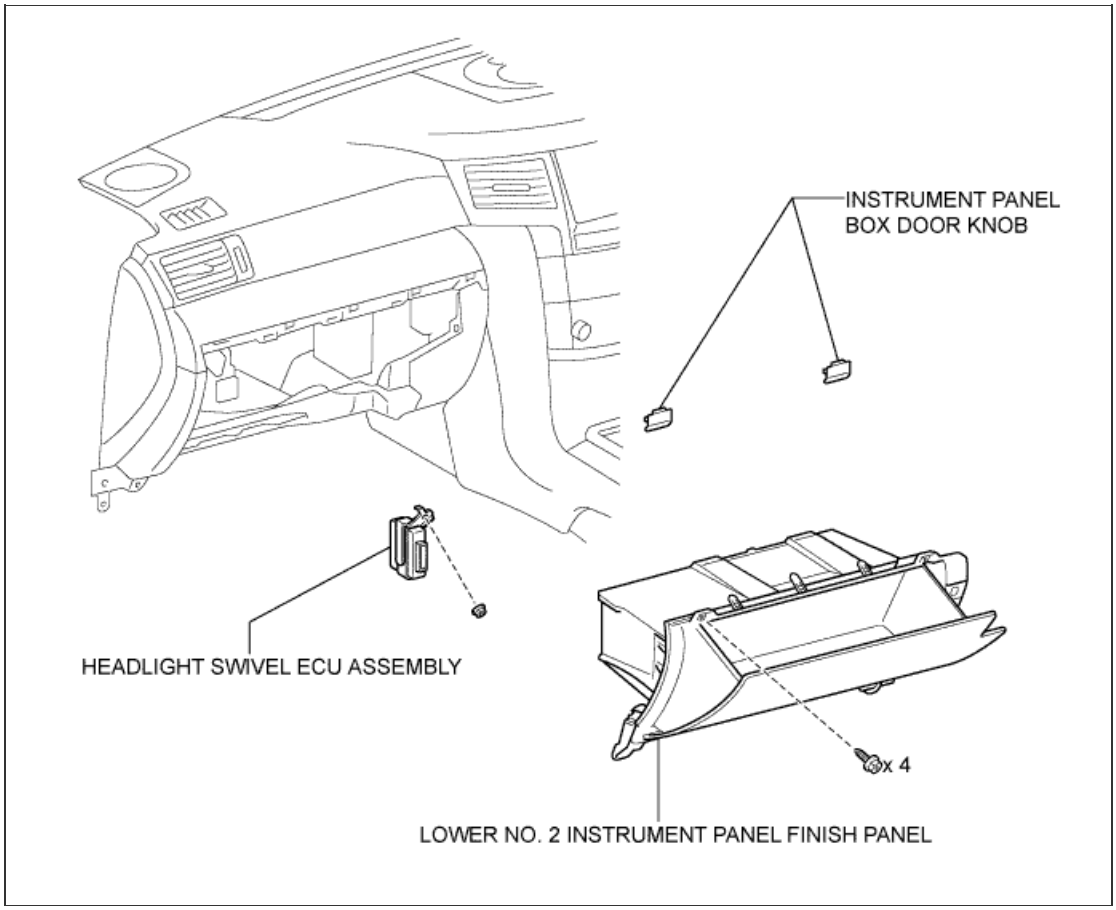
a. Attach the 2 claws to install the knob.



4. INSTALL FRONT PASSENGER SIDE KNEE AIRBAG ASSEMBLY

a. Install the front passenger side knee airbag assembly (Click here).

for Preparation Click here



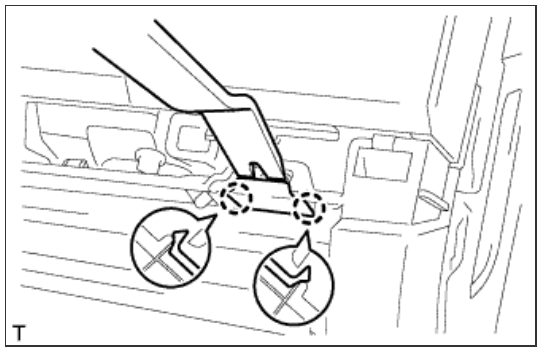
for Preparation Click here

1. REMOVE LOWER NO. 2 INSTRUMENT PANEL AIRBAG ASSEMBLY

a. Remove the lower No. 2 instrument panel airbag assembly (Click here).

2. REMOVE INSTRUMENT PANEL BOX DOOR KNOB

a. Using a moulding remover, detach the 2 claws and remove the knob.

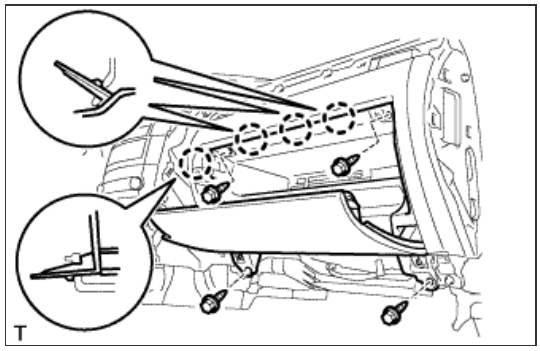


3. REMOVE LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Remove the 4 bolts.

b. Detach the 4 claws.

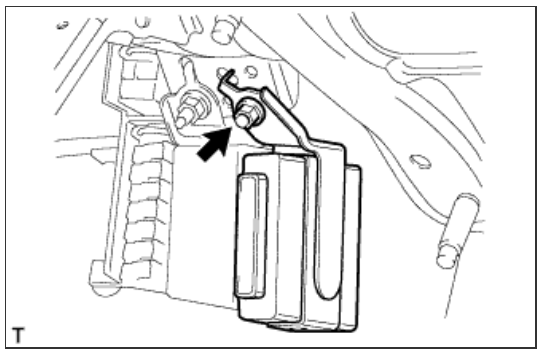
c. Remove the finish panel and then disconnect the connector.



4. REMOVE HEADLIGHT SWIVEL ECU ASSEMBLY

a. Remove the nut and ECU.

b. Disconnect the connector.

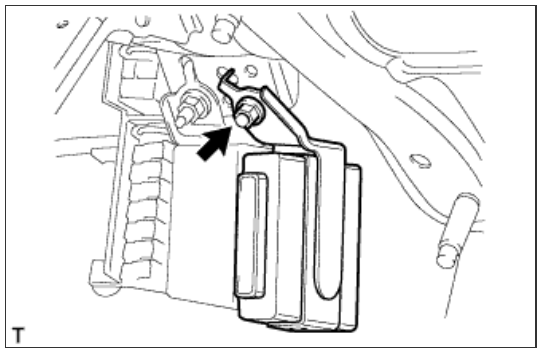


for Preparation Click here

1. INSTALL HEADLIGHT SWIVEL ECU ASSEMBLY

a. Connect the connector.

b. Install the nut and ECU.

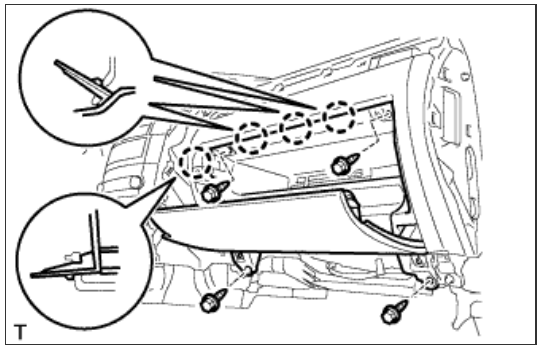


2. INSTALL LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Connect the connector.

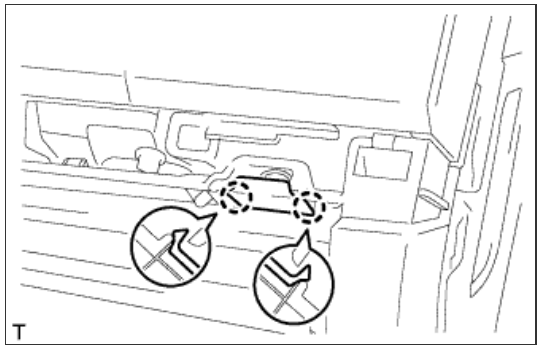
b. Attach the 4 claws to install the finish panel.

c. Install the 4 bolts.



3. INSTALL INSTRUMENT PANEL BOX DOOR KNOB

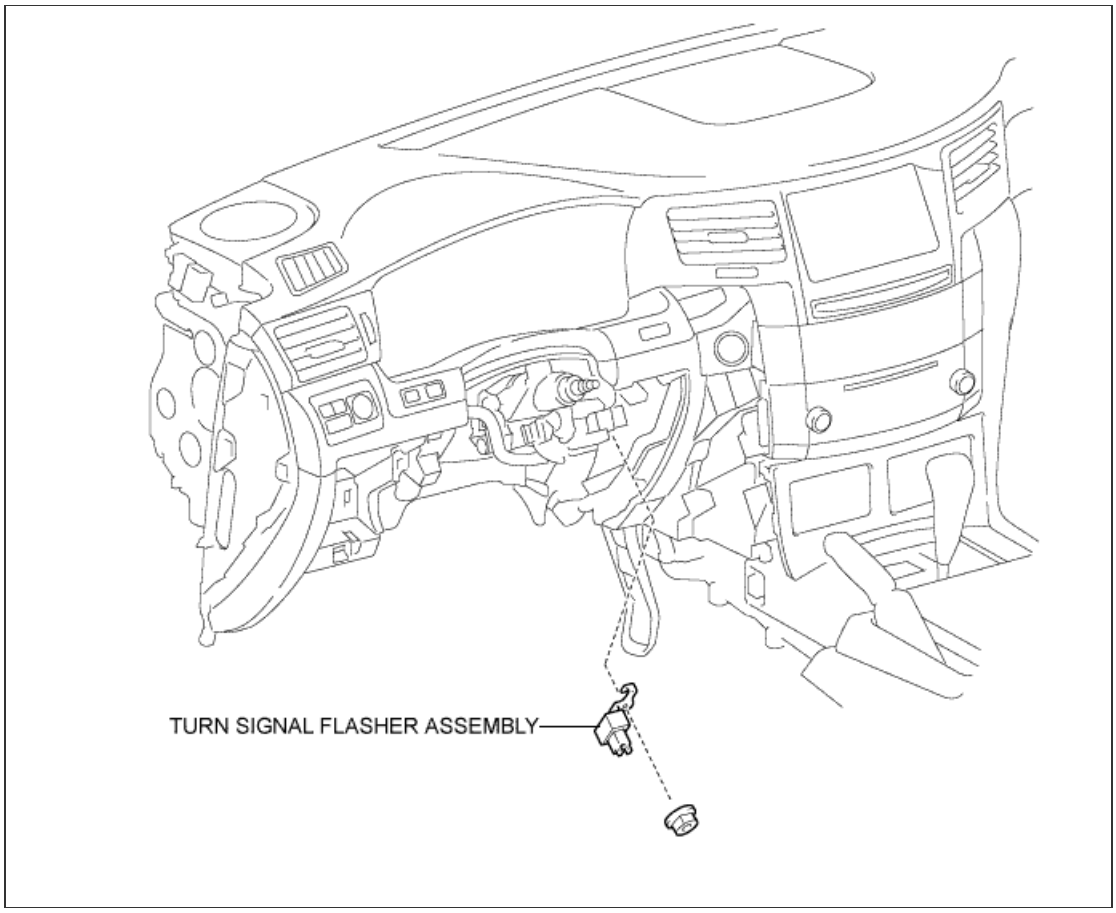
a. Attach the 2 claws to install the knob.



4. INSTALL LOWER NO. 2 INSTRUMENT PANEL AIRBAG ASSEMBLY

a. Install the lower No. 2 instrument panel airbag assembly (Click here).

for Preparation Click here



for Preparation Click here

1. INSPECT TURN SIGNAL FLASHER ASSEMBLY

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
E19-7 (E) - Body ground	Always	Below 1 Ω

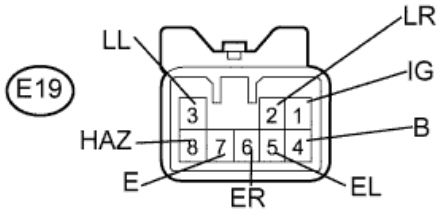
b. Measure the voltage according to the value(s) in the table below.

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
E19-1 (IG) - E19-7 (E)	Engine switch on (IG)	11 to 14 V
E19-2 (LR) - E19-7 (E)	Hazard warning switch off	Below 1 V
	Hazard warning switch on	11 to 14 V or below 1 V (60 to 120 times per minute) *1: Voltage drop = 0.5 V max
E19-3 (LL) - E19-7 (E)	Hazard warning switch off	Below 1 V
	Hazard warning switch on	11 to 14 V or below 1 V (60 to 120 times per minute) *2: Voltage drop = 0.5 V max
E19-4 (B) - E19-7 (E)	Always	11 to 14 V
E19-5 (EL) - E19-7 (E)	Engine switch on (IG) Headlight dimmer switch (TURN L) off	9 V or higher
	Engine switch on (IG) Headlight dimmer switch (TURN L) on	Below 1 V
E19-6 (ER) - E19-7 (E)	Engine switch on (IG) Headlight dimmer switch (TURN R) off	9 V or higher
	Engine switch on (IG) Headlight dimmer switch (TURN R) on	Below 1 V
E19-8 (HAZ) - E19-7 (E)	Hazard warning switch off	9 V or higher
	Hazard warning switch on	Below 1 V

*1: E19-4 (B) - E19-2 (LR) Voltage drop = 0.5 V max.

Component with harness connected:
(Turn Signal Flasher)



*2: E19-4 (B) - E19-3 (LL) Voltage drop = 0.5 V max.
If the result is not as specified, there may be a malfunction in the turn signal flasher.

for Preparation Click here

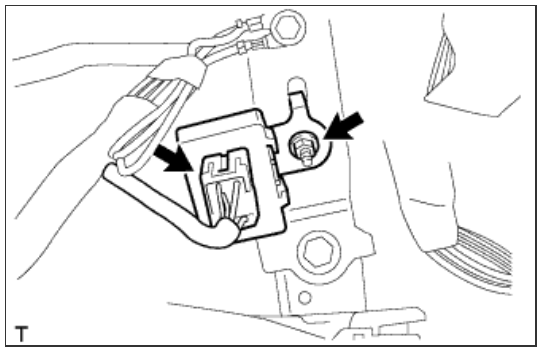
1. REMOVE DRIVER SIDE KNEE AIRBAG ASSEMBLY

a. Remove the driver side knee airbag (Click here).

2. REMOVE TURN SIGNAL FLASHER ASSEMBLY

a. Disconnect the connector.

b. Remove the nut and turn signal flasher.

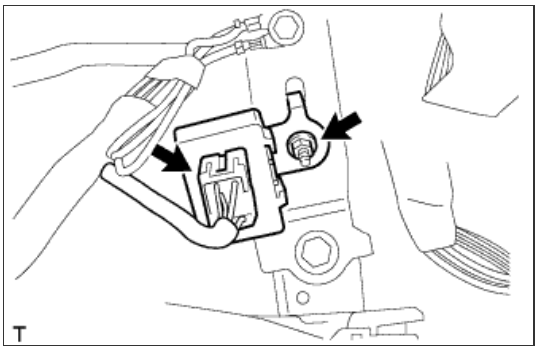


for Preparation Click here

1. INSTALL TURN SIGNAL FLASHER ASSEMBLY

a. Install the turn signal flasher with the nut.

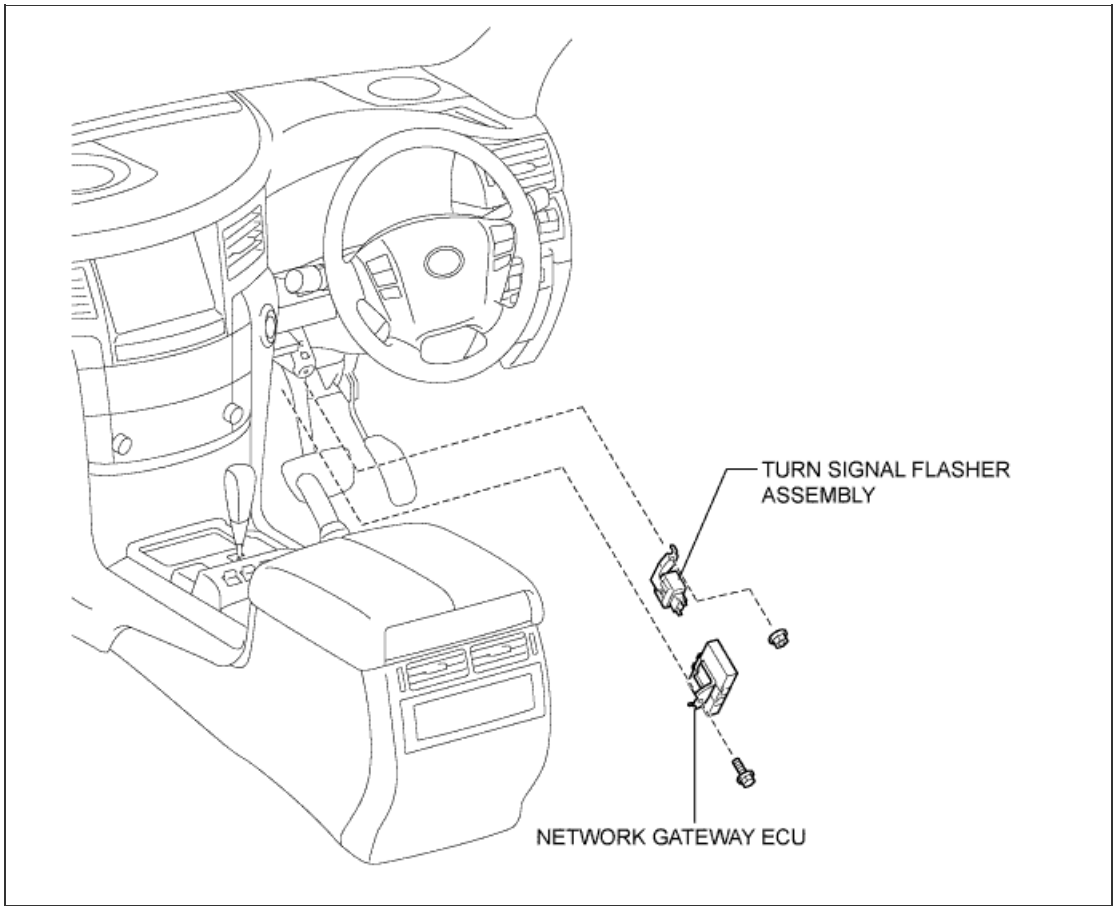
b. Connect the connector.



2. INSTALL DRIVER SIDE KNEE AIRBAG ASSEMBLY

a. Install the driver side knee airbag (Click here).

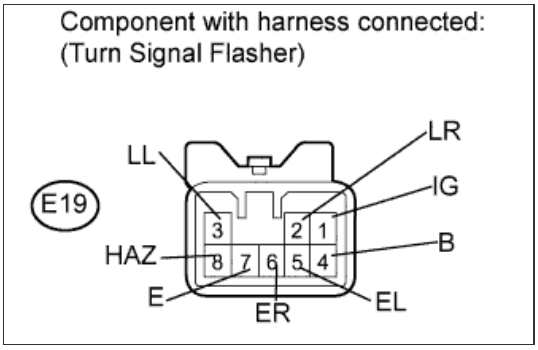
for Preparation Click here



for Preparation Click here

1. INSPECT TURN SIGNAL FLASHER ASSEMBLY

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



Standard Voltage:

Tester Connection	Condition	Specified Condition
1 (IG) - 7 (E)	Engine switch on (IG)	11 to 14 V
2 (LR) - 7 (E)	Hazard warning switch off	Below 1 V
	Hazard warning switch on	11 to 14 V or below 1 V (60 to 120 times per minute)
3 (LL) - 7 (E)	Hazard warning switch off	Below 1 V
	Hazard warning switch on	11 to 14 V or below 1 V (60 to 120 times per minute)
4 (B) - 7 (E)	Always	11 to 14 V
5 (EL) - 7 (E)	Engine switch on (IG) Headlight dimmer switch (Turn L) off	9 V or higher
	Engine switch on (IG) Headlight dimmer switch (Turn L) on	Below 1 V
6 (ER) - 7 (E)	Engine switch on (IG) Headlight dimmer switch (Turn R) off	9 V or higher
	Engine switch on (IG) Headlight dimmer switch (Turn R) on	Below 1 V
8 (HAZ) - 7 (E)	Hazard warning switch off	9 V or higher
	Hazard warning switch on	Below 1 V

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
7 (E) - Body ground	Always	Below 1 Ω

If the result is not as specified, there may be a malfunction in the turn signal flasher.

for Preparation Click here

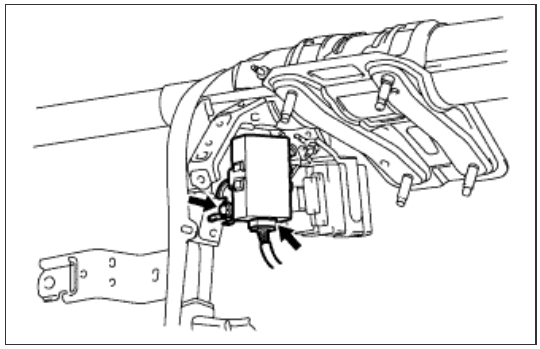
1. REMOVE DRIVER SIDE KNEE AIRBAG ASSEMBLY

a. Remove the driver side knee airbag (Click here).

2. REMOVE NETWORK GATEWAY ECU

a. Disconnect the connector.

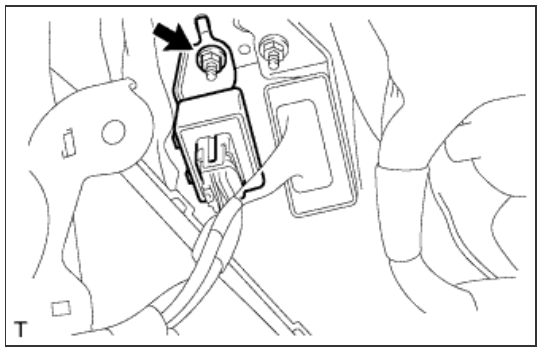
b. Remove the bolt and ECU.



3. REMOVE TURN SIGNAL FLASHER ASSEMBLY

a. Remove the nut and turn signal flasher.

b. Disconnect the connector.

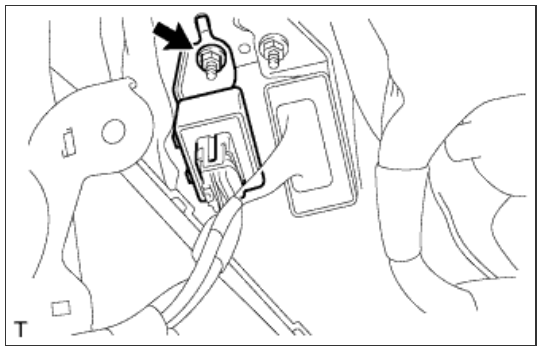


for Preparation Click here

1. INSTALL TURN SIGNAL FLASHER ASSEMBLY

a. Install the turn signal flasher with the nut.

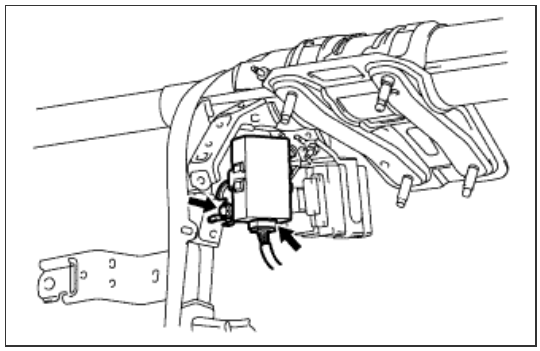
b. Connect the connector.



2. INSTALL NETWORK GATEWAY ECU

a. Install the ECU with the bolt.

b. Connect the connector.



3. INSTALL DRIVER SIDE KNEE AIRBAG ASSEMBLY

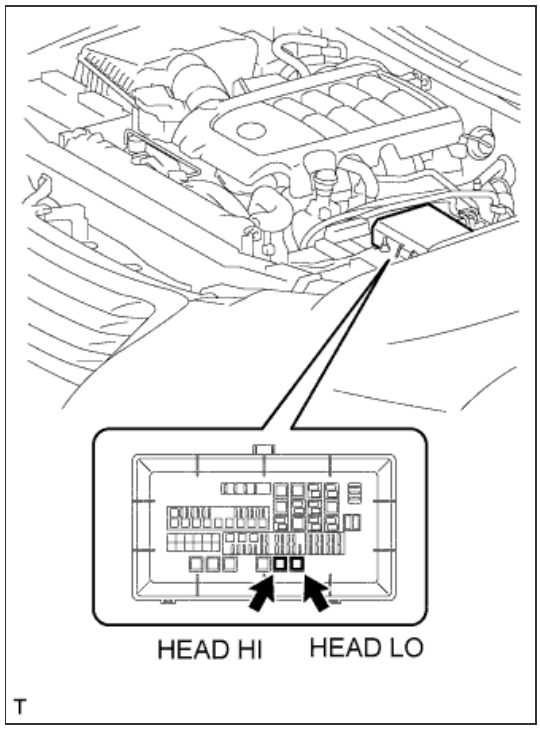
a. Install the driver side knee airbag (Click here).

for Preparation Click here

1. INSPECT HEADLIGHT RELAY (HEAD HI, HEAD LO)

a. Remove the engine room side cover LH (Click here).

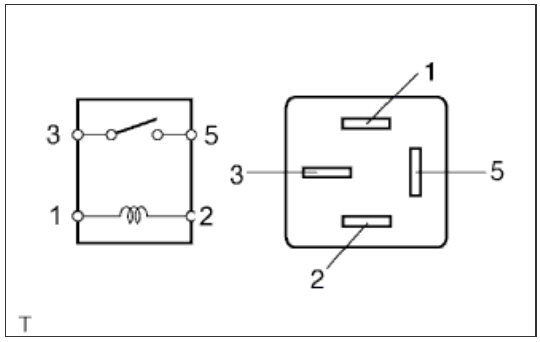
b. Remove the headlight relay from the engine room relay box.



c. 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



If the result is not as specified, replace the relay.

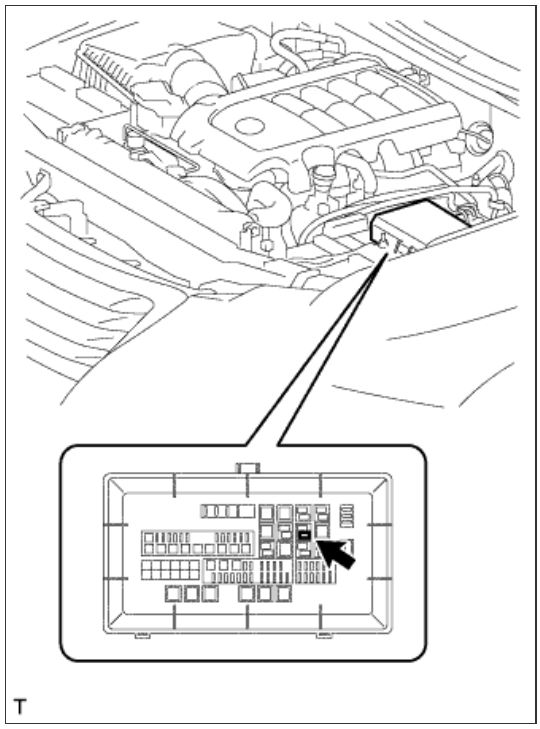
d. Install the headlight relay to the engine room relay box.

e. Install the engine room side cover LH (Click here).

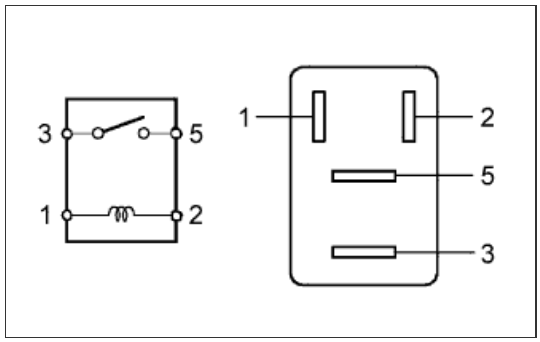
2. INSPECT FOG LIGHT RELAY (FR FOG)

a. Remove the engine room side cover LH (Click here).

b. Remove the fog light relay from the engine room relay box.



c. 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

If the result is not as specified, replace the relay.

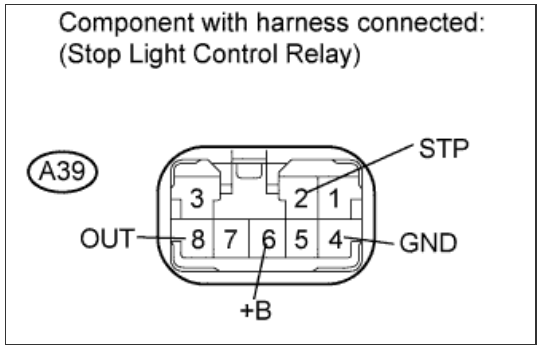
d. Install the fog light relay to the engine room relay box.

e. Install the engine room side cover LH (Click here).

3. INSPECT STOP LIGHT CONTROL RELAY ASSEMBLY

a. Remove the No. 1 under cover (Click here).

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



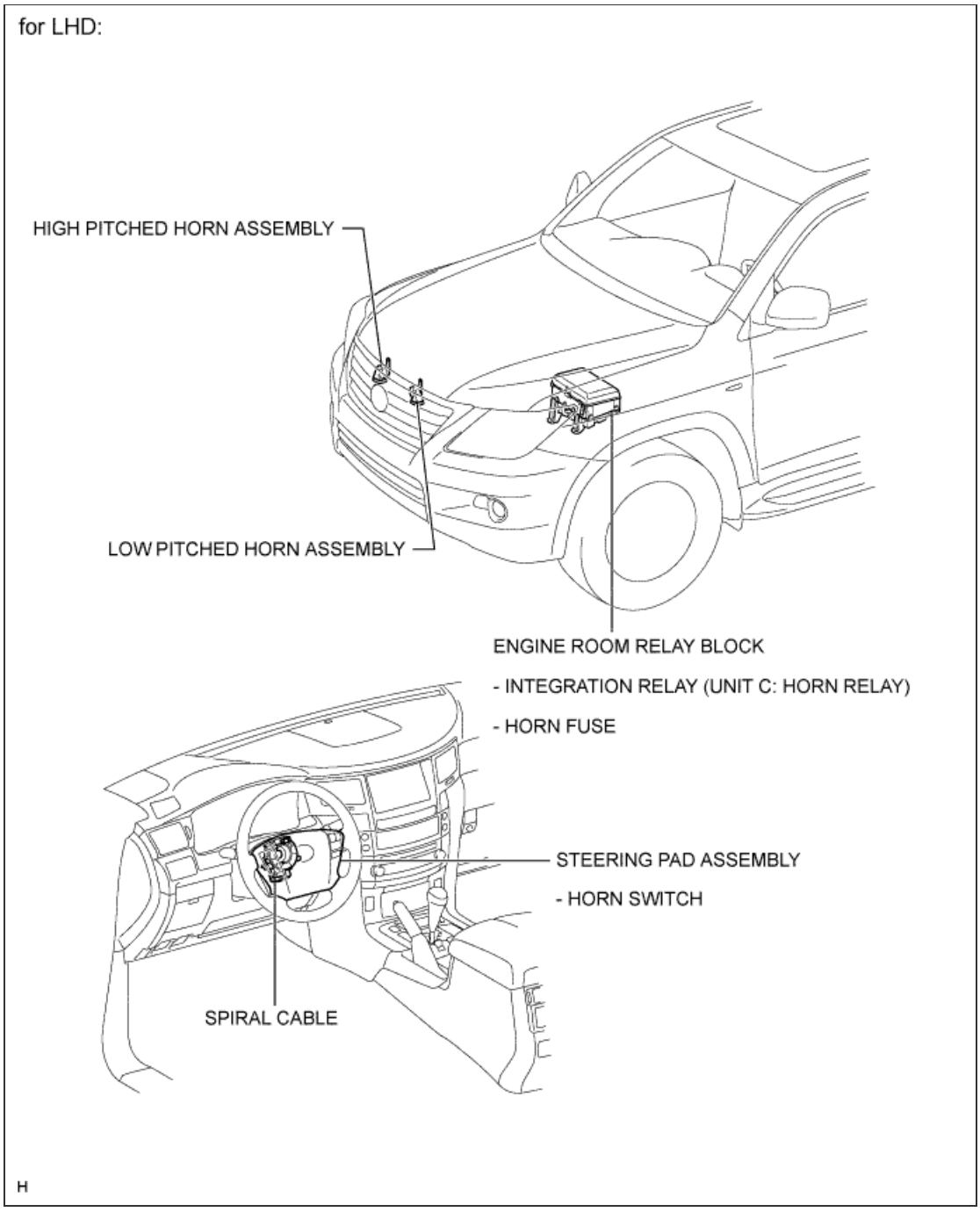
Standard Voltage:

Tester Connection	Condition	Specified Condition
A39-6 (+B) - A39-4 (GND) *1	Always	11 to 14 V
A39-2 (STP) - Body grand *2	Stop light switch on	11 to 14 V
	Stop light switch off	Below 1 V
A39-8 (OUT) - Body grand *3	Stop light switch on	11 to 14 V
	Stop light switch off	Below 1 V

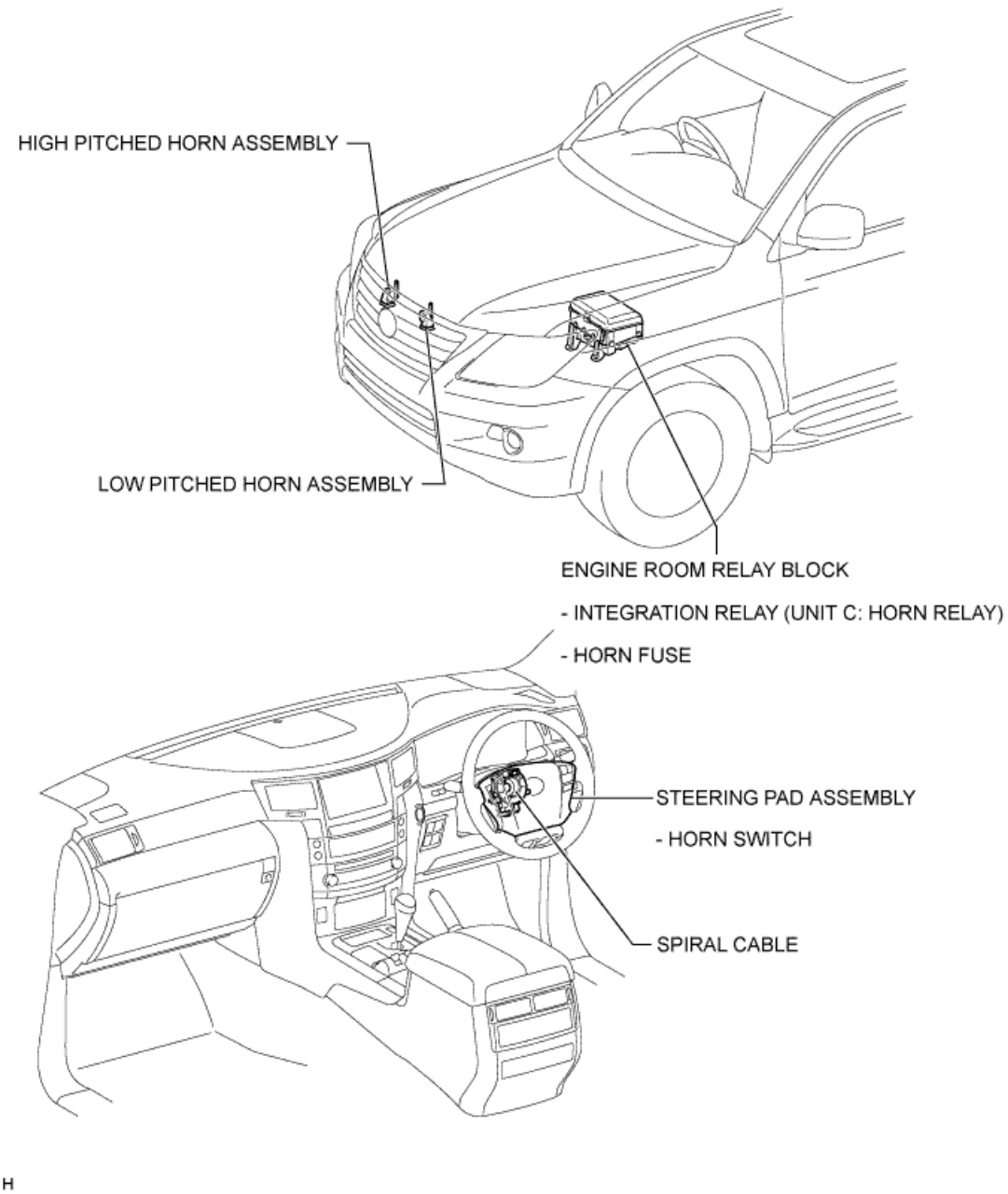
If *1 and *2 normal and *3 is not as specified, replace the stop light control relay assembly.

c. Install the No. 1 under cover (Click here).

for Preparation Click here

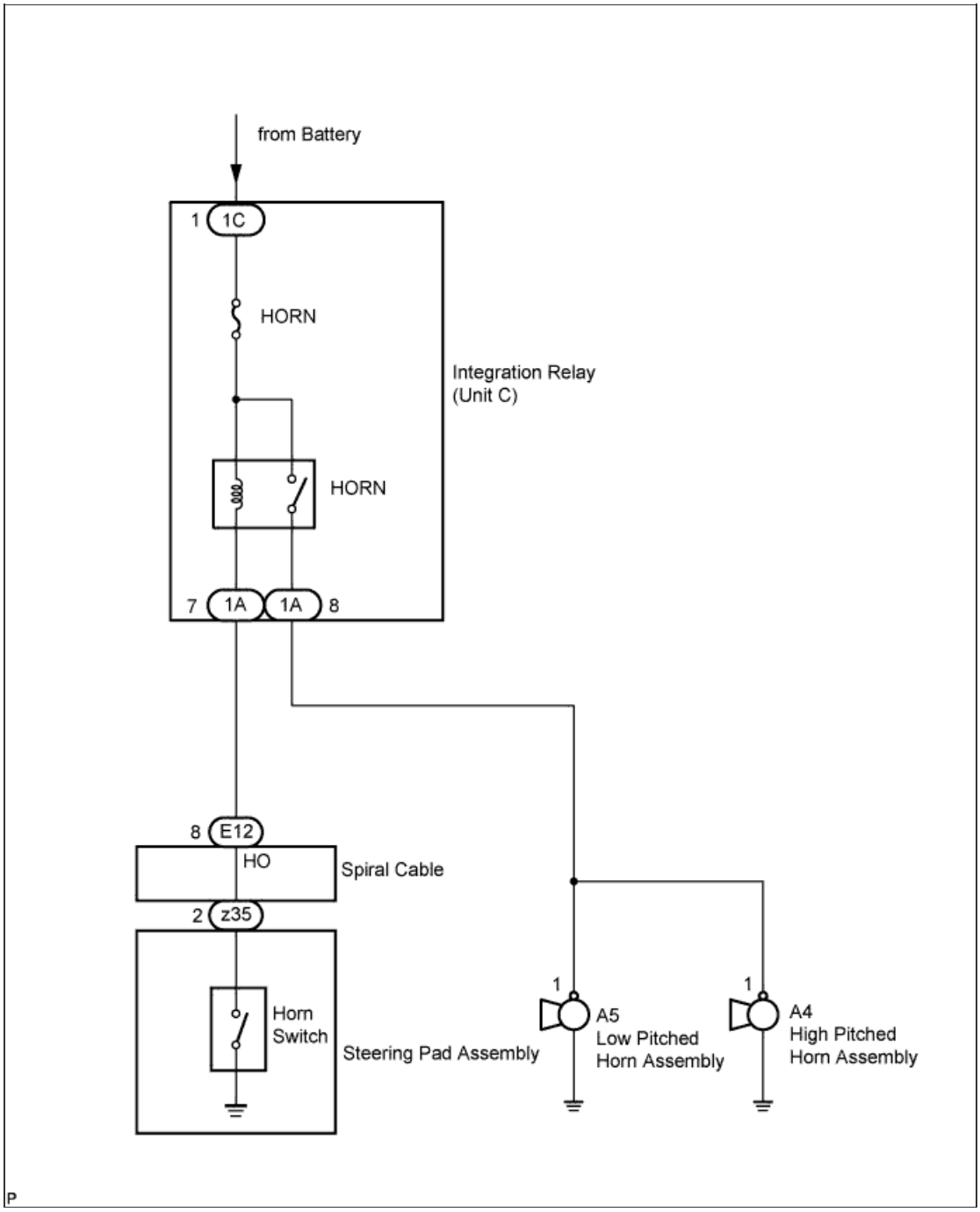


for RHD:


HIGH PITCHED HORN ASSEMBLY
LOW PITCHED HORN ASSEMBLY
ENGINE ROOM RELAY BLOCK
- INTEGRATION RELAY (UNIT C: HORN RELAY)
- HORN FUSE
STEERING PAD ASSEMBLY
- HORN SWITCH
SPIRAL CABLE

H

for Preparation Click here



for Preparation Click here

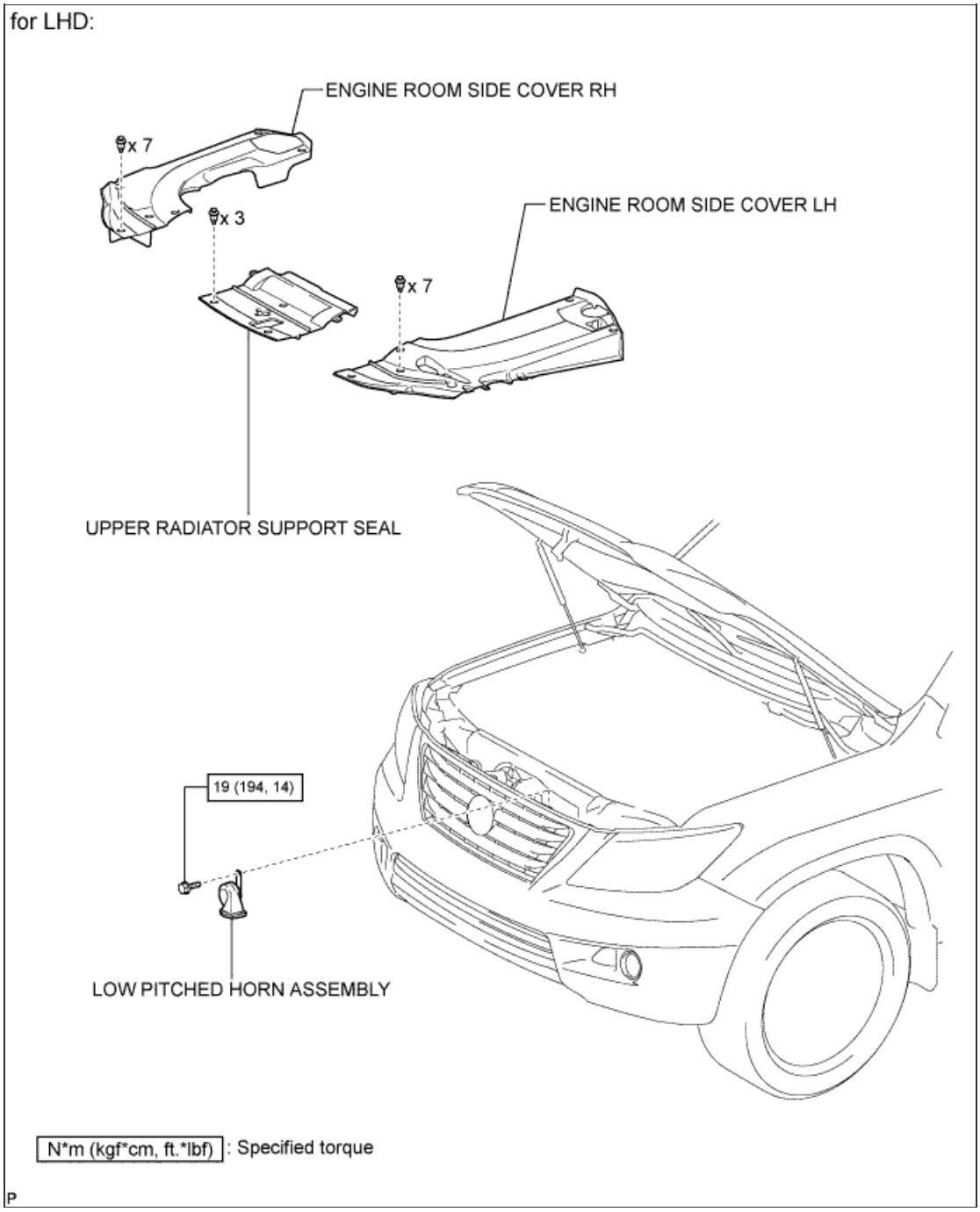
HINT:

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.

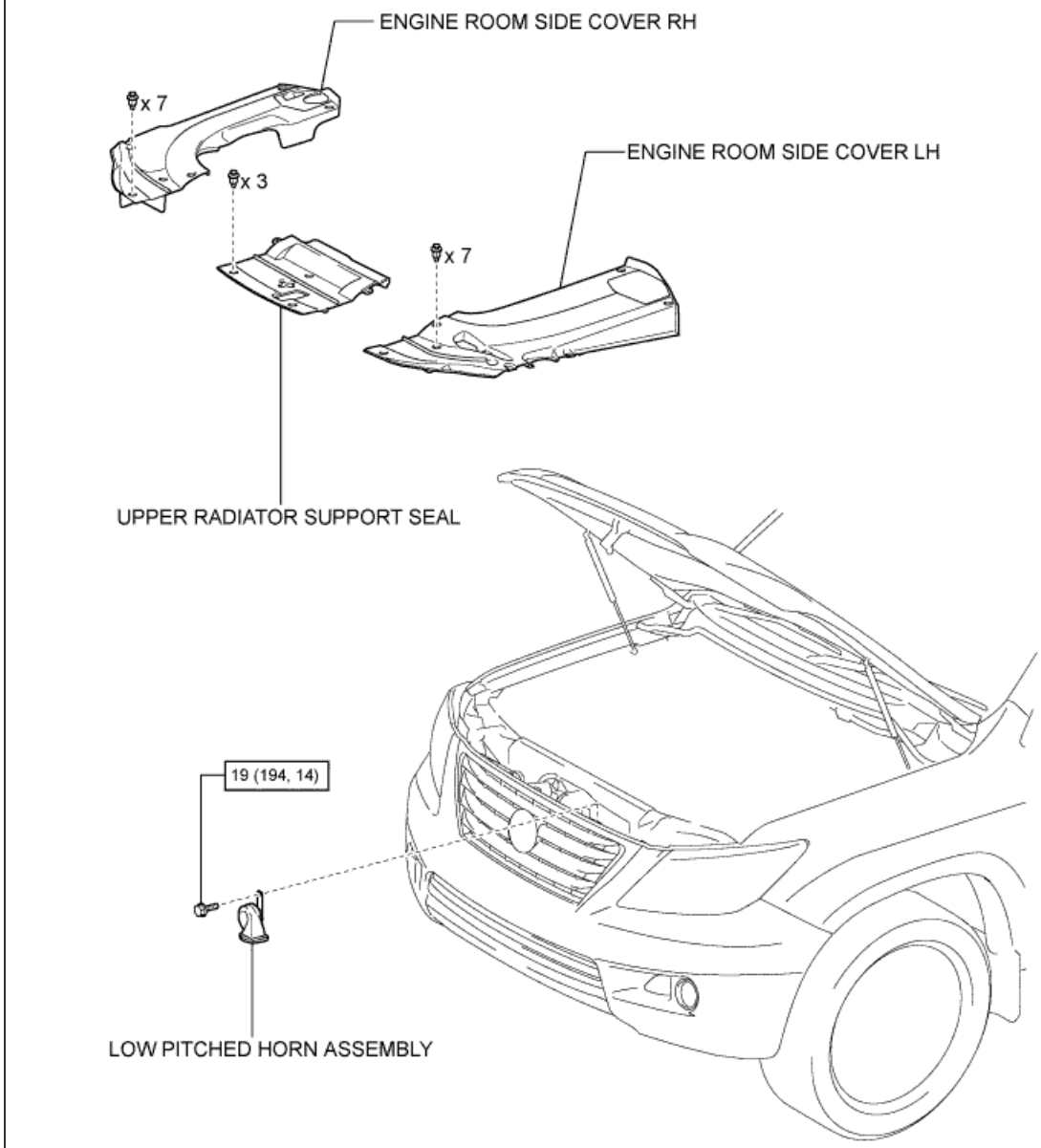
Horn System

Symptom	Suspected Area	See page
Horn does not sound	HORN fuse	Click here
	Low pitched horn	Click here
	High pitched horn	Click here
	Engine room relay block, integration relay (HORN relay)	Click here
	Steering pad assembly	-
	Spiral cable	-
	Wire harness	-

for Preparation [Click here]



for RHD:



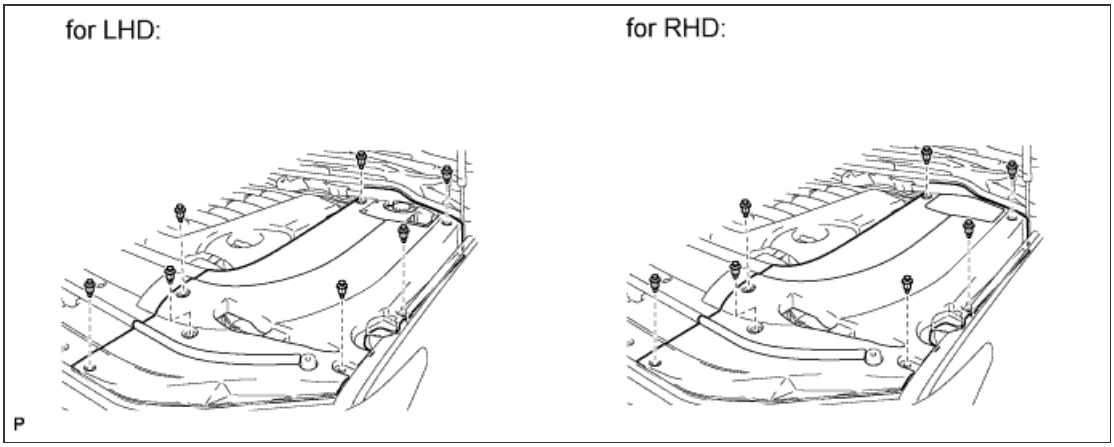
N*m (kgf*cm, ft.*lbf) : Specified torque

P

for Preparation Click here

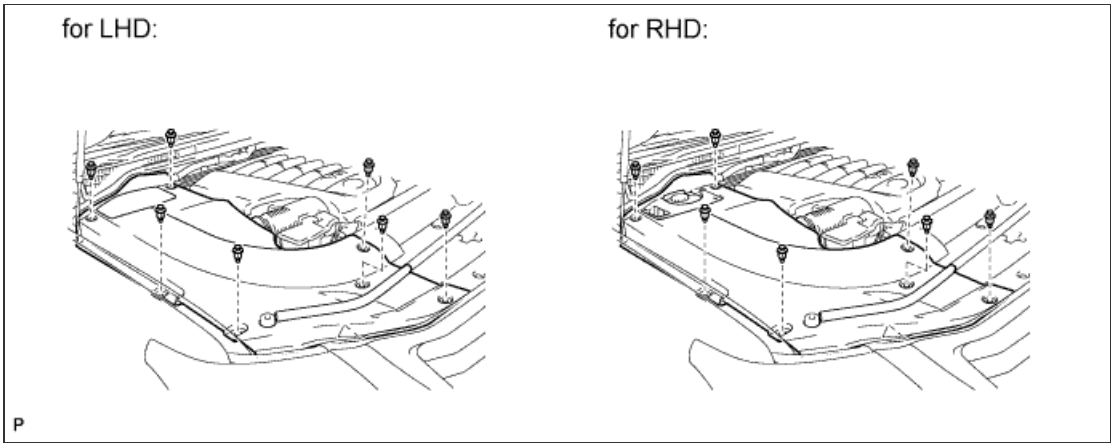
1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



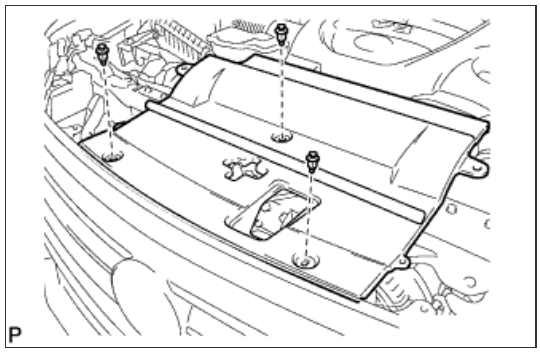
2. REMOVE ENGINE ROOM SIDE COVER RH

a. Remove the 7 clips and engine room side cover.



3. REMOVE UPPER RADIATOR SUPPORT SEAL

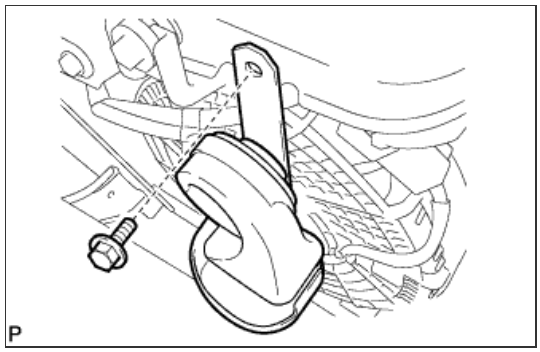
a. Remove the 3 clips and upper radiator support seal.



4. REMOVE LOW PITCHED HORN ASSEMBLY

a. Remove the bolt and horn.

b. Disconnect the horn connector.



for Preparation Click here

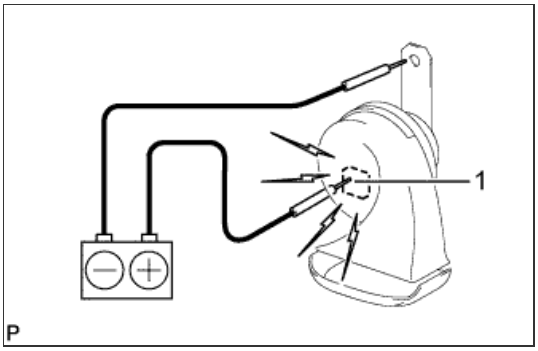
1. INSPECT LOW PITCHED HORN ASSEMBLY

a. Apply battery voltage to the horn connector and check the operation of the horn, as shown in the table.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 Battery negative (-) → Body ground	Horn sounds

If the result is not as specified, replace the horn assembly.



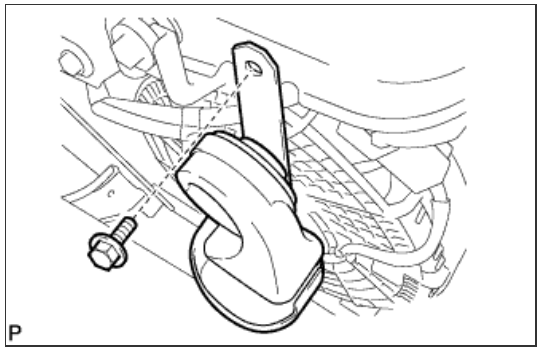
for Preparation Click here

1. INSTALL LOW PITCHED HORN ASSEMBLY

a. Connect the horn connector.

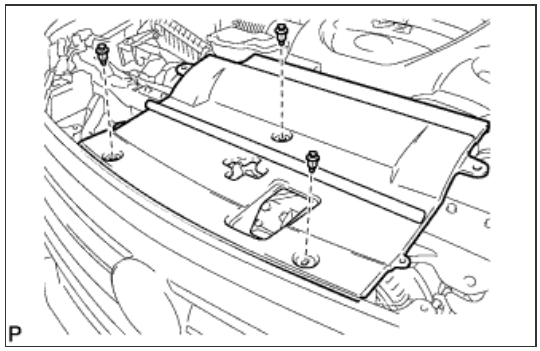
b. Install the horn with the bolt.

Torque:
19 N*m{ 194 kgf*cm , 14 ft.*lbf }



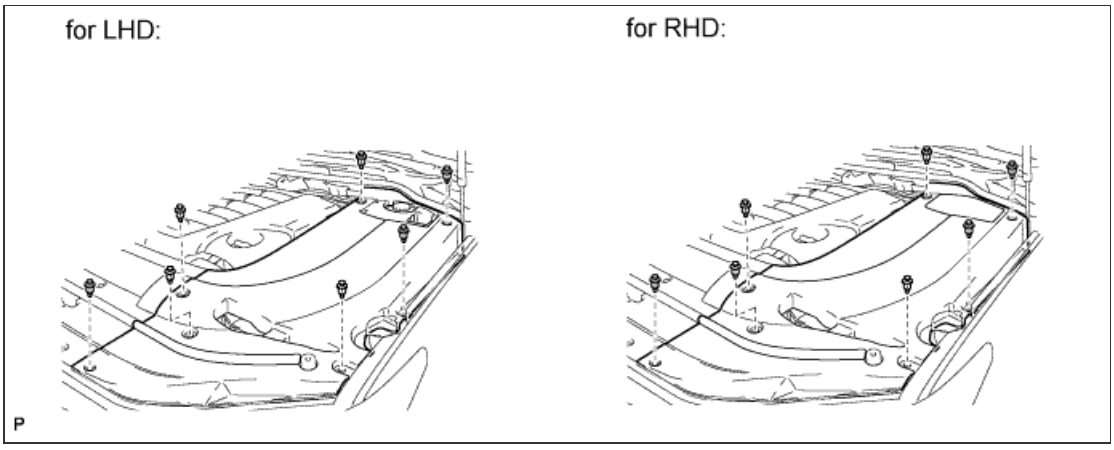
2. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the upper radiator support seal with the 3 clips.



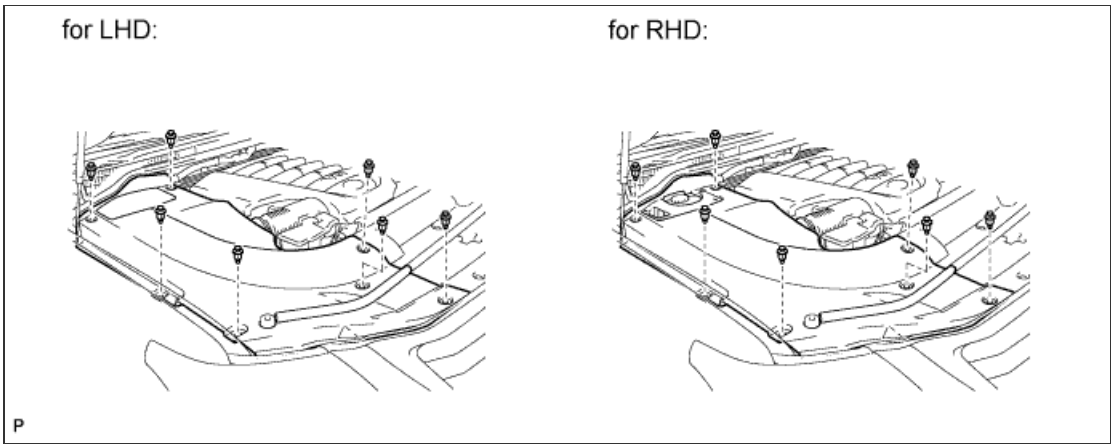
3. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

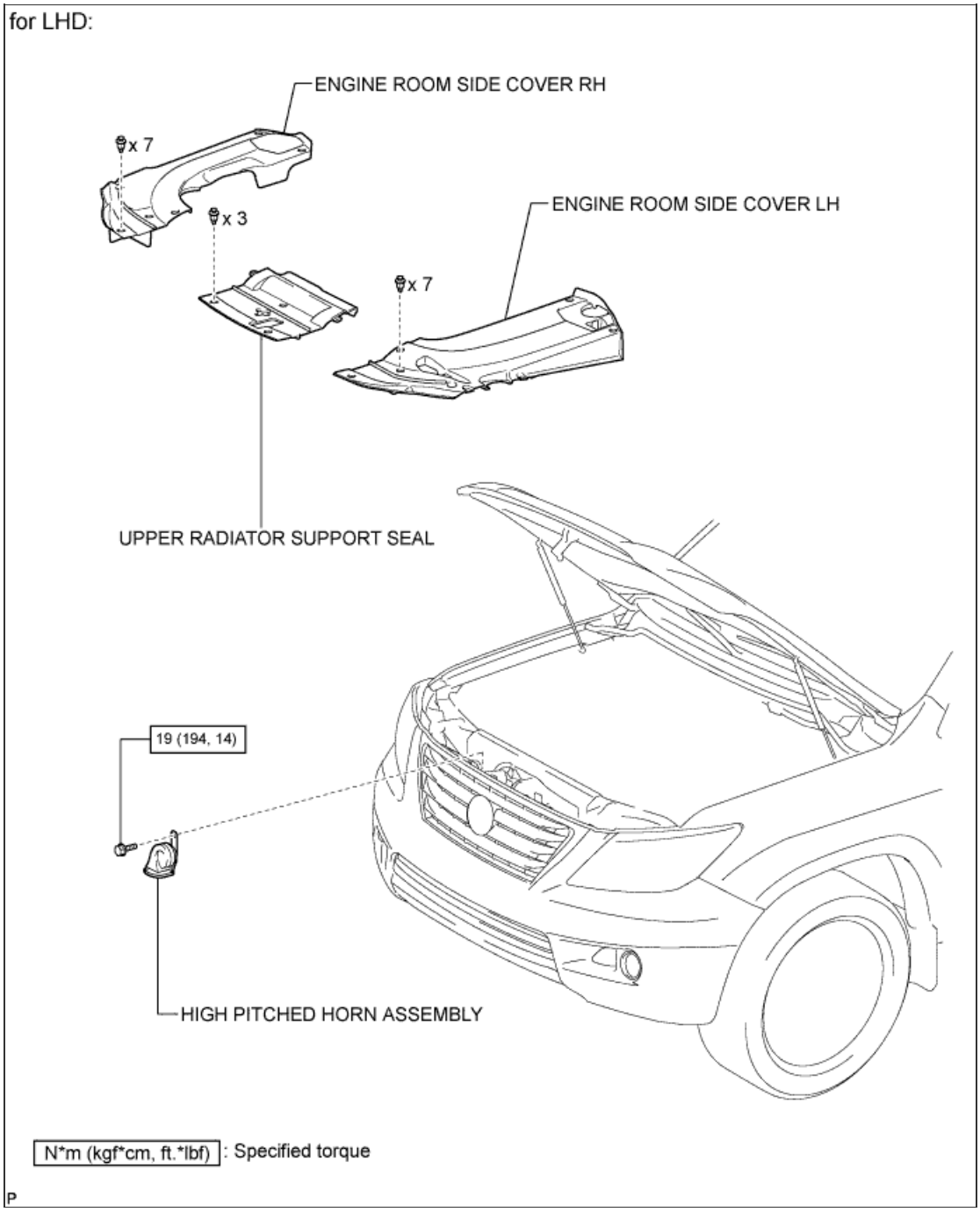


4. INSTALL ENGINE ROOM SIDE COVER RH

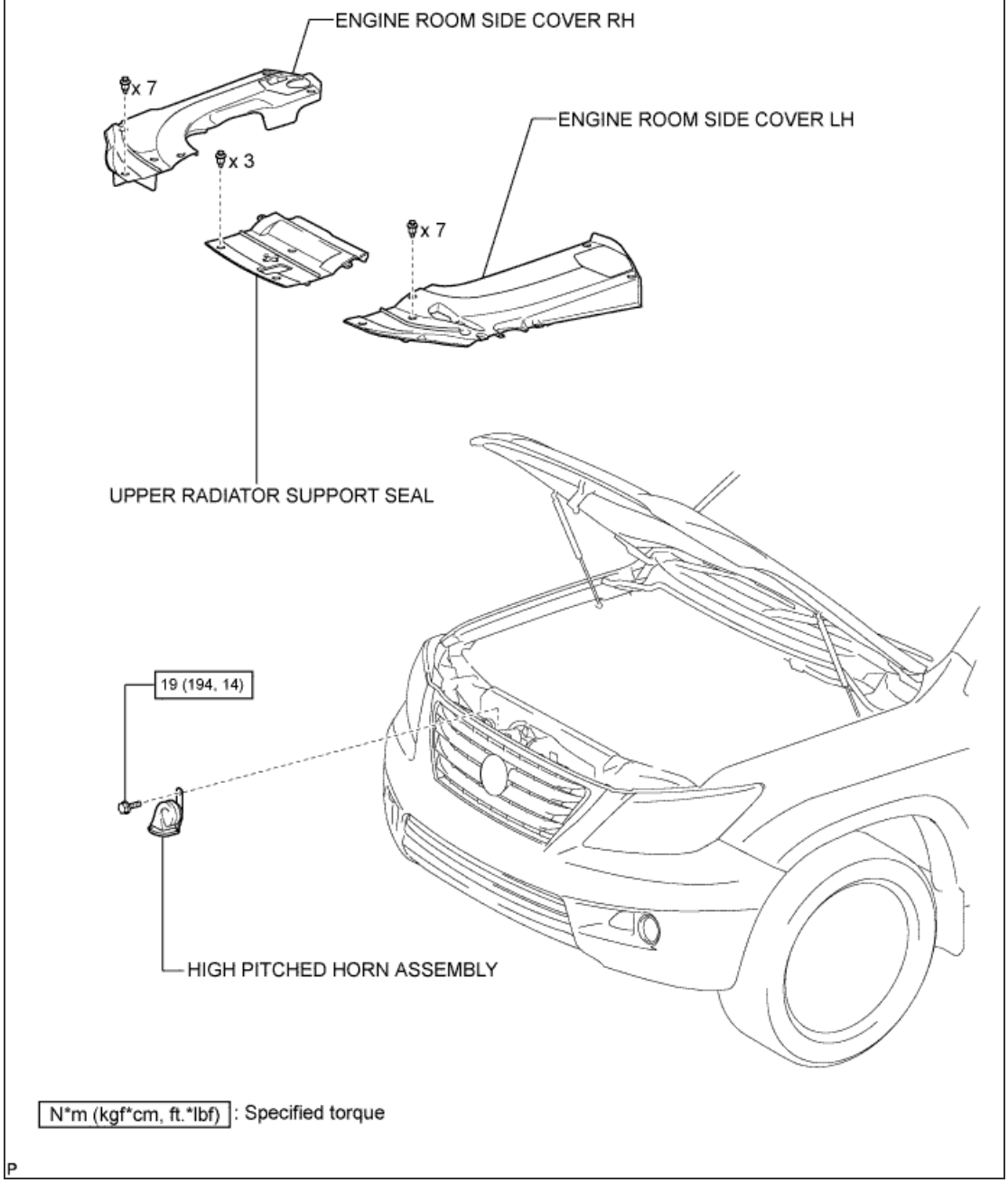
a. Install the engine room side cover with the 7 clips.



for Preparation Click here



for RHD:



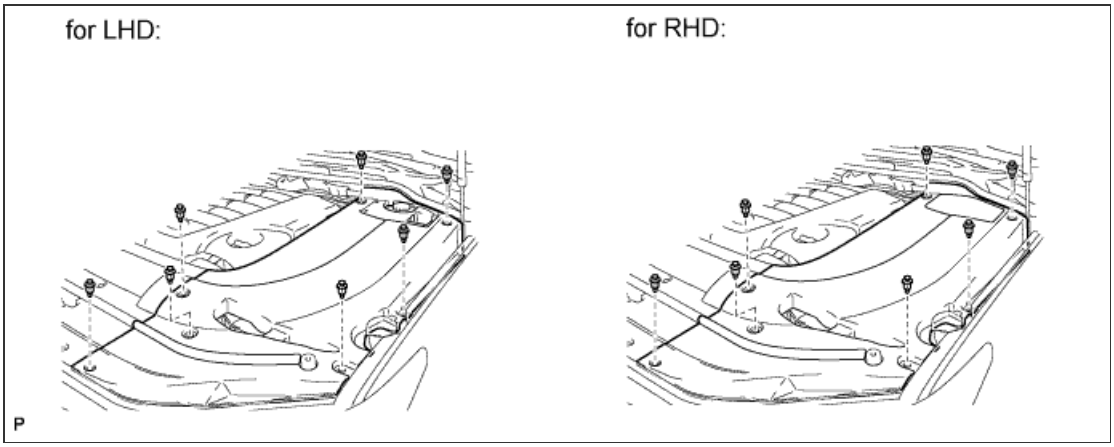
N*m (kgf*cm, ft.*lbf) : Specified torque

P

for Preparation Click here

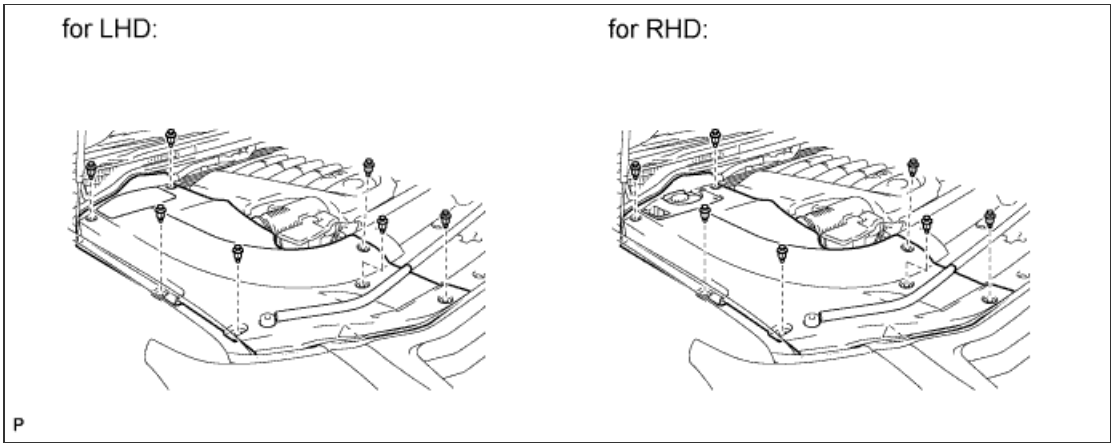
1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



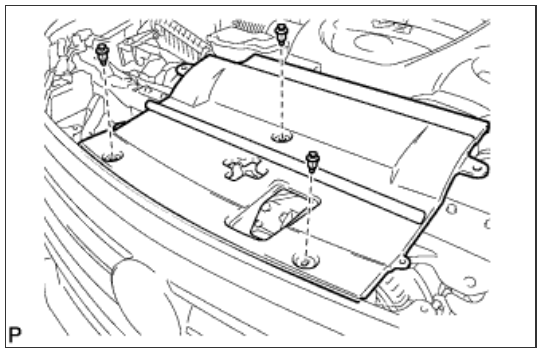
2. REMOVE ENGINE ROOM SIDE COVER RH

a. Remove the 7 clips and engine room side cover.



3. REMOVE UPPER RADIATOR SUPPORT SEAL

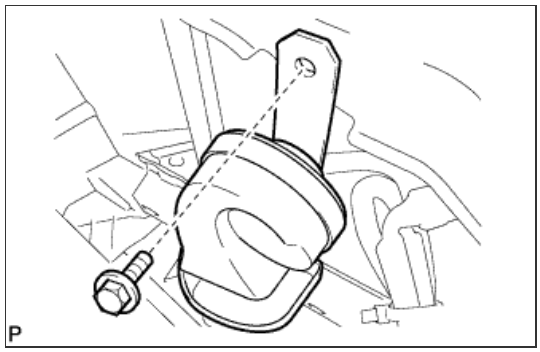
a. Remove the 3 clips and upper radiator support seal.



4. REMOVE HIGH PITCHED HORN ASSEMBLY

a. Remove the bolt and horn.

b. Disconnect the horn connector.



for Preparation Click here

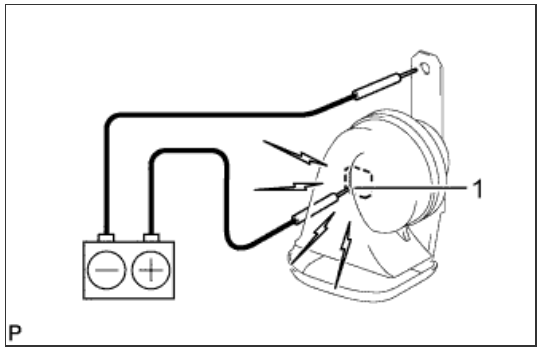
1. INSPECT HIGH PITCHED HORN ASSEMBLY

a. Apply battery voltage to the horn connector and check the operation of the horn, as shown in the table.

OK:

Measurement Condition	Specified Condition
Battery positive (+) → Terminal 1 Battery negative (-) → Body ground	Horn sounds

If the result is not as specified, replace the horn assembly.



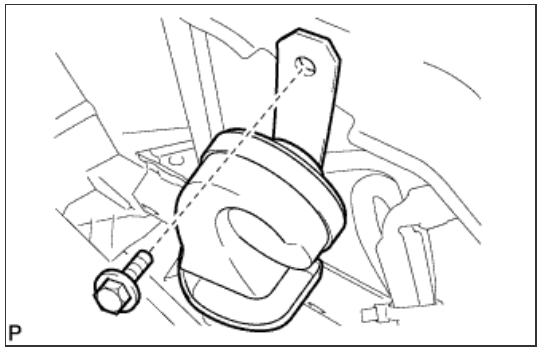
for Preparation Click here

1. INSTALL HIGH PITCHED HORN ASSEMBLY

a. Connect the horn connector.

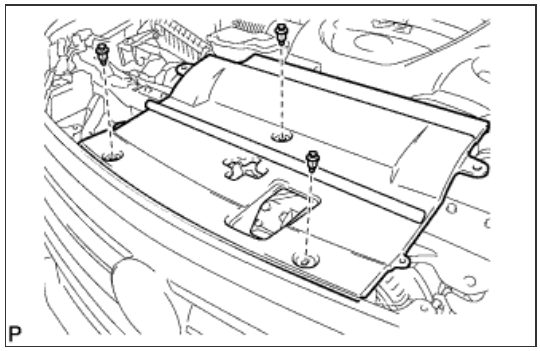
b. Install the horn with the bolt.

Torque:
19 N*m{ 194 kgf*cm , 14 ft.*lbf }



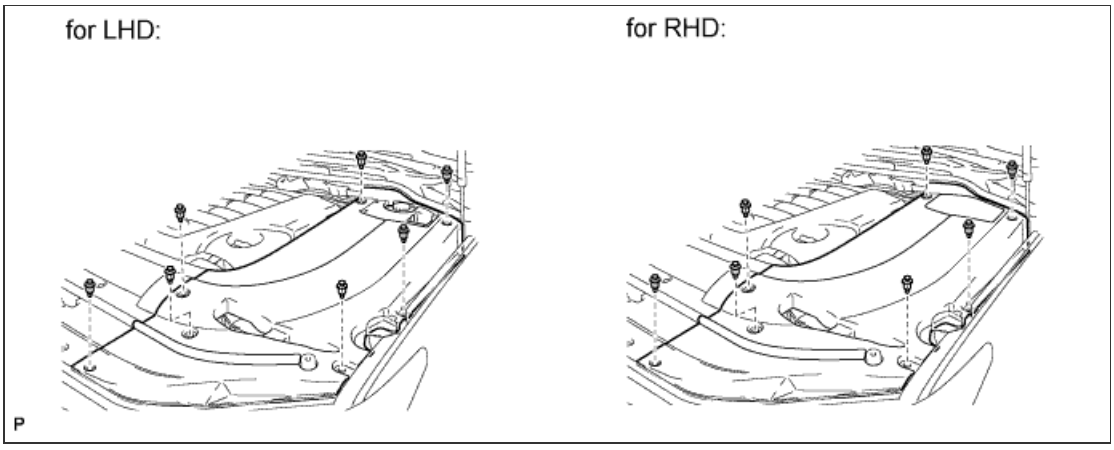
2. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the upper radiator support seal with the 3 clips.



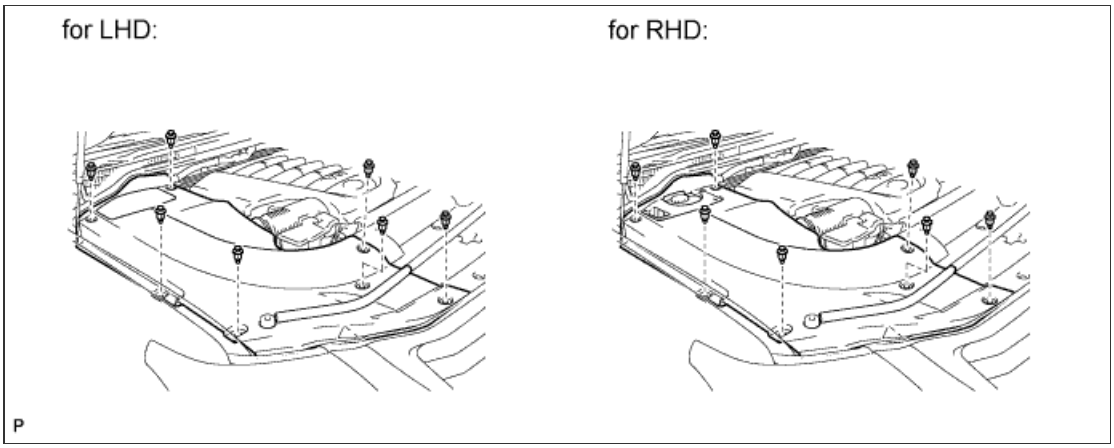
3. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



4. INSTALL ENGINE ROOM SIDE COVER RH

a. Install the engine room side cover with the 7 clips.



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 INTEGRATION RELAY (UNIT C)

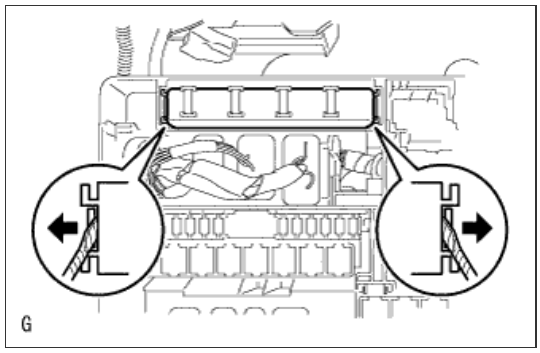
a. Remove the engine room relay block cover.

b. Using a screwdriver, detach the 2 claws and remove the integration relay from the engine room relay block.

HINT:

Tape the screwdriver tip before use.

c. Disconnect the 3 connectors.

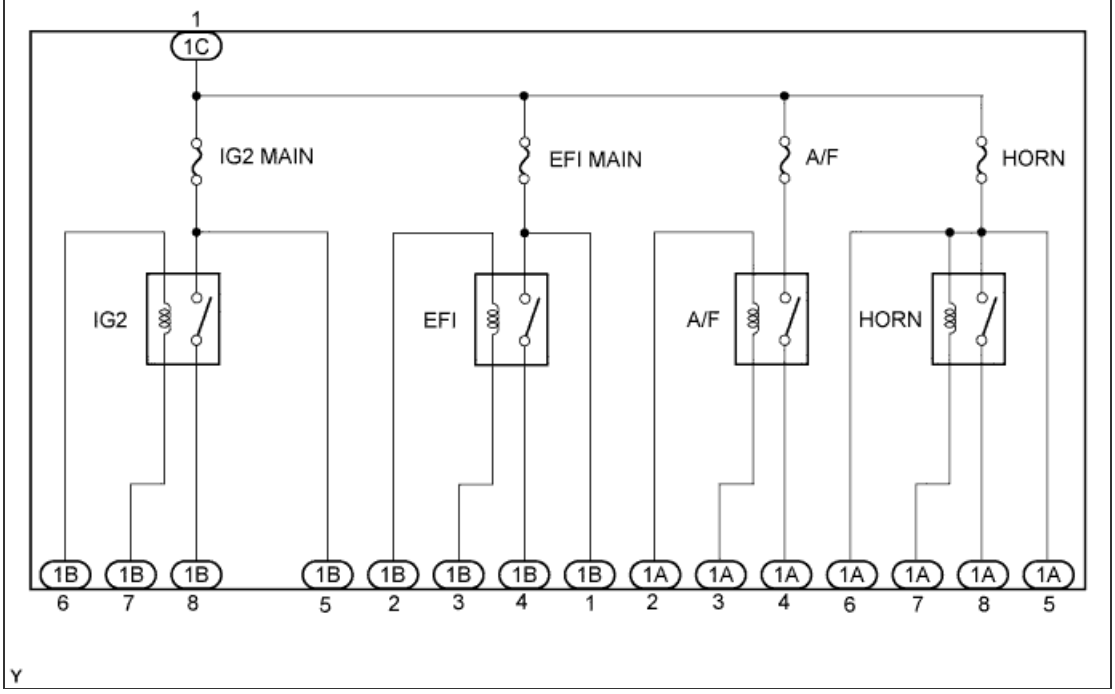


3. INSPECT INTEGRATION RELAY (HORN RELAY)

NOTICE:

- **Some relays are built into the integration relay (unit C). The integration relay cannot be disassembled. If there is a malfunction in the circuit of the integration relay, replace the integration relay.**
- **The internal circuit of the integration relay is as shown in the illustration below. Inspect the integration relay using the following procedures.**

Integration Relay (Unit C) Inner Diagram:



a. Measure the resistance of the HORN fuse.

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

Standard Resistance:

Tester Connection	Condition	Specified Condition
HORN fuse	Always	Below 1 Ω

If the result is not as specified, replace the HORN fuse.

b. Measure the resistance of the horn relay circuit.

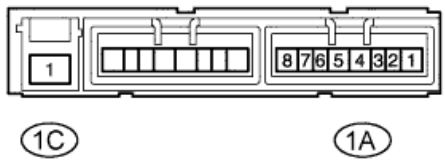
i. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Condition	Specified Condition
1A-8 - 1C-1	Battery voltage is not applied to 1A-7 and 1C-1	10 kΩ or higher
	Battery voltage is applied to 1A-7 and 1C-1	Below 1 Ω

If the result is not as specified, replace the integration relay.

Component without harness connected:
(Integration Relay)



4. INSTALL INTEGRATION RELAY (UNIT C)

a. Connect the 3 connectors.

b. Attach the 2 claws to install the integration relay to the engine room relay block.

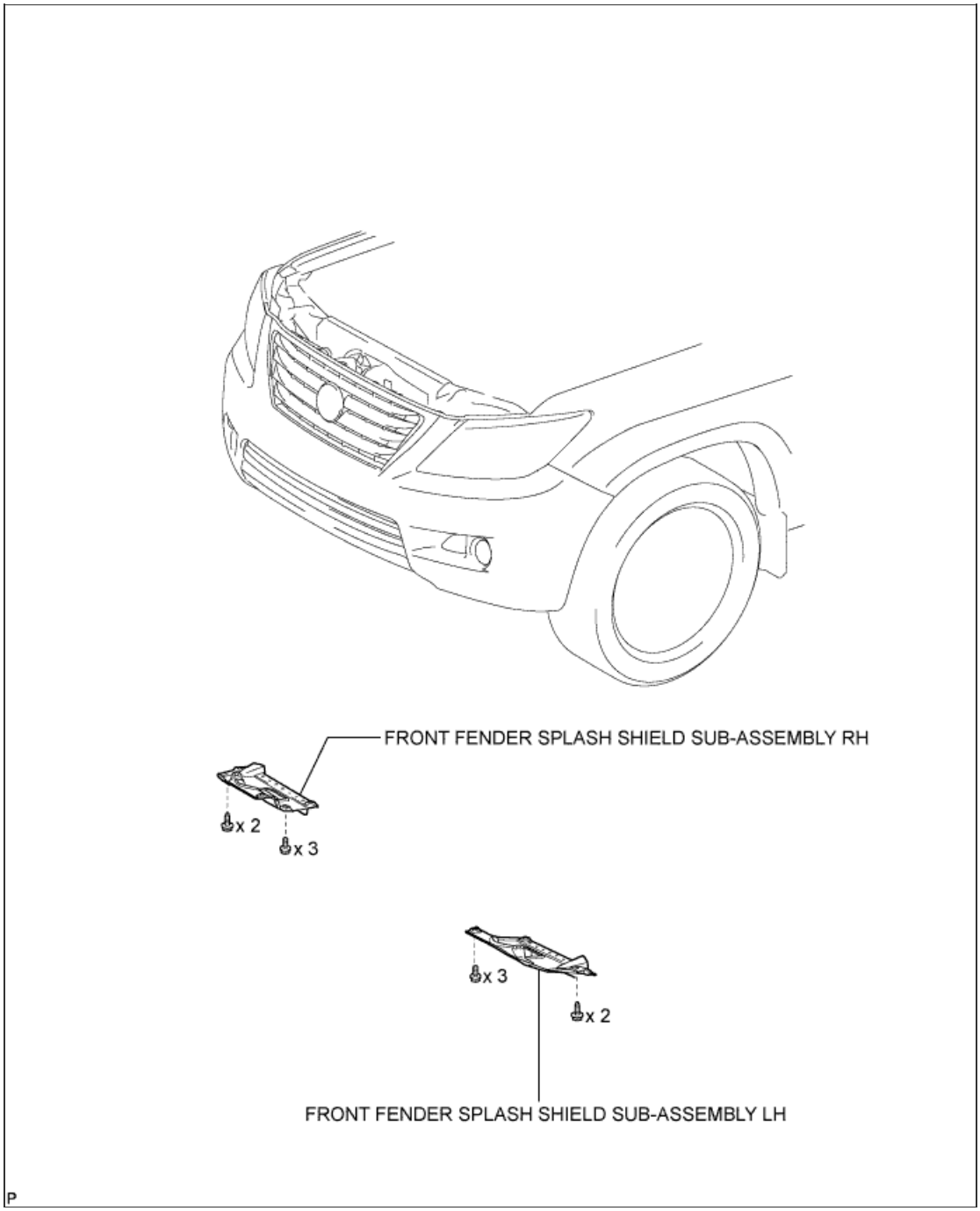
c. Install the engine room relay block cover.

5. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

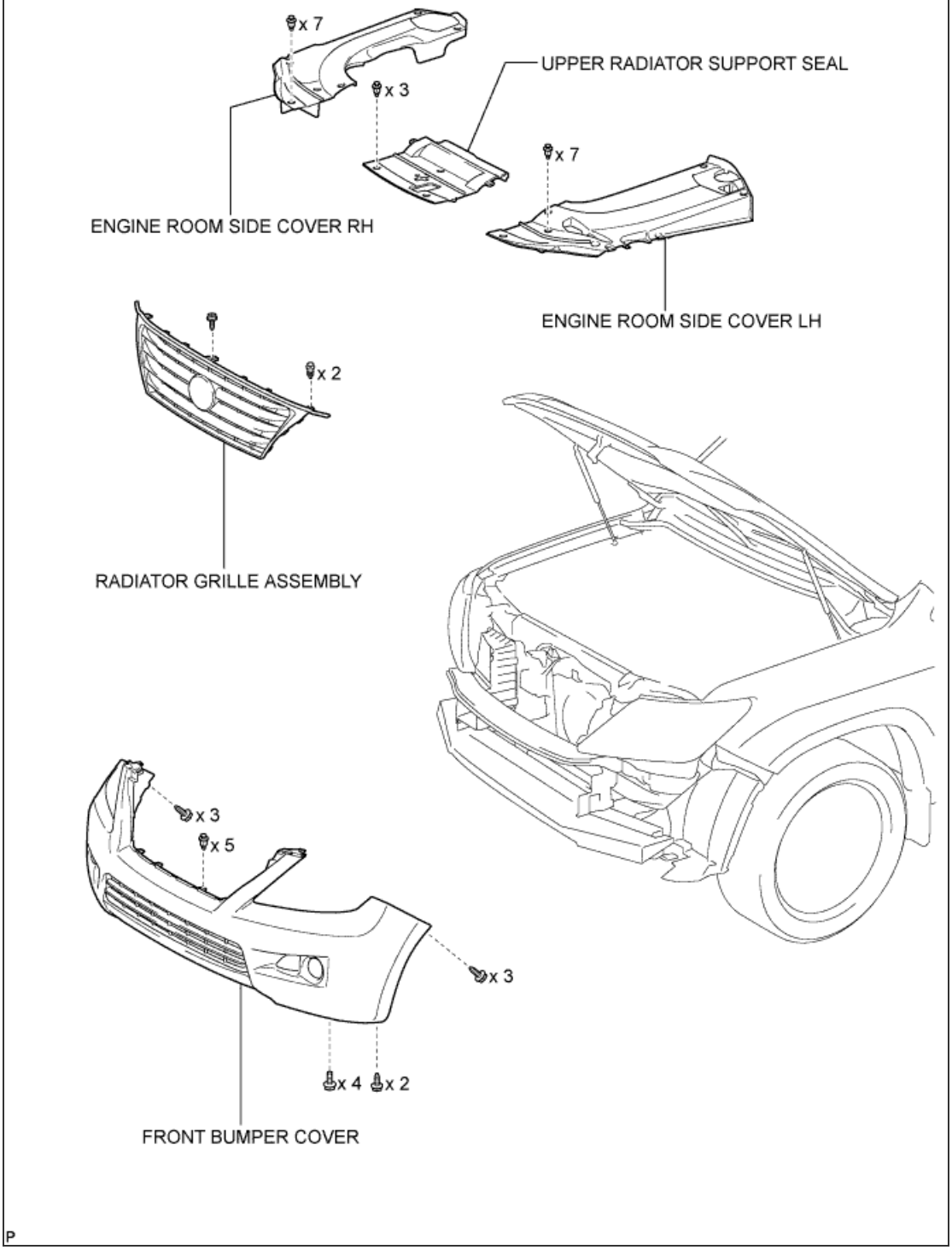
NOTICE:

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

for Preparation [Click here]

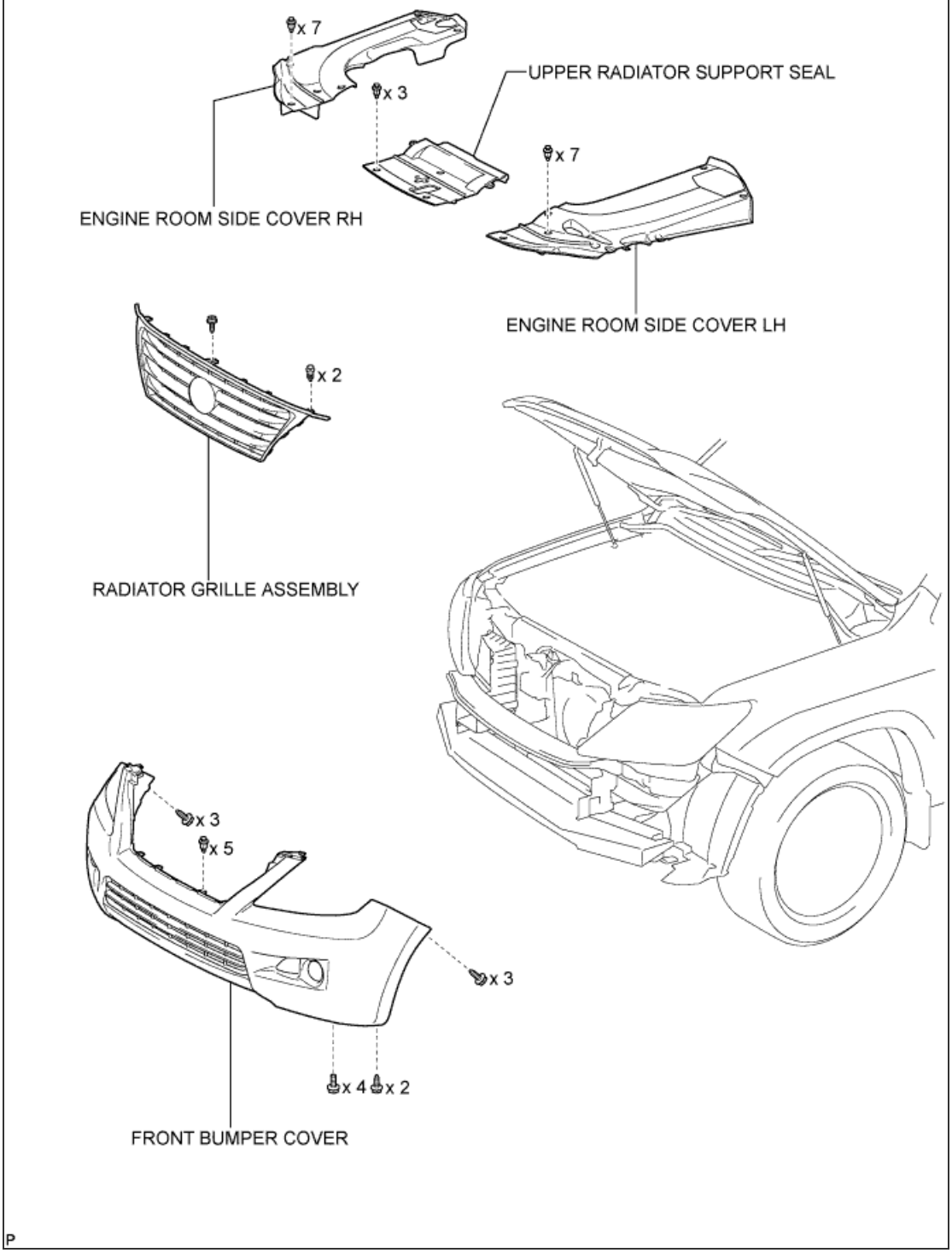


for LHD:

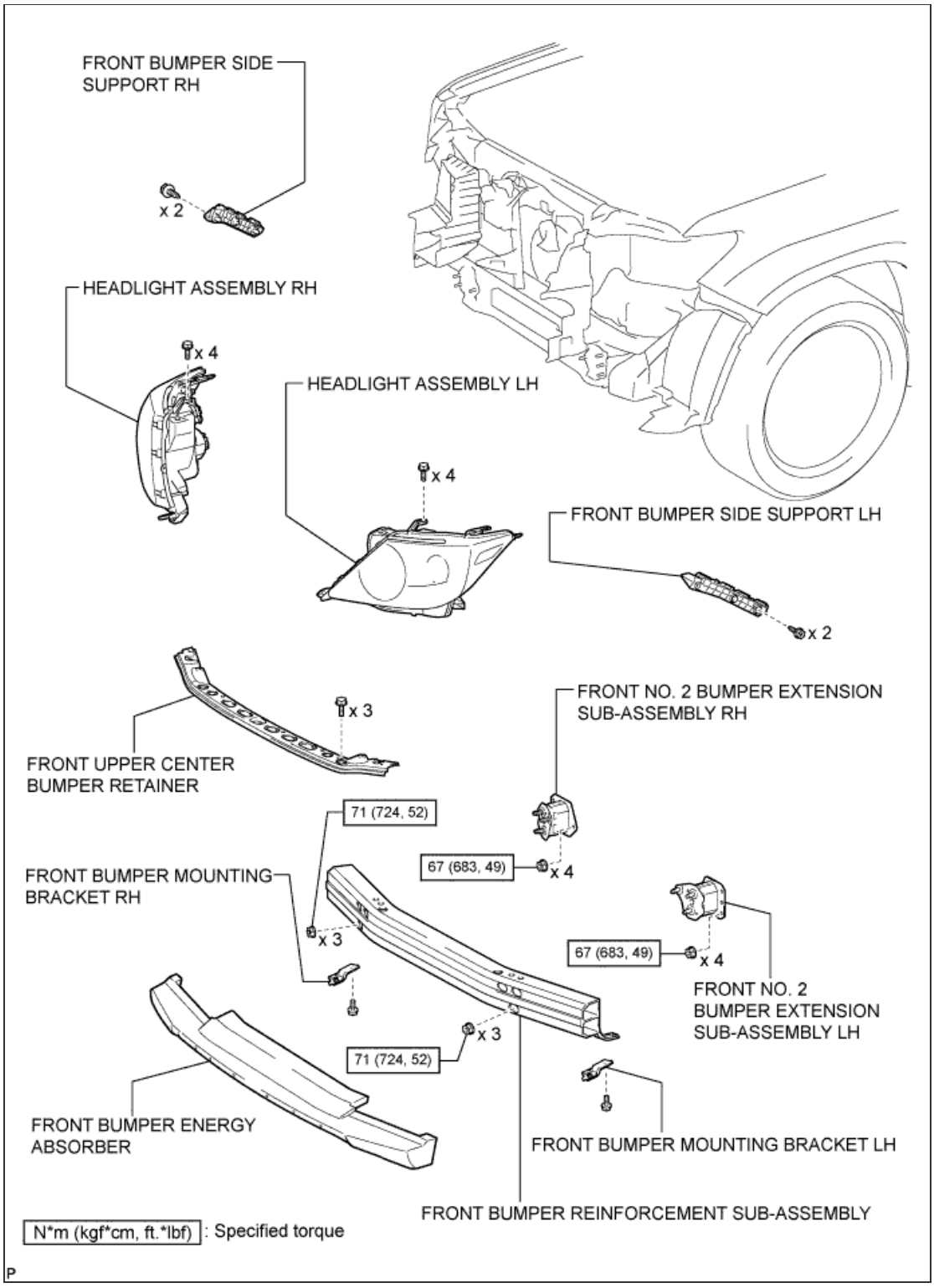

x 7
x 3
UPPER RADIATOR SUPPORT SEAL
x 7
ENGINE ROOM SIDE COVER RH
ENGINE ROOM SIDE COVER LH
x 2
RADIATOR GRILLE ASSEMBLY
x 3
x 5
x 3
x 4
x 2
FRONT BUMPER COVER

P

for RHD:

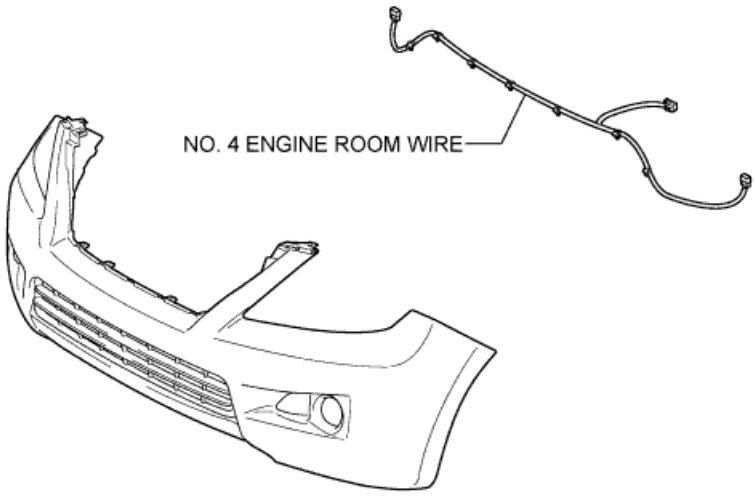

x 7
UPPER RADIATOR SUPPORT SEAL
x 3
x 7
ENGINE ROOM SIDE COVER RH
ENGINE ROOM SIDE COVER LH
x 2
RADIATOR GRILLE ASSEMBLY
x 3
x 5
x 3
x 4
x 2
FRONT BUMPER COVER

P

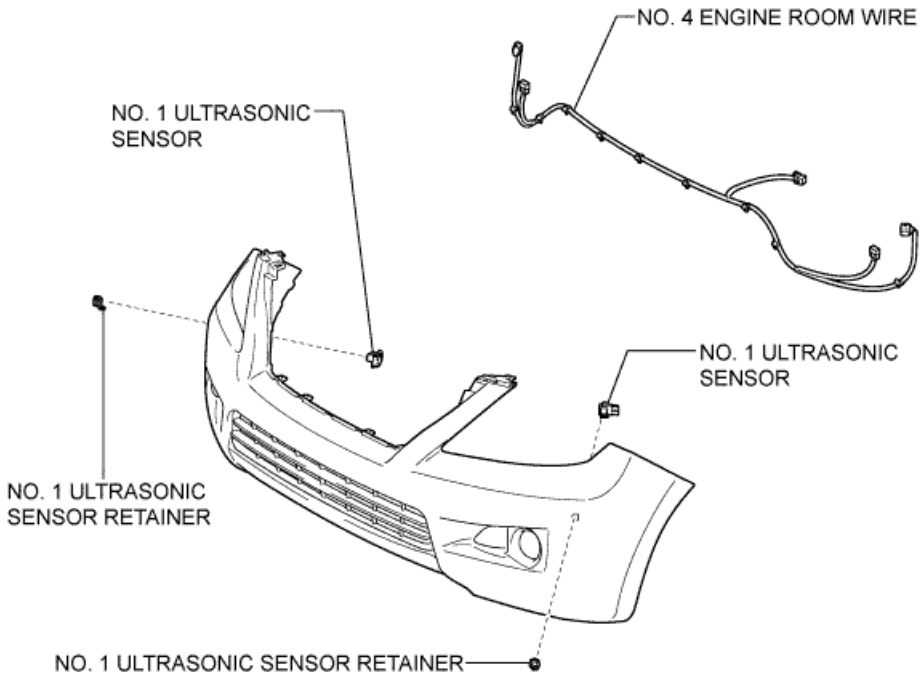

FRONT BUMPER SIDE SUPPORT RH
x 2
HEADLIGHT ASSEMBLY RH
x 4
HEADLIGHT ASSEMBLY LH
x 4
FRONT BUMPER SIDE SUPPORT LH
x 2
x 3
FRONT UPPER CENTER BUMPER RETAINER
FRONT NO. 2 BUMPER EXTENSION SUB-ASSEMBLY RH
71 (724, 52)
67 (683, 49)
x 4
FRONT BUMPER MOUNTING BRACKET RH
x 3
67 (683, 49)
x 4
FRONT NO. 2 BUMPER EXTENSION SUB-ASSEMBLY LH
x 3
71 (724, 52)
FRONT BUMPER ENERGY ABSORBER
FRONT BUMPER MOUNTING BRACKET LH
FRONT BUMPER REINFORCEMENT SUB-ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque

P

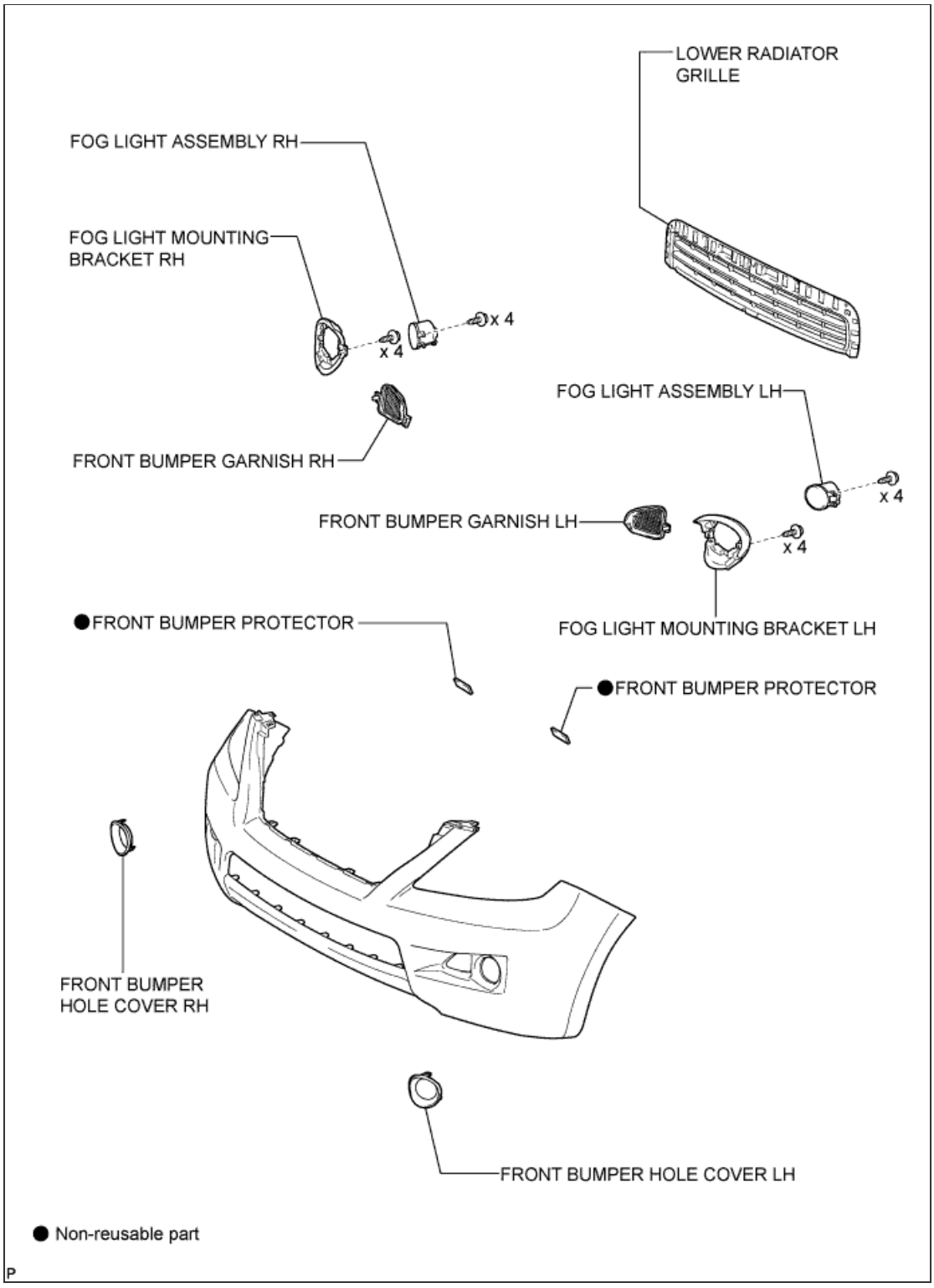
w/o LEXUS Parking Assist-sensor System:



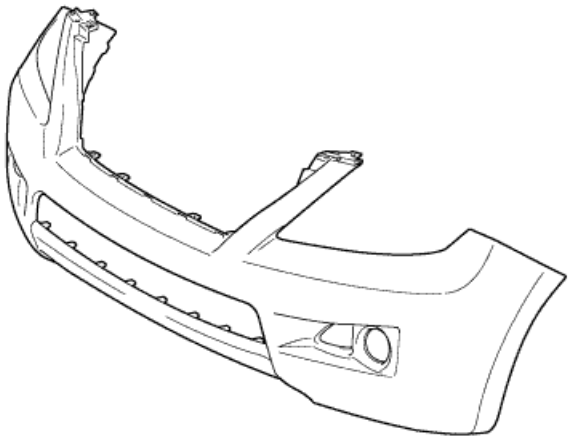
w/ LEXUS Parking Assist-sensor System:



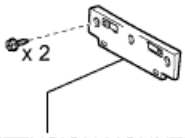
P


LOWER RADIATOR GRILLE
FOG LIGHT ASSEMBLY RH
FOG LIGHT MOUNTING BRACKET RH
x 4
x 4
FRONT BUMPER GARNISH RH
FOG LIGHT ASSEMBLY LH
x 4
FRONT BUMPER GARNISH LH
x 4
FOG LIGHT MOUNTING BRACKET LH
●FRONT BUMPER PROTECTOR
●FRONT BUMPER PROTECTOR
FRONT BUMPER HOLE COVER RH
FRONT BUMPER HOLE COVER LH
● Non-reusable part

P

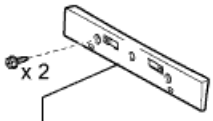


for Type A:



FRONT BUMPER EXTENSION MOUNTING BRACKET

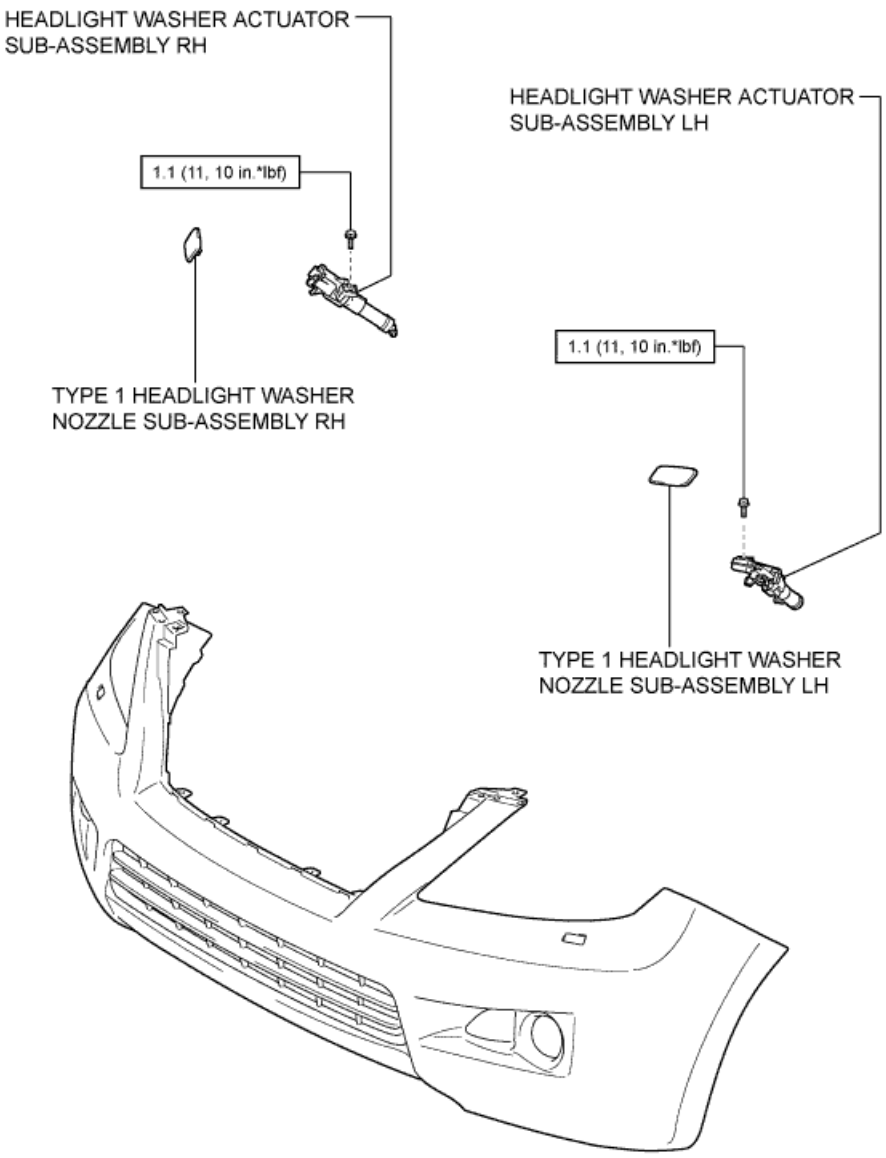
for Type B:



FRONT BUMPER EXTENSION MOUNTING BRACKET

P

w/ Headlight Cleaner System:



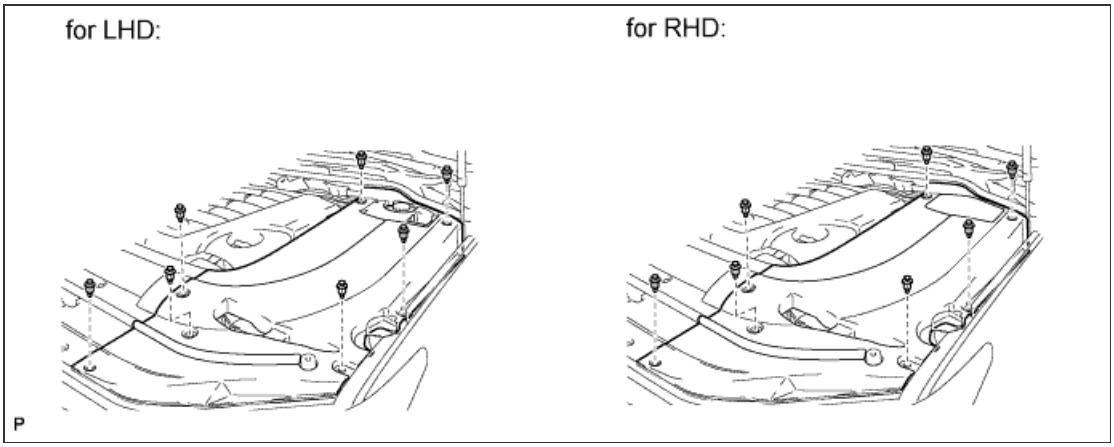
N*m (kgf*cm, ft.*lbf) : Specified torque

P

for Preparation Click here

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

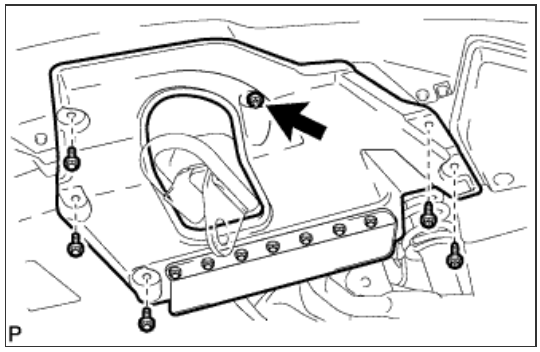
NOTICE:

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. Remove the 3 bolts and 2 screws.

b. Turn the clip indicated by the arrow in the illustration to remove the fender splash shield.



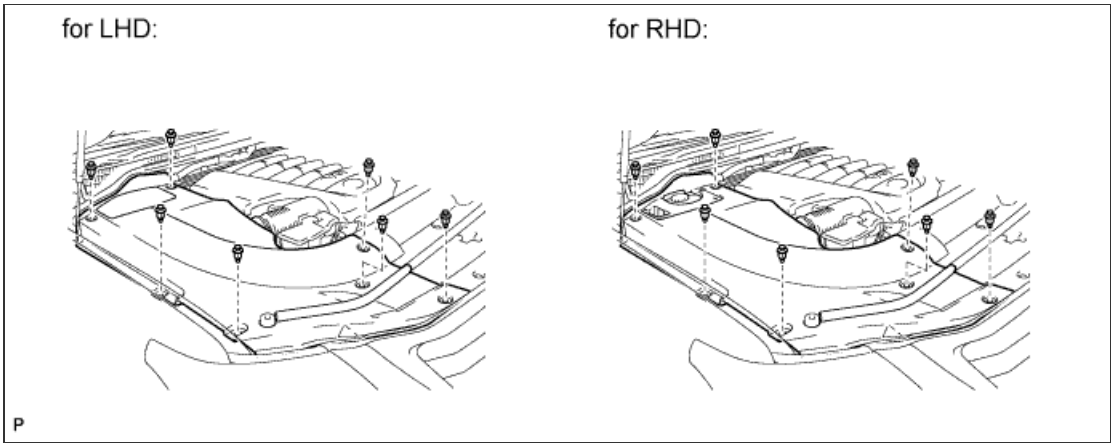
4. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

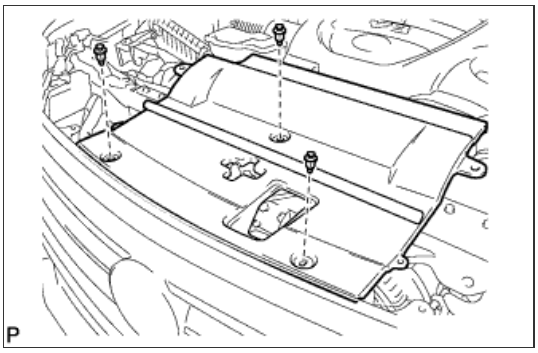
5. REMOVE ENGINE ROOM SIDE COVER RH

a. Remove the 7 clips and engine room side cover.



6. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 3 clips and upper radiator support seal.



7. REMOVE RADIATOR GRILLE ASSEMBLY

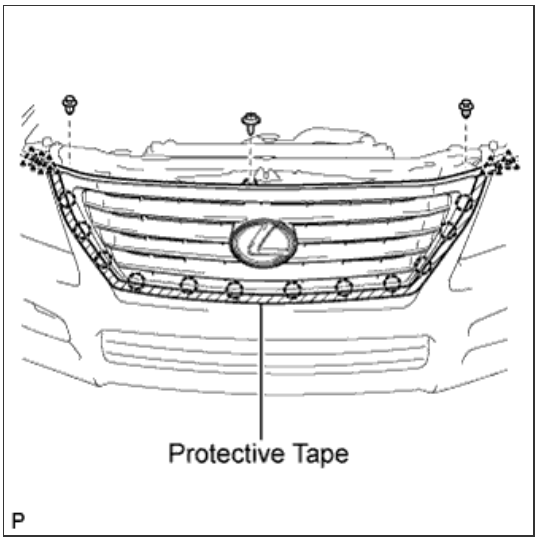
a. Put protective tape around the radiator grille.

b. Remove the screw and 2 clips.

c. Detach the 5 clips and partially remove the upper radiator seal.

d. w/o Wide View Front Monitor System:
Detach the 12 claws and remove the radiator grille.

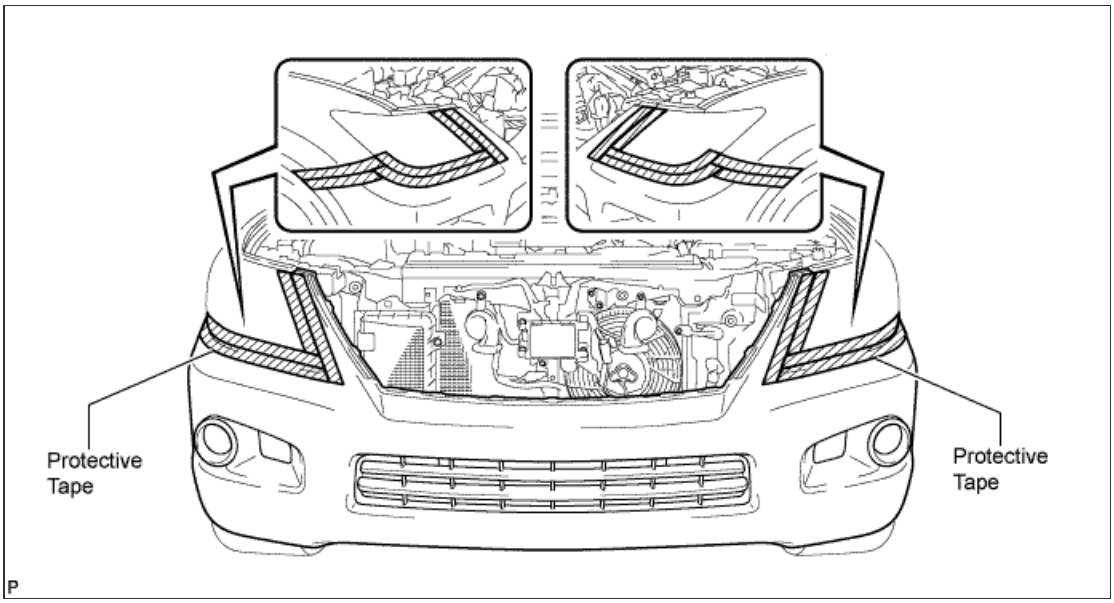
e. w/ Wide View Front Monitor System:
Detach the 12 claws, disconnect the connector and remove the radiator grille.



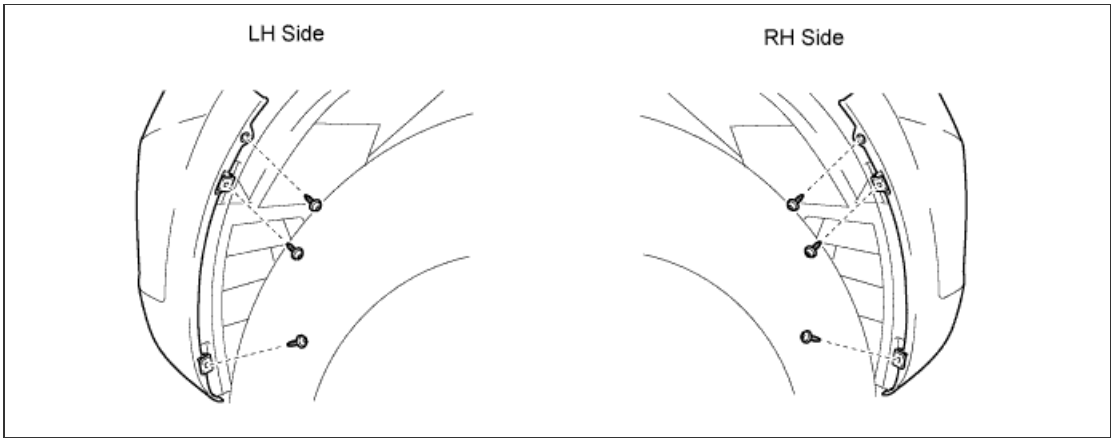
8. REMOVE FRONT BUMPER COVER

a. Put protective tape around the bumper cover

a. Put protective tape around the bumper cover.

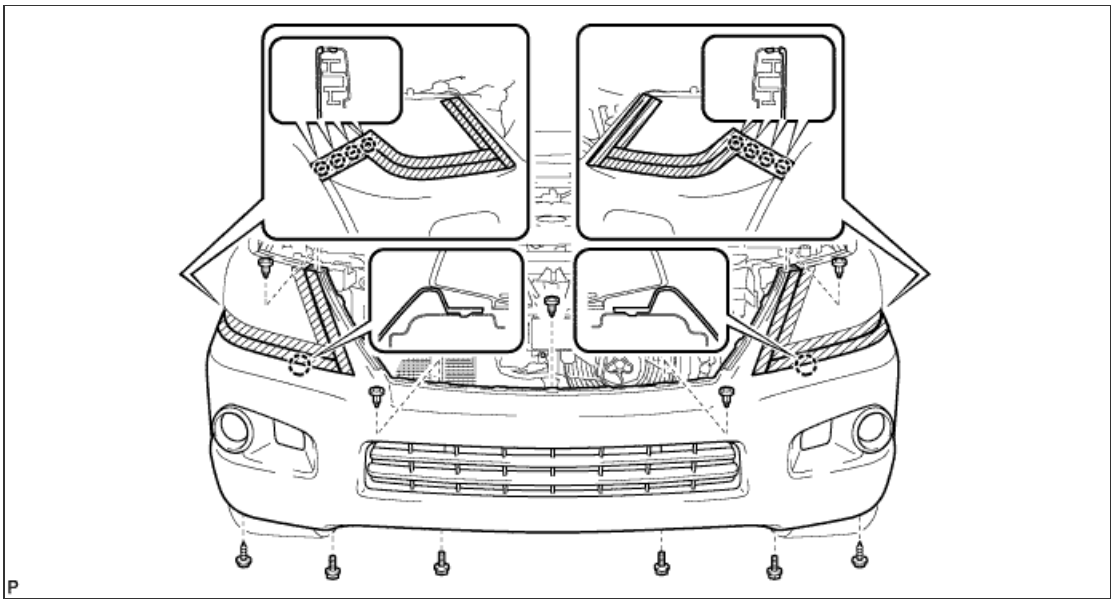


b. Using a T30 "TORX" socket, remove the 6 screws.

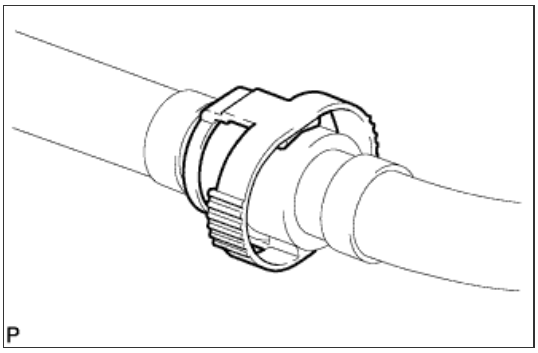


c. Remove the 5 clips, 2 screws and 4 bolts.

d. Detach the 10 claws, disconnect the No. 4 engine room wire connector and remove the bumper cover.

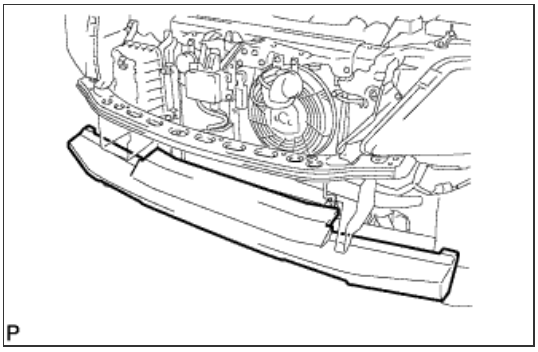


e. w/ Headlight Cleaner System:
Disconnect the headlight cleaner hose and remove the bumper cover.



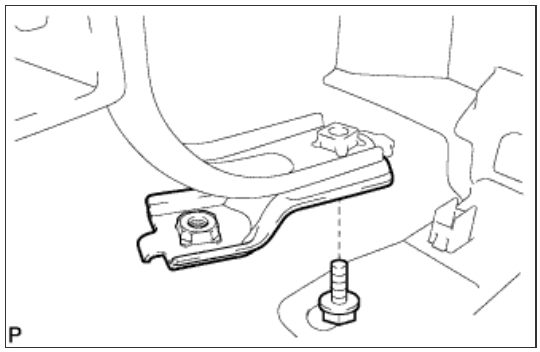
9. REMOVE FRONT BUMPER ENERGY ABSORBER

a. Remove the energy absorber.



10. REMOVE FRONT BUMPER MOUNTING BRACKET LH

a. Remove the bolt and bracket.



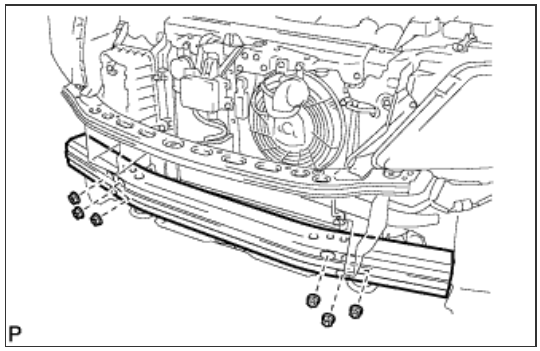
11. REMOVE FRONT BUMPER MOUNTING BRACKET RH

HINT:

Use the same procedures described for the LH side.

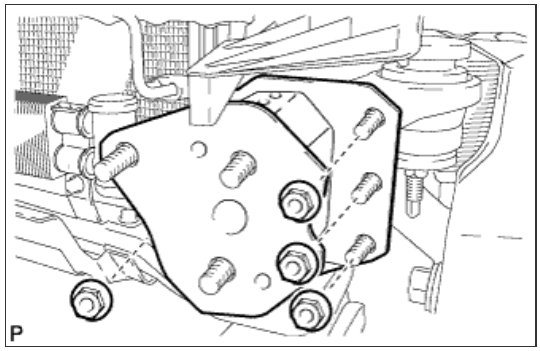
12. REMOVE FRONT BUMPER REINFORCEMENT SUB-ASSEMBLY

a. Remove the 6 nuts and reinforcement.



13. REMOVE FRONT NO. 2 BUMPER EXTENSION SUB-ASSEMBLY LH

a. Remove the 4 nuts and bumper extension.



14. REMOVE FRONT NO. 2 BUMPER EXTENSION SUB-ASSEMBLY RH

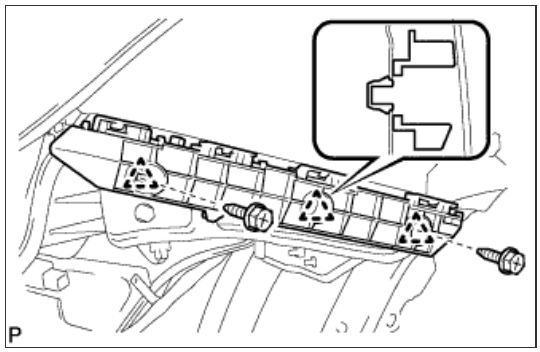
HINT:

Use the same procedures described for the LH side.

15. REMOVE FRONT BUMPER SIDE SUPPORT LH

a. Remove the 2 screws.

b. Detach the 3 clips and remove the side support.



16. REMOVE FRONT BUMPER SIDE SUPPORT RH

HINT:

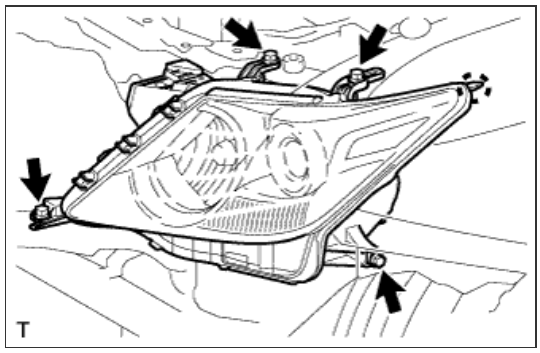
Use the same procedures described for the LH side.

17. REMOVE HEADLIGHT ASSEMBLY LH

a. Remove the 4 bolts.

b. Disconnect the connectors.

c. Detach the claw and remove the headlight.



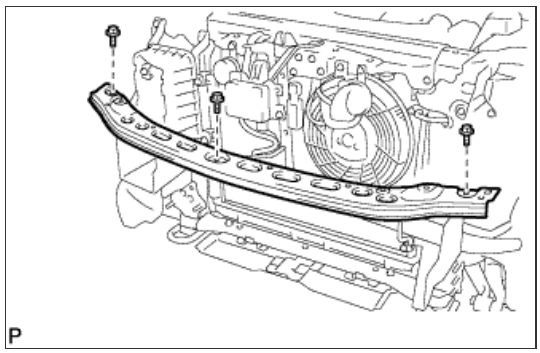
18. REMOVE HEADLIGHT ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

19. REMOVE FRONT UPPER CENTER BUMPER RETAINER

a. Remove the 3 bolts and bumper retainer.



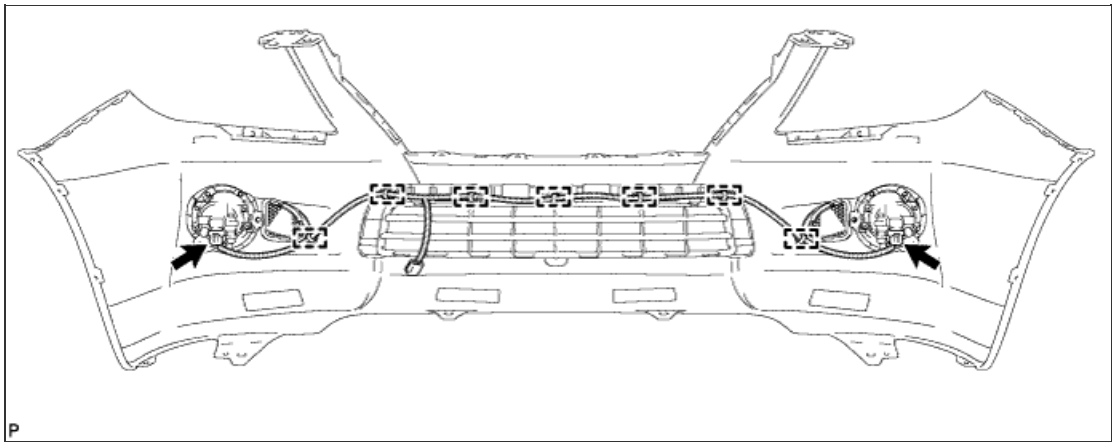
for Preparation Click here

1. REMOVE NO. 4 ENGINE ROOM WIRE

a. w/o LEXUS Parking Assist-sensor System
Remove the No. 4 engine room wire.

i. Disconnect the 2 connectors.

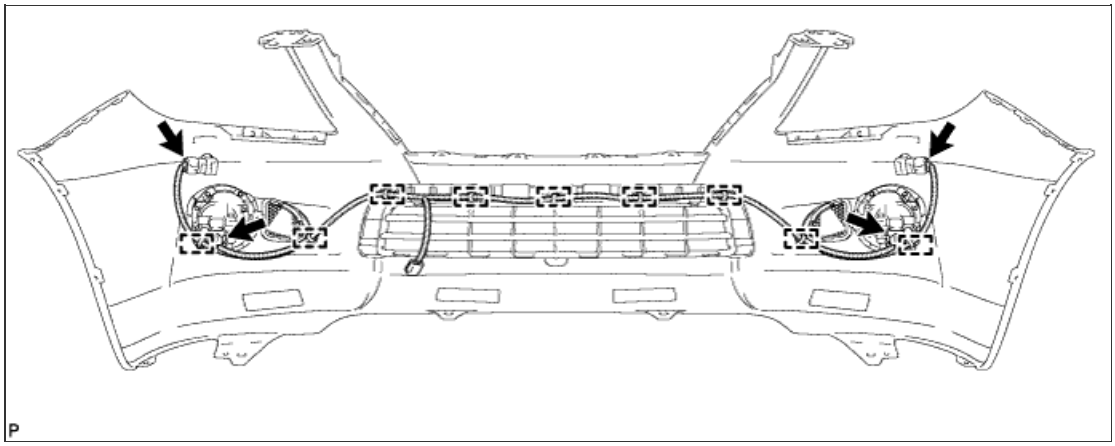
ii. Detach the 7 clamps and remove the engine room wire.



b. w/ LEXUS Parking Assist-sensor System:
Remove the No. 4 engine room wire.

i. Disconnect the 4 connectors.

ii. Detach the 9 clamps and remove the engine room wire.



2. REMOVE NO. 1 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

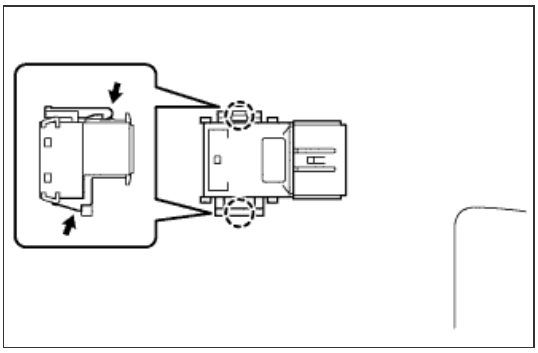
HINT:

Use the same procedure to remove the No. 1 ultrasonic sensor on the other side.

a. While pushing down on the lever with a finger to release the one claw, detach the claw on the other side to remove the ultrasonic sensor.

HINT:

The type of claw on the top and the type of claw on the bottom of the sensor are different. Observe the claws carefully before removing the sensor.

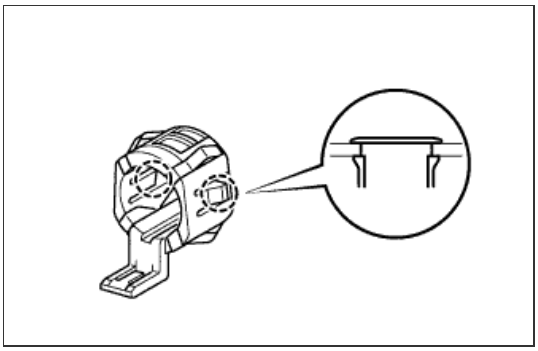


3. REMOVE NO. 1 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

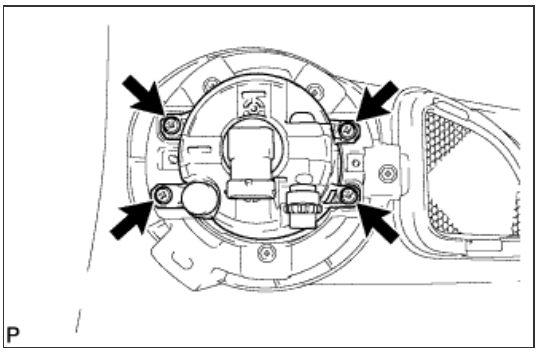
Use the same procedure to remove the No. 1 ultrasonic sensor retainer on the other side.

a. Detach the 2 claws and remove the ultrasonic sensor retainer from the front bumper cover.



4. REMOVE FOG LIGHT ASSEMBLY LH

a. Remove the 4 screws and fog light.



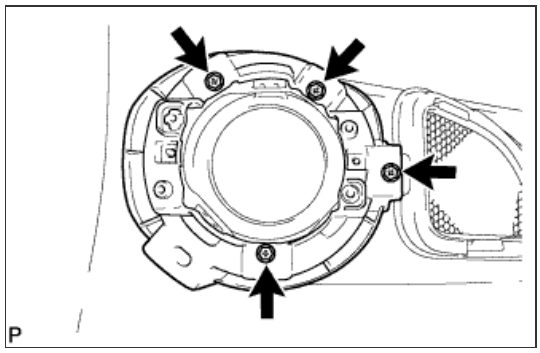
5. REMOVE FOG LIGHT ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

6. REMOVE FOG LIGHT MOUNTING BRACKET LH

a. Remove the 4 screws and bracket.



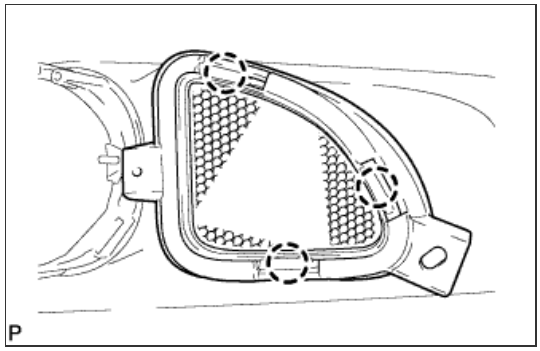
7. REMOVE FOG LIGHT MOUNTING BRACKET RH

HINT:

Use the same procedures described for the LH side.

8. REMOVE FRONT BUMPER GARNISH LH

a. Detach the 3 claws and remove the garnish.



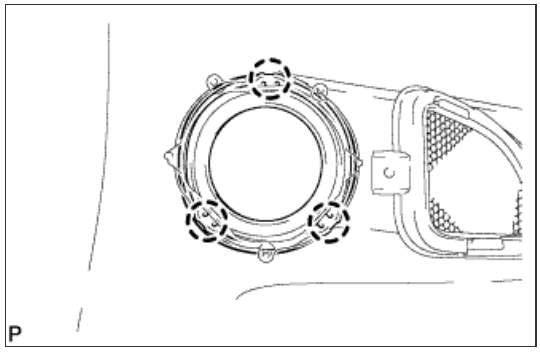
9. REMOVE FRONT BUMPER GARNISH RH

HINT:

Use the same procedures described for the LH side.

10. REMOVE FRONT BUMPER HOLE COVER LH

a. Detach the 3 claws and remove the hole cover.



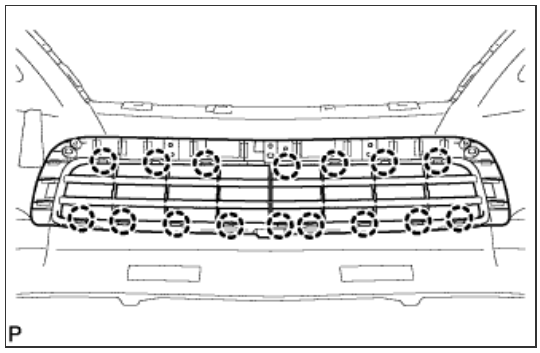
11. REMOVE FRONT BUMPER HOLE COVER RH

HINT:

Use the same procedures described for the LH side.

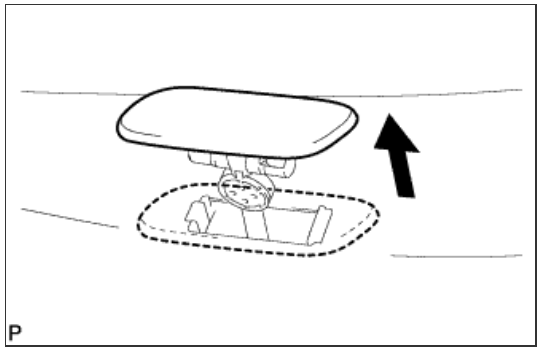
12. REMOVE LOWER RADIATOR GRILLE

a. Detach the 16 claws and remove the lower radiator grille.

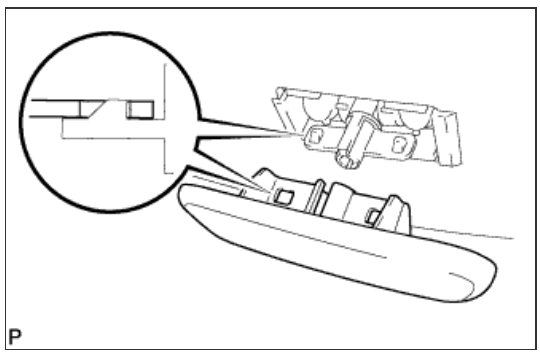


13. REMOVE TYPE 1 HEADLIGHT WASHER NOZZLE SUB-ASSEMBLY LH (w/ Headlight Cleaner System)

a. Extend the headlight washer nozzle.



b. Detach the 2 claws and remove the washer nozzle.



14. REMOVE TYPE 1 HEADLIGHT WASHER NOZZLE SUB-ASSEMBLY RH (w/ Headlight Cleaner System)

HINT:

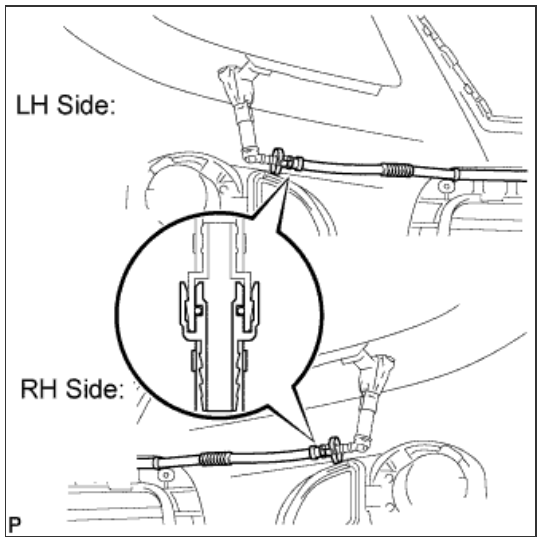
Use the same procedures described for the LH side.

15. REMOVE HEADLIGHT WASHER ACTUATOR SUB-ASSEMBLY LH (w/ Headlight Cleaner System)

HINT:

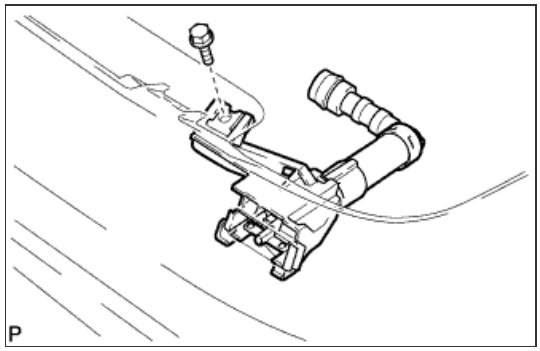
Use the same procedures for the RH side and LH side.

a. Disconnect the headlight washer hose.



b. Remove the bolt.

c. Detach the 2 claws and remove the headlight washer actuator sub-assembly.



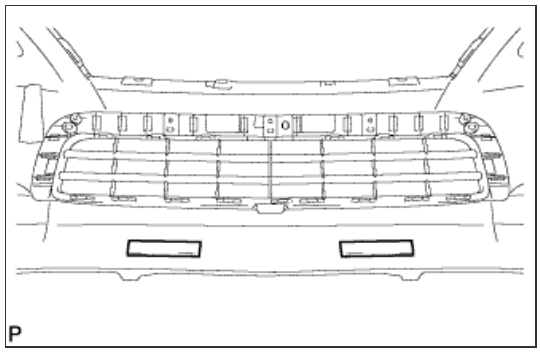
16. REMOVE HEADLIGHT WASHER ACTUATOR SUB-ASSEMBLY RH (w/ Headlight Cleaner System)

HINT:

Use the same procedures described for the LH side.

17. REMOVE FRONT BUMPER PROTECTOR

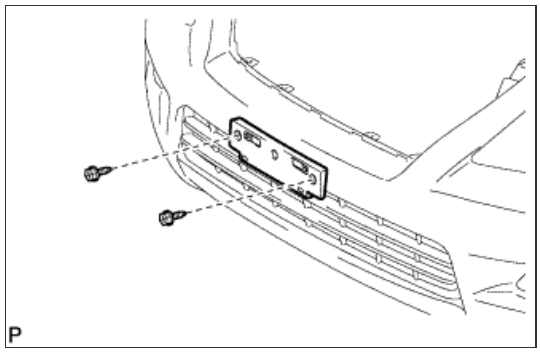
a. Remove the 2 bumper protectors.



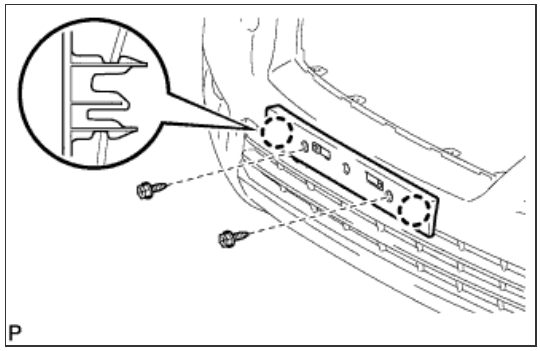
18. REMOVE FRONT BUMPER EXTENSION MOUNTING BRACKET

a. for Type A:

i. Remove the 2 screws and bracket.



b. for Type B:



i. Remove the 2 screws.

ii. Detach the 2 claws and remove the bracket.

for Preparation Click here

HINT:

When installing the front bumper protector, heat the front bumper surface using a heat light.

Standard:

Item	Temperature
Front Bumper	20 to 30°C (68 to 86°F)

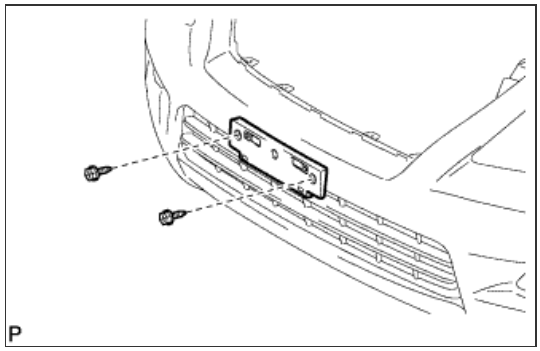
NOTICE:

Do not heat the front bumper excessively.

1. INSTALL FRONT BUMPER EXTENSION MOUNTING BRACKET

a. for Type A:

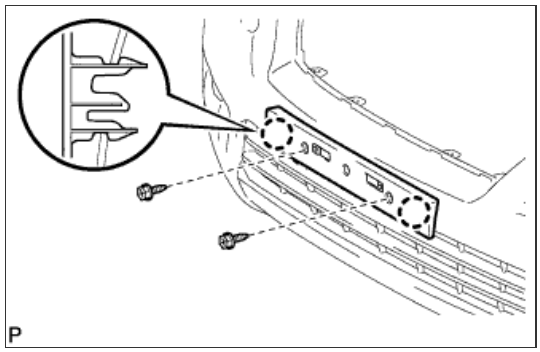
i. Install the bracket with the 2 screws.



b. for Type B:

i. Attach the 2 claws to install the bracket.

ii. Install the 2 screws.



2. INSTALL FRONT BUMPER PROTECTOR

a. Clean the front bumper surface.

i. Using a heat light, heat the front bumper surface.

ii. Remove the double-sided tape from the front bumper.

iii. Wipe off any tape adhesive residue with cleaner.

b. Install a new bumper protector.

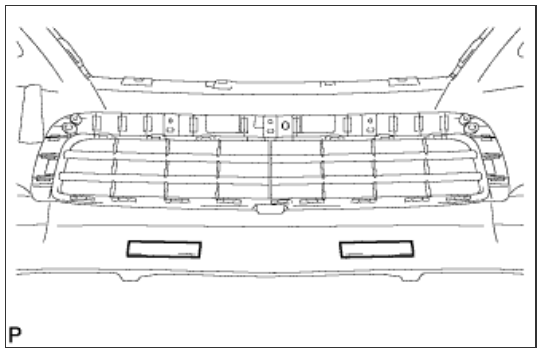
i. Remove the peeling paper from the face of 2 new bumper protectors.

HINT:

After removing the peeling paper, keep the exposed adhesive free

from foreign matter.

ii. Install the 2 bumper protectors as shown in the illustration.



3. INSTALL HEADLIGHT WASHER ACTUATOR SUB-ASSEMBLY LH (w/ Headlight Cleaner System)

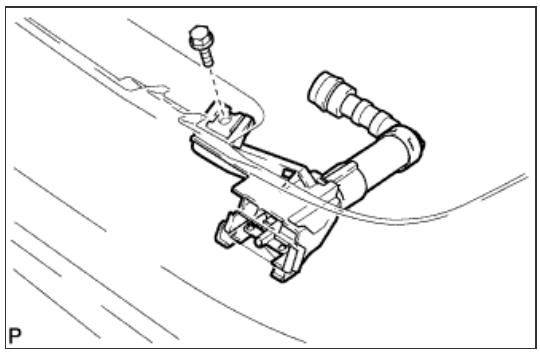
HINT:

Use the same procedures for the RH side and LH side.

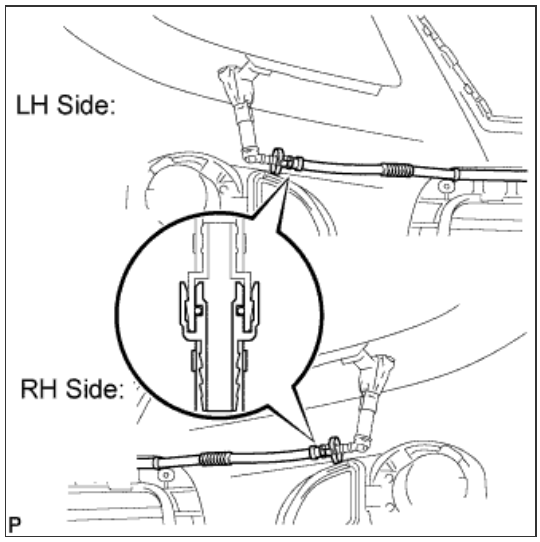
a. Attach the 2 claws.

b. Install the headlight washer actuator sub-assembly with the bolt.

Torque:
1.1 N*m{ 11 kgf*cm , 10 in.*lbf }



c. Connect the headlight washer hose.



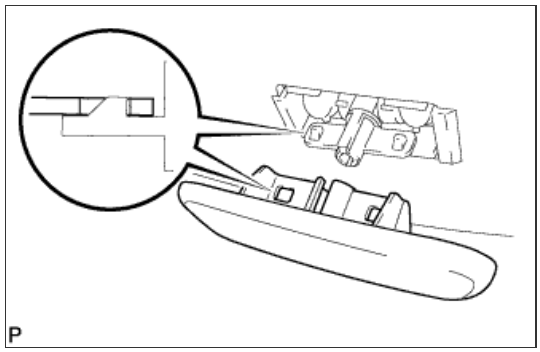
4. INSTALL HEADLIGHT WASHER ACTUATOR SUB-ASSEMBLY RH (w/ Headlight Cleaner System)

HINT:

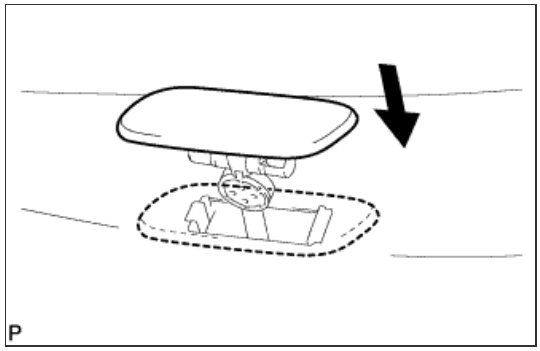
Use the same procedures described for the LH side.

5. INSTALL TYPE 1 HEADLIGHT WASHER NOZZLE SUB-ASSEMBLY LH (w/ Headlight Cleaner System)

a. Attach the 2 claws to install the headlight washer nozzle.



b. Return the headlight washer nozzle to its original position.



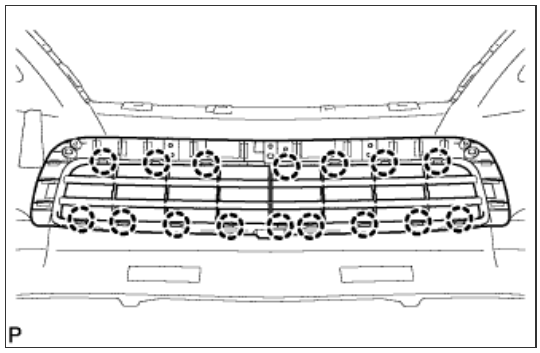
6. INSTALL TYPE 1 HEADLIGHT WASHER NOZZLE SUB-ASSEMBLY RH (w/ Headlight Cleaner System)

HINT:

Use the same procedures described for the LH side.

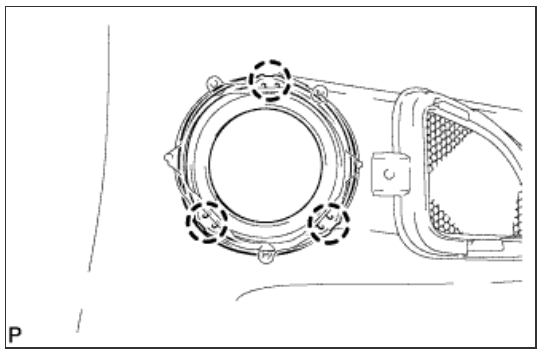
7. INSTALL LOWER RADIATOR GRILLE

a. Attach the 16 claws to install the lower radiator grille.



8. INSTALL FRONT BUMPER HOLE COVER LH

a. Attach the 3 claws to install the hole cover.



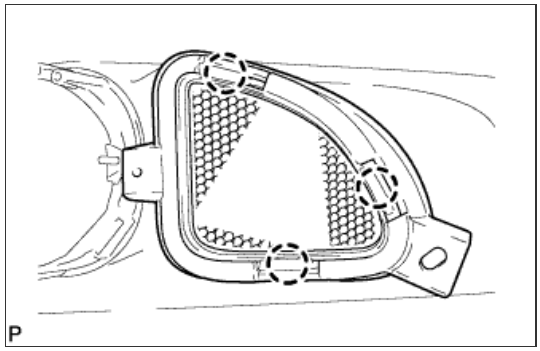
9. INSTALL FRONT BUMPER HOLE COVER RH

HINT:

Use the same procedures described for the LH side.

10. INSTALL FRONT BUMPER GARNISH LH

a. Attach the 3 claws to install the garnish.



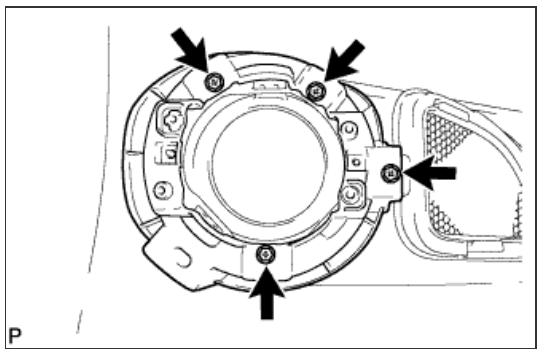
11. INSTALL FRONT BUMPER GARNISH RH

HINT:

Use the same procedures described for the LH side.

12. INSTALL FOG LIGHT MOUNTING BRACKET LH

a. Install the bracket with the 4 screws.



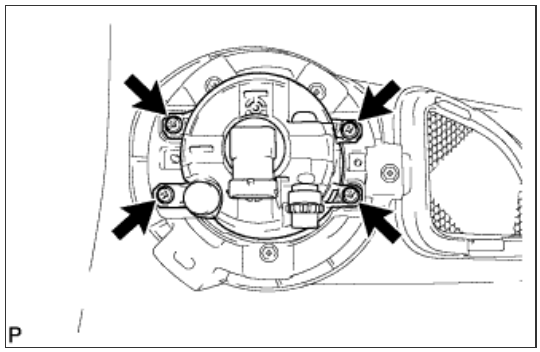
13. INSTALL FOG LIGHT MOUNTING BRACKET RH

HINT:

Use the same procedures described for the LH side.

14. INSTALL FOG LIGHT ASSEMBLY LH

a. Install the fog light with the 4 screws.



15. INSTALL FOG LIGHT ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

16. INSTALL NO. 1 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

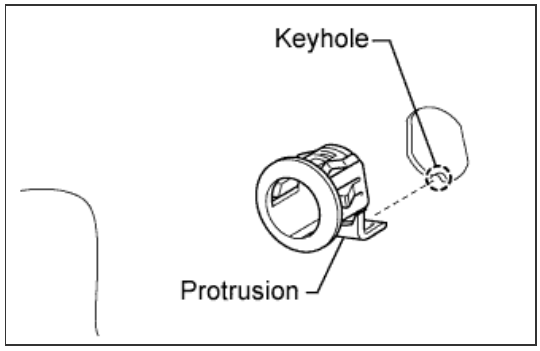
Use the same procedure to install the No. 1 ultrasonic sensor retainer on the other side.

a. Align the keyhole and protrusion as shown in the illustration.

b. Install the ultrasonic sensor retainer to the front bumper cover.

NOTICE:

Do not damage the bumper with the protrusion when installing the retainer.



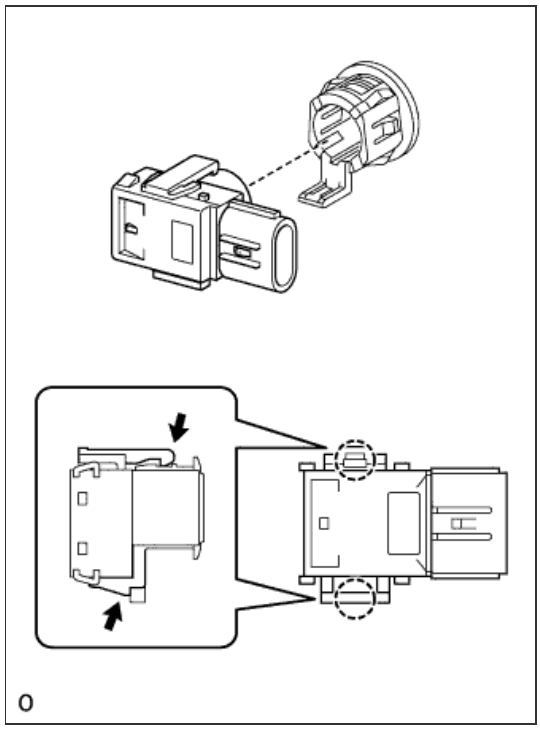
17. INSTALL NO. 1 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to install the No. 1 ultrasonic sensor on the other side.

a. Attach the 2 claws to install the ultrasonic sensor.

b. Connect the connector.

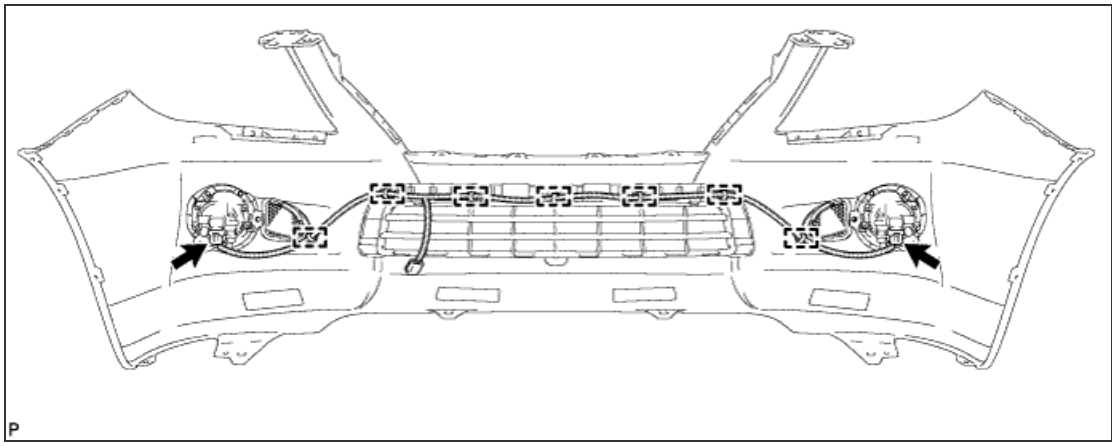


18. INSTALL NO. 4 ENGINE ROOM WIRE

a. w/o LEXUS Parking Assist-sensor System:
Install the No. 4 engine room wire.

i. Attach the 7 clamps to install the engine room wire.

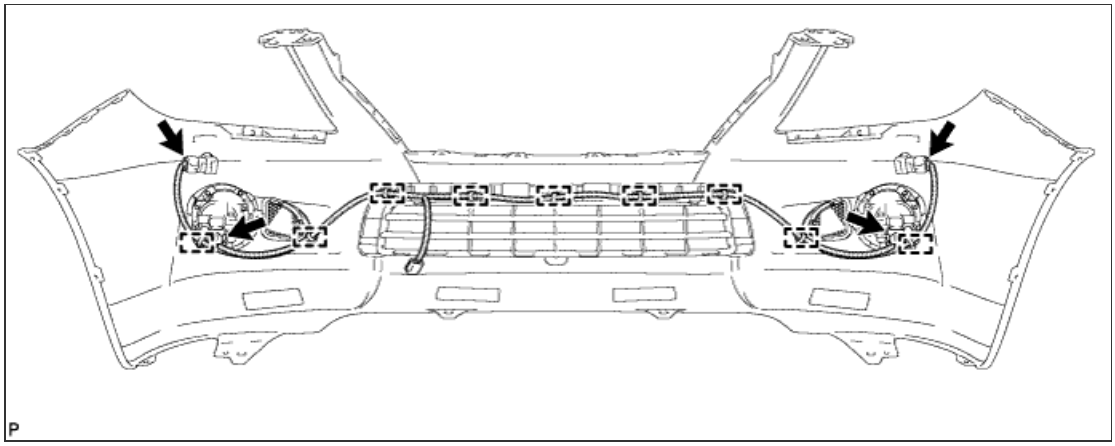
ii. Connect the 2 connectors.



b. w/ LEXUS Parking Assist-sensor System:
Install the No. 4 engine room wire.

i. Attach the 9 clamps to install the engine room wire.

ii. Connect the 4 connectors.



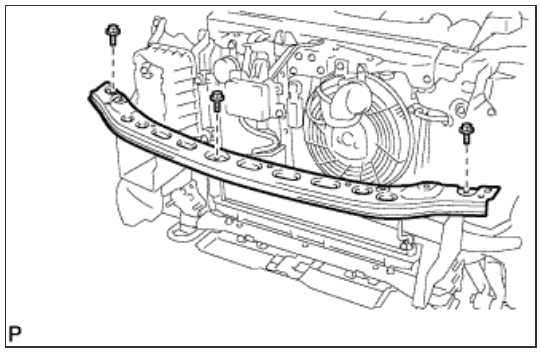
for Preparation Click here

HINT:

A bolt without a torque specification is shown in the standard bolt chart (Click here).

1. INSTALL FRONT UPPER CENTER BUMPER RETAINER

a. Install the bumper retainer with the 3 bolts.

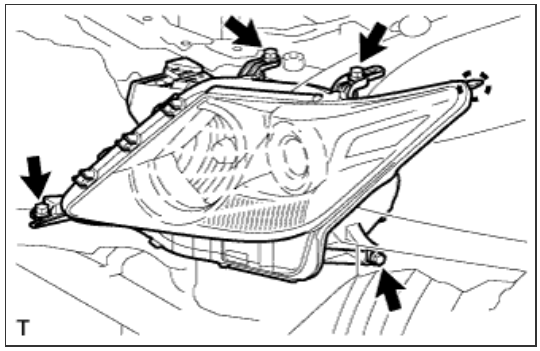


2. INSTALL HEADLIGHT ASSEMBLY LH

a. Attach the claw.

b. Connect the connectors.

c. Install the headlight with the 4 bolts.



3. INSTALL HEADLIGHT ASSEMBLY RH

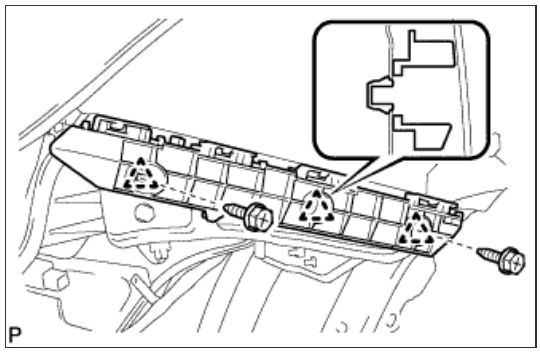
HINT:

Use the same procedures described for the LH side.

4. INSTALL FRONT BUMPER SIDE SUPPORT LH

a. Attach the 3 clips to install the side support.

b. Install the 2 screws.



5. INSTALL FRONT BUMPER SIDE SUPPORT RH

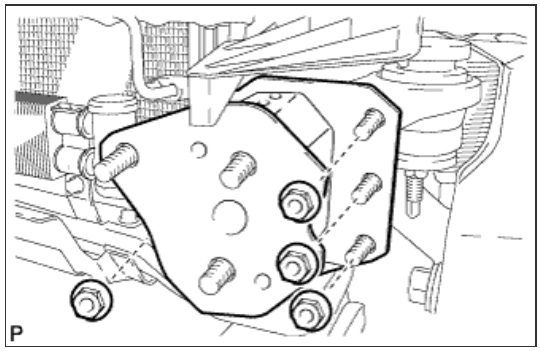
HINT:

Use the same procedures described for the LH side.

6. INSTALL FRONT NO. 2 BUMPER EXTENSION SUB-ASSEMBLY LH

a. Install the bumper extension with the 4 nuts.

Torque:
67 N*m{ 683 kgf*cm , 49 ft.*lbf }



7. INSTALL FRONT NO. 2 BUMPER EXTENSION SUB-ASSEMBLY RH

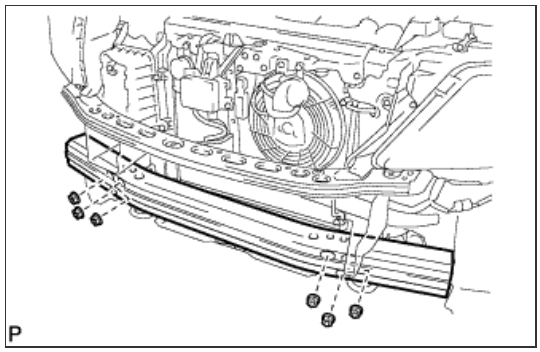
HINT:

Use the same procedures described for the LH side.

8. INSTALL FRONT BUMPER REINFORCEMENT SUB-ASSEMBLY

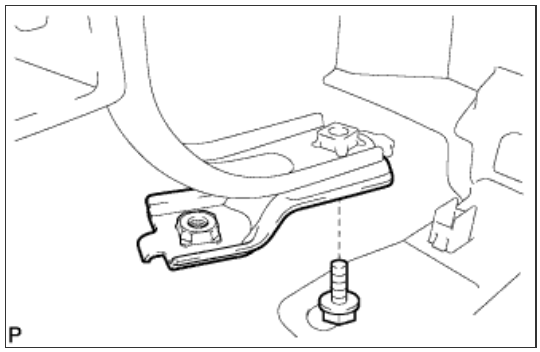
a. Install the reinforcement with the 6 nuts.

Torque:
71 N*m{ 724 kgf*cm , 52 ft.*lbf }



9. INSTALL FRONT BUMPER MOUNTING BRACKET LH

a. Install the bracket with the bolt.



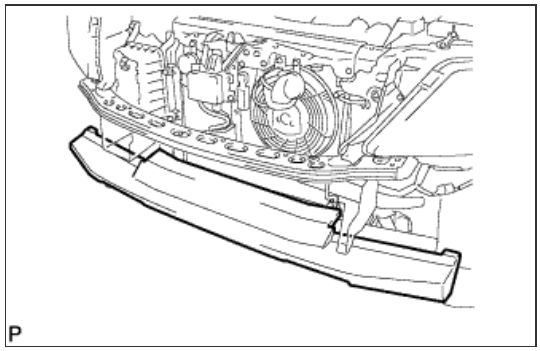
10. INSTALL FRONT BUMPER MOUNTING BRACKET RH

HINT:

Use the same procedures described for the LH side.

11. INSTALL FRONT BUMPER ENERGY ABSORBER

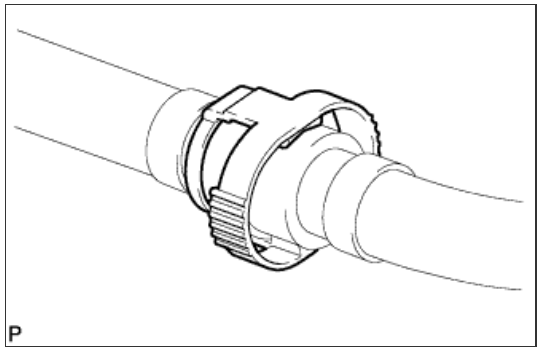
a. Install the energy absorber.



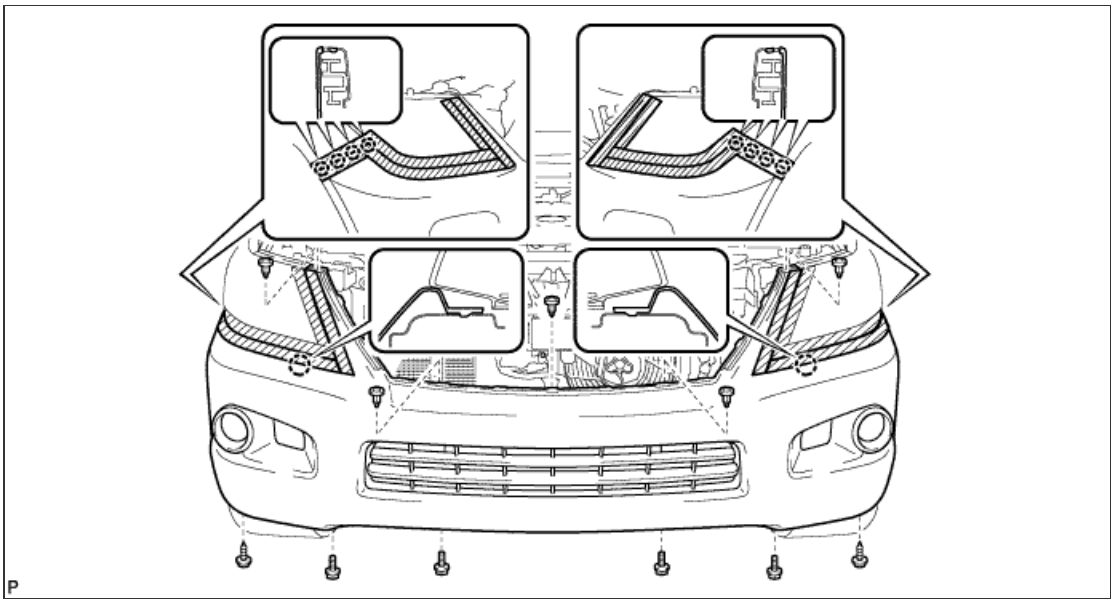
12. INSTALL FRONT BUMPER COVER

a. w/ Headlight Cleaner System:
Connect the headlight cleaner hose.

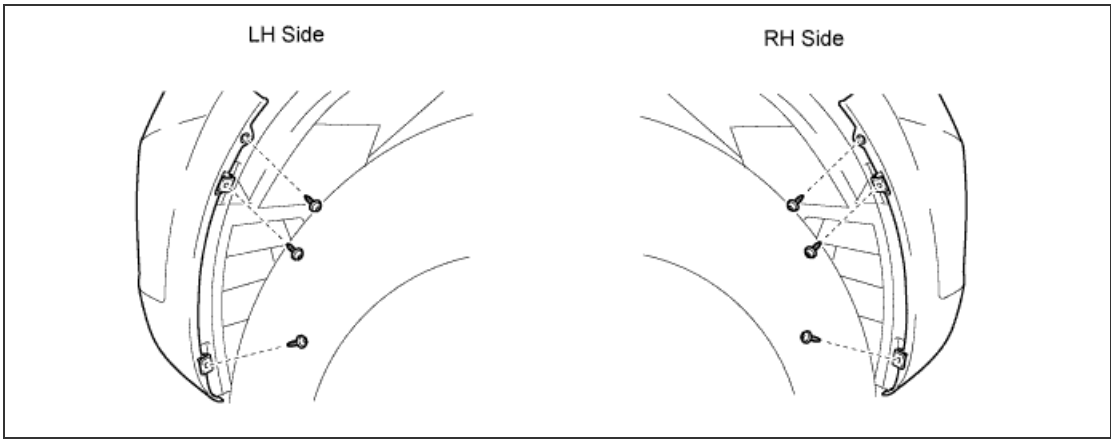
b. Connect the No. 4 engine room wire connector and attach the 10 claws to install the bumper cover.



c. Install the 5 clips, 2 screws and 4 bolts.



d. Using a T30 "TORX" socket, install the 6 screws.



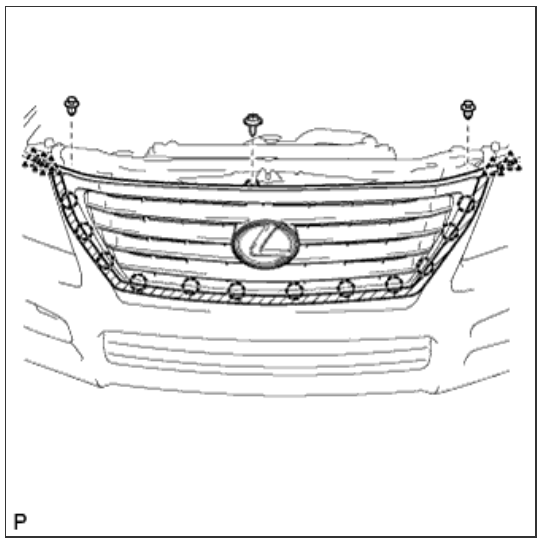
13. INSTALL RADIATOR GRILLE ASSEMBLY

a. w/ Wide View Front Monitor System:
Connect the connector.

b. Attach the 12 claws to install the radiator grille.

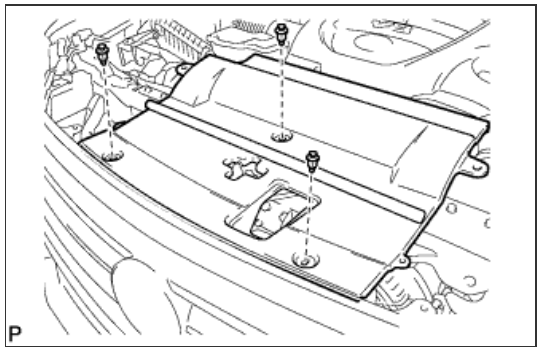
c. Attach the 5 clips to install the detached part of the upper radiator seal.

d. Install the screw and 2 clips.



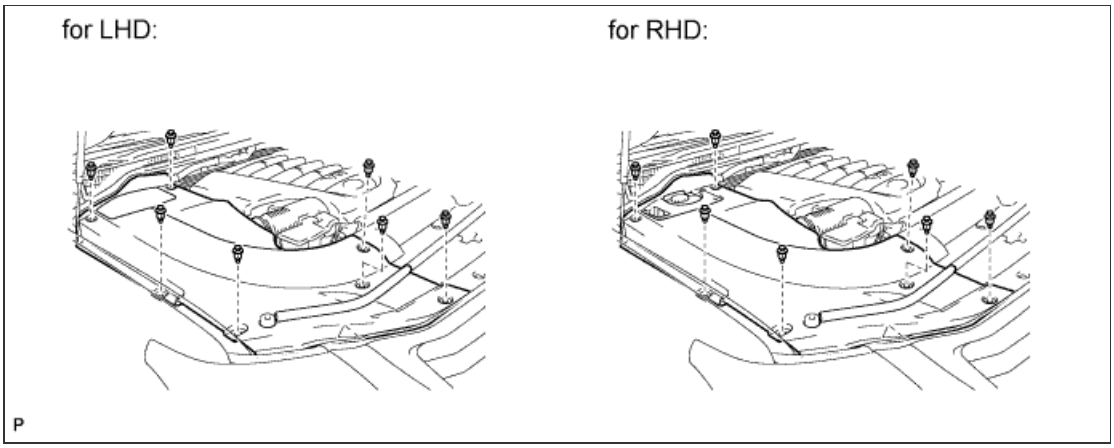
14. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the upper radiator support seal with the 3 clips.



15. INSTALL ENGINE ROOM SIDE COVER RH

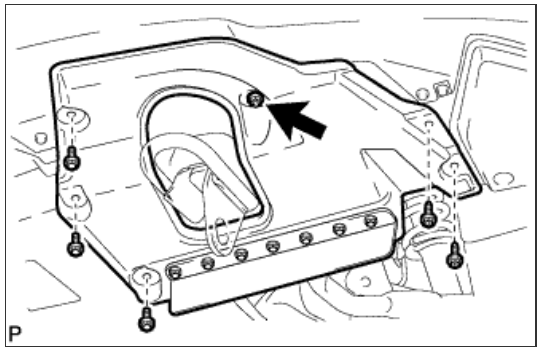
a. Install the engine room side cover with the 7 clips.



16. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. Push in the clip indicated by the arrow in the illustration to install the fender splash shield.

b. Install the 3 bolts and 2 screws.



17. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

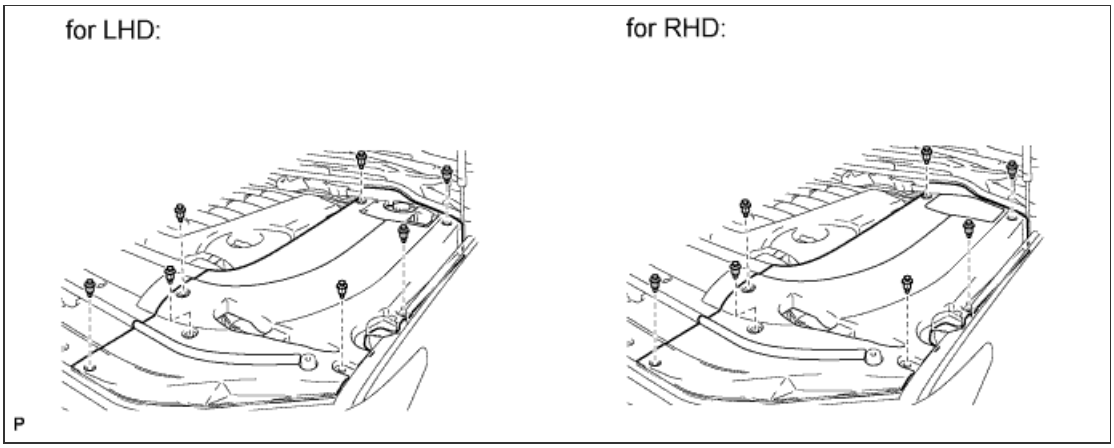
18. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

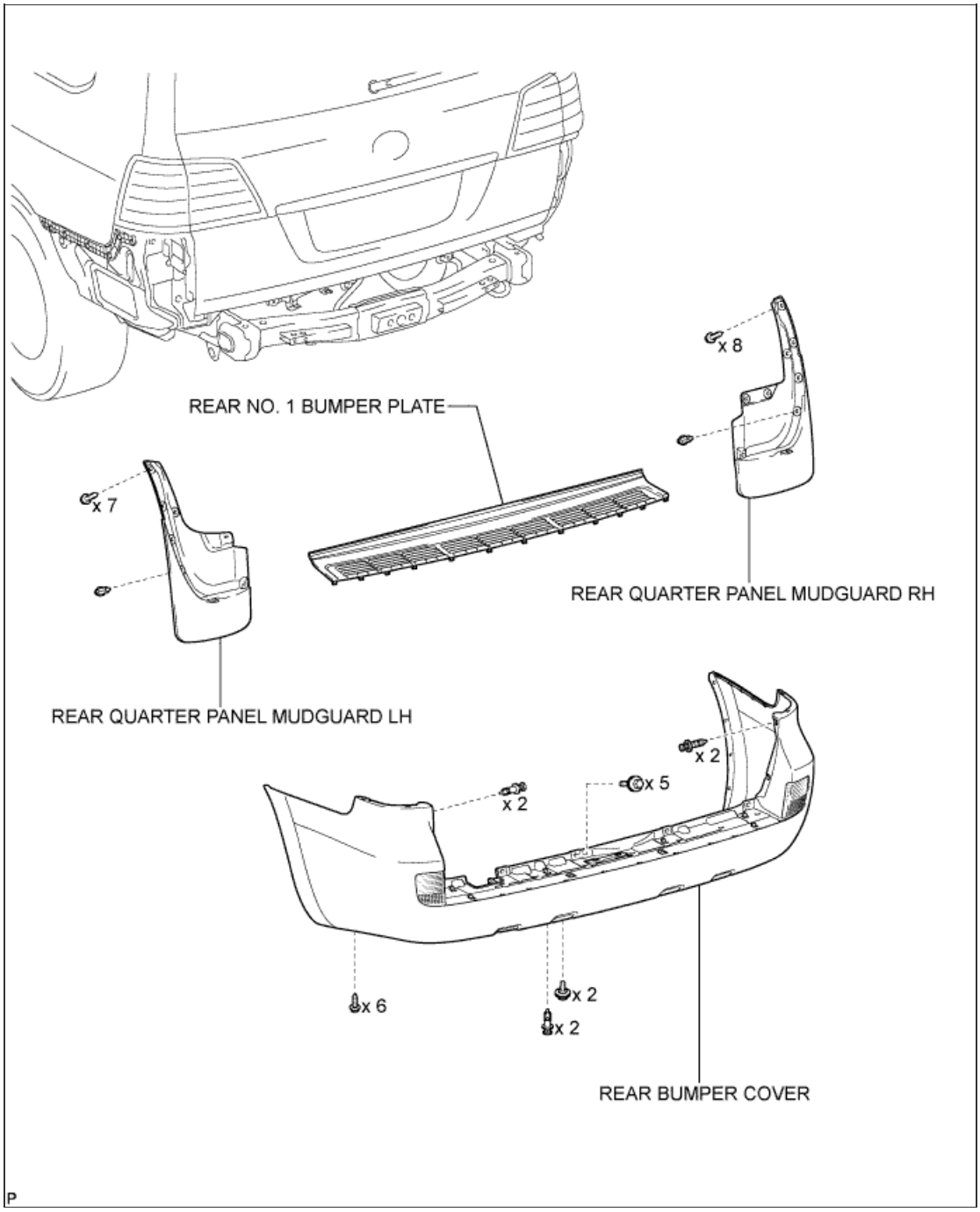
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

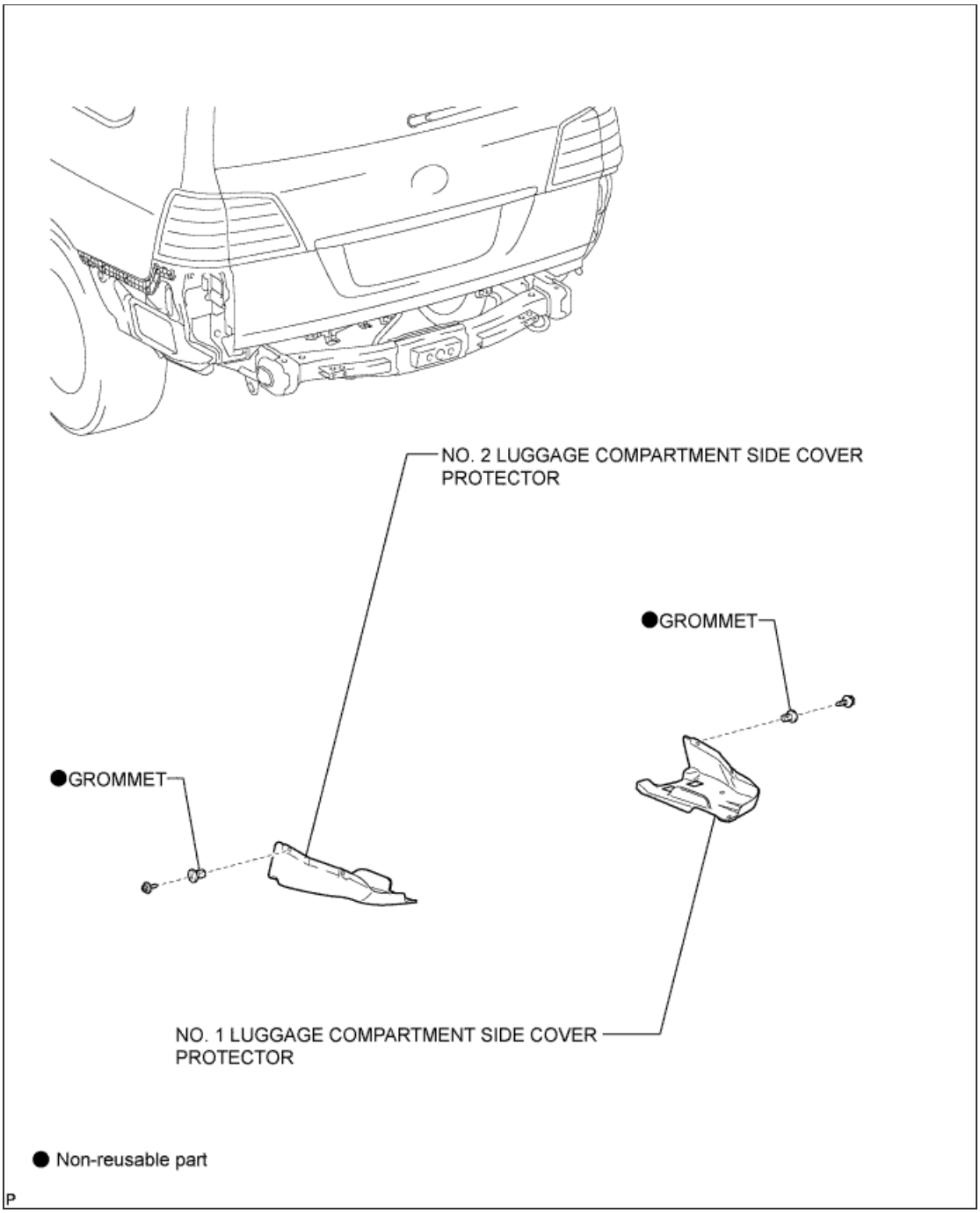
19. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

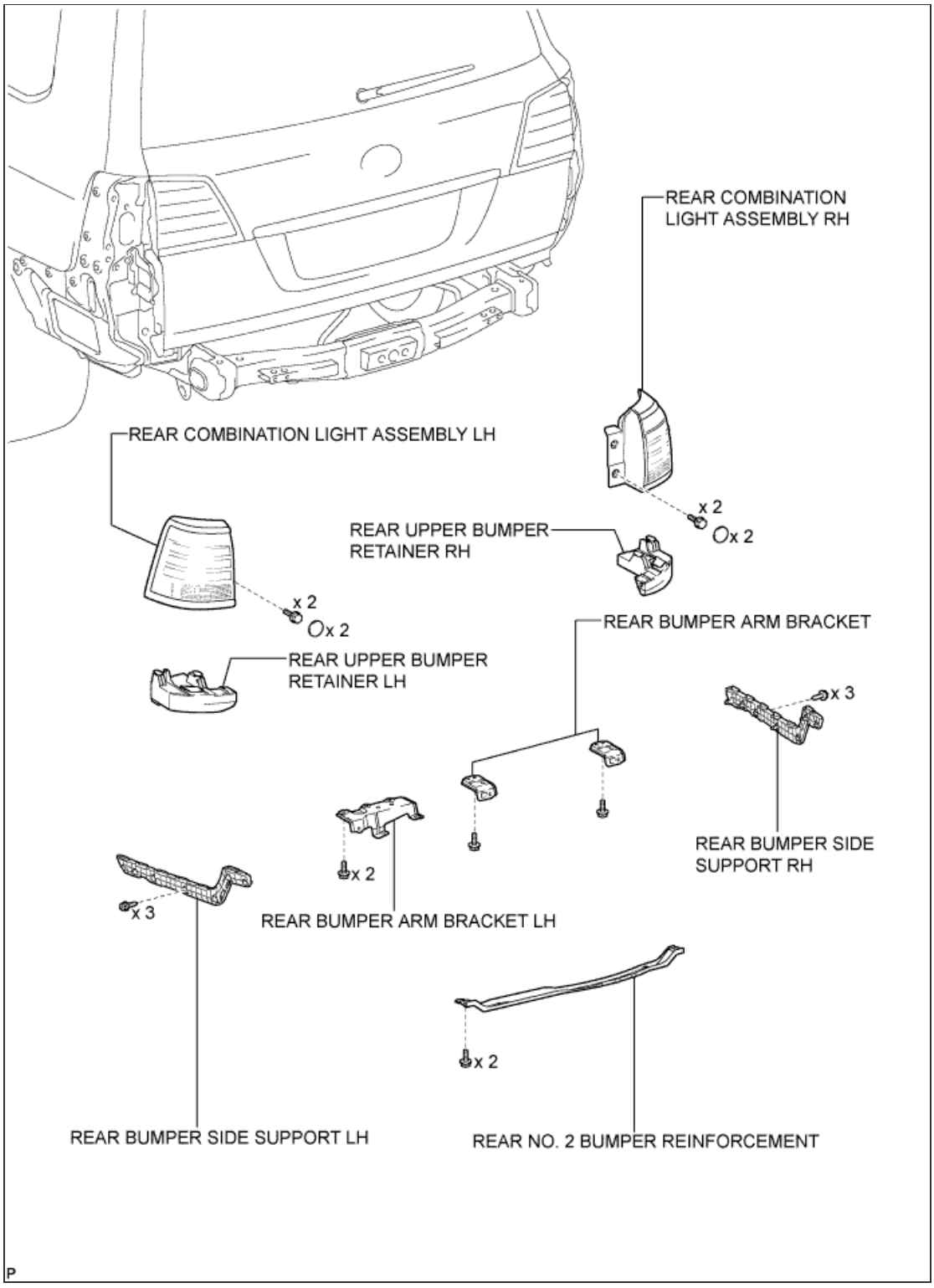


for Preparation Click here



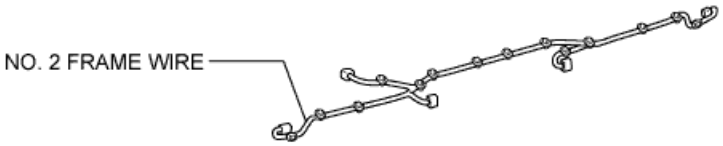

NO. 2 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR
GROMMET
GROMMET
NO. 1 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR
Non-reusable part

P

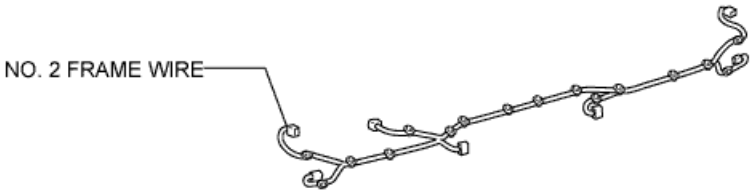

REAR COMBINATION LIGHT ASSEMBLY RH
REAR COMBINATION LIGHT ASSEMBLY LH
x 2
Ox 2
REAR UPPER BUMPER RETAINER RH
x 2
Ox 2
REAR UPPER BUMPER RETAINER LH
REAR BUMPER ARM BRACKET
x 3
REAR BUMPER SIDE SUPPORT RH
x 2
REAR BUMPER ARM BRACKET LH
x 3
x 2
REAR BUMPER SIDE SUPPORT LH
REAR NO. 2 BUMPER REINFORCEMENT
P

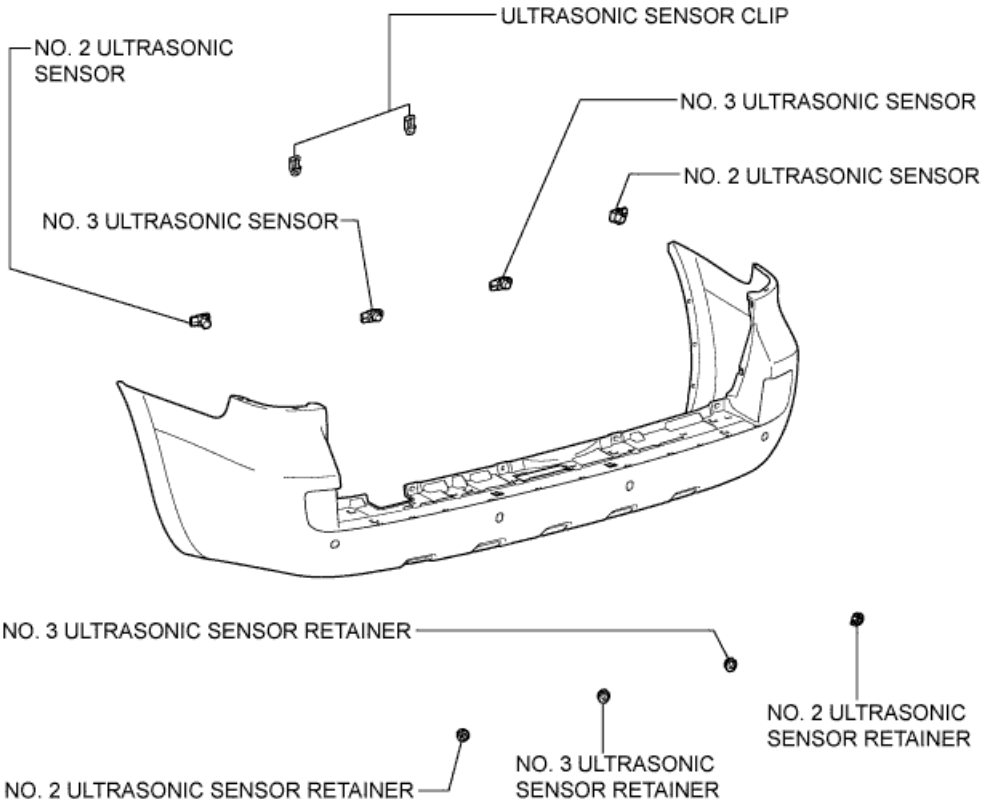
w/ LEXUS Parking Assist-sensor System:

w/o Rear Fog Light:

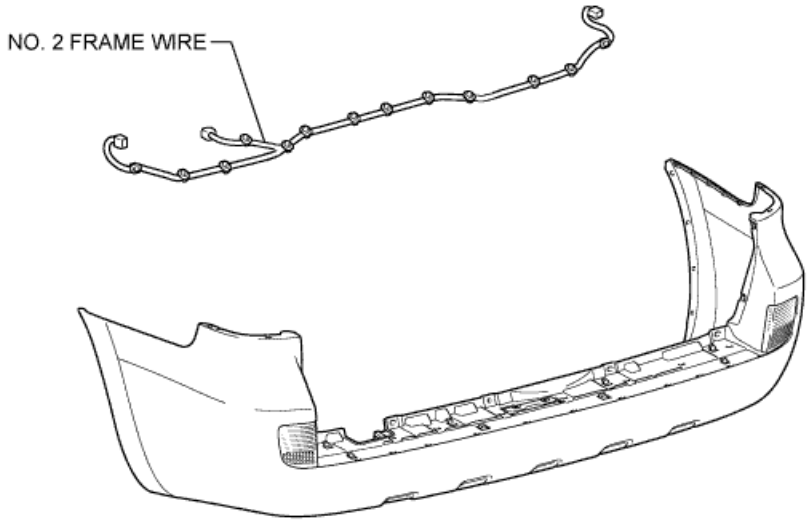


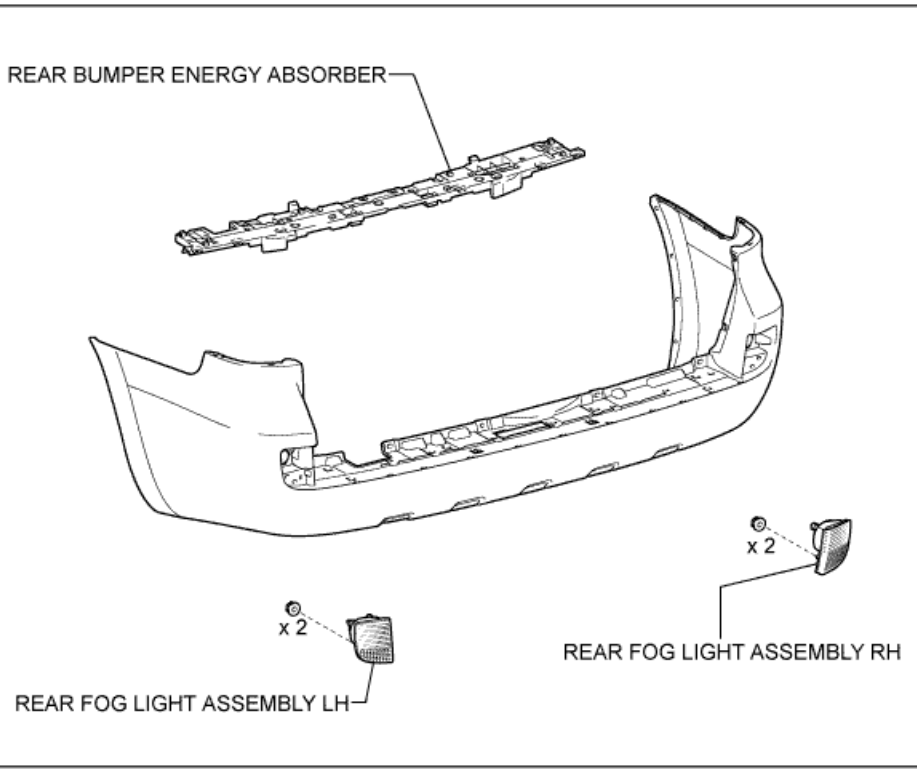
w/ Rear Fog Light:





w/o LEXUS Parking Assist-sensor System, w/ Rear Fog Light:





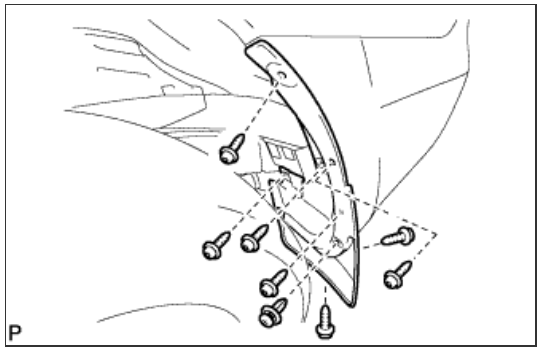
P

for Preparation Click here

1. REMOVE REAR QUARTER PANEL MUDGUARD LH

a. Remove the clip.

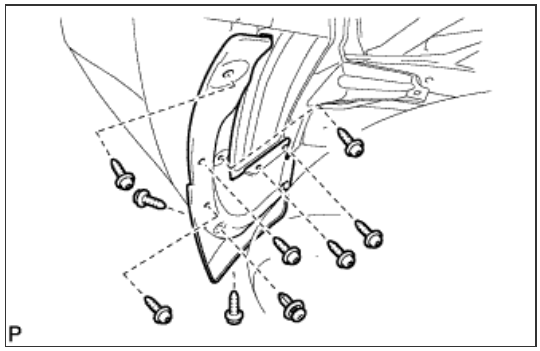
b. Using a T30 "TORX" socket, remove the 7 screws and mudguard.



2. REMOVE REAR QUARTER PANEL MUDGUARD RH

a. Remove the clip.

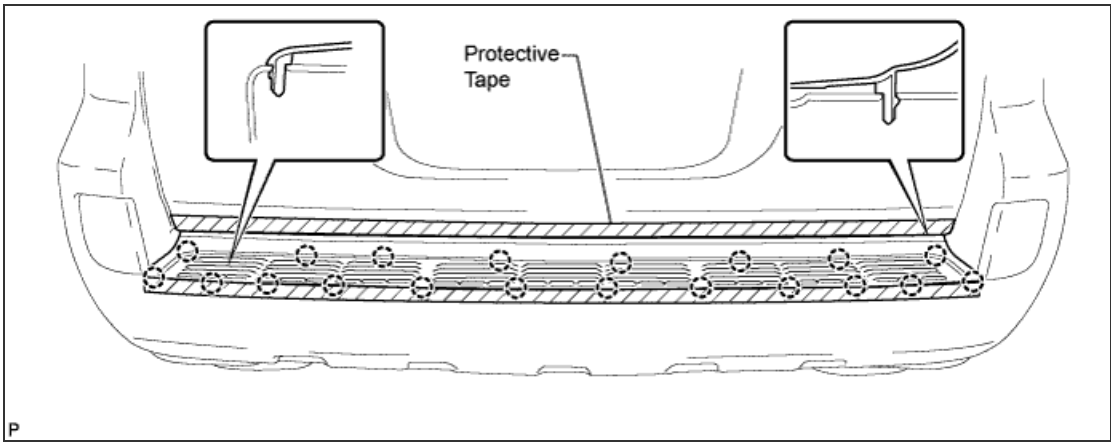
b. Using a T30 "TORX" socket, remove the 8 screws and mudguard.



3. REMOVE REAR NO. 1 BUMPER PLATE

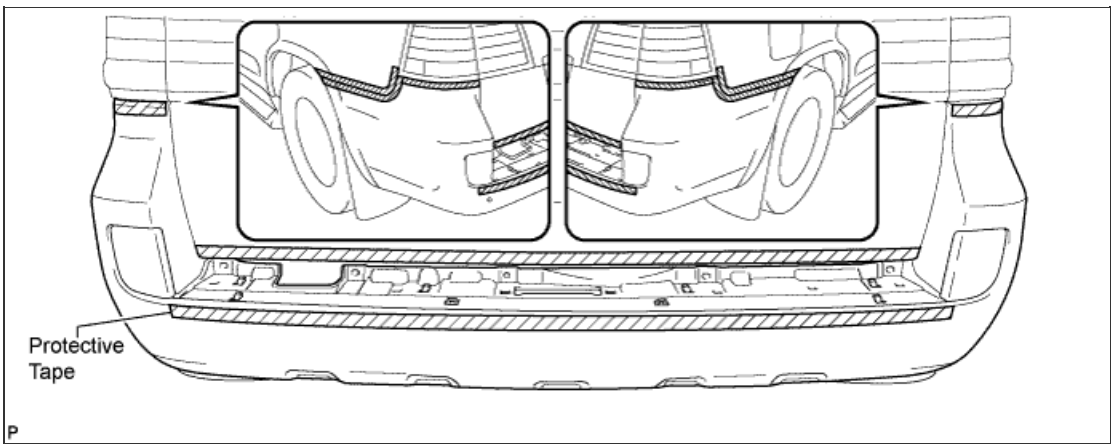
a. Put protective tape around the bumper plate.

b. Detach the 20 claws and remove the bumper plate.

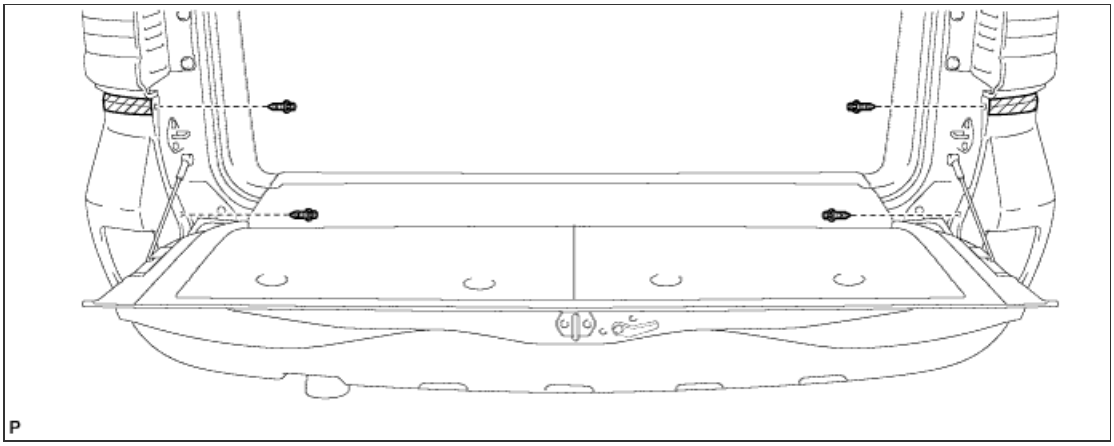


4. REMOVE REAR BUMPER COVER

a. Put protective tape around the bumper cover.



b. Open the tail gate and remove the 4 clips.

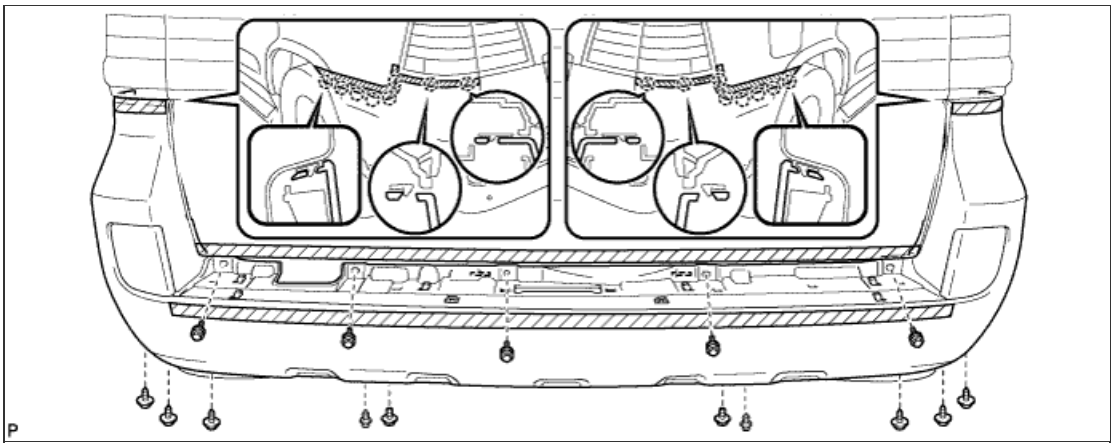


c. Close the tail gate.

d. Remove the 7 bolts, 6 screws and 2 clips.

e. w/o LEXUS Parking Assist-sensor System, w/o Rear Fog Light:
Detach the 16 claws and remove the bumper cover.

f. w/ LEXUS Parking Assist-sensor System or w/ Rear Fog Light:
Detach the 16 claws, disconnect the No. 2 frame wire connector and remove the bumper cover.



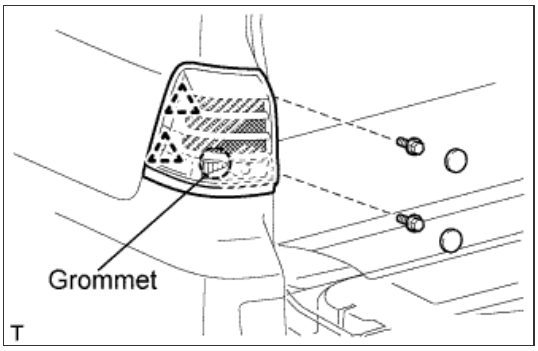
5. REMOVE REAR COMBINATION LIGHT ASSEMBLY LH

a. Remove the 2 covers.

b. Remove the 2 bolts.

c. Detach the 2 clips and remove the rear combination light.

d. Disconnect the connector.



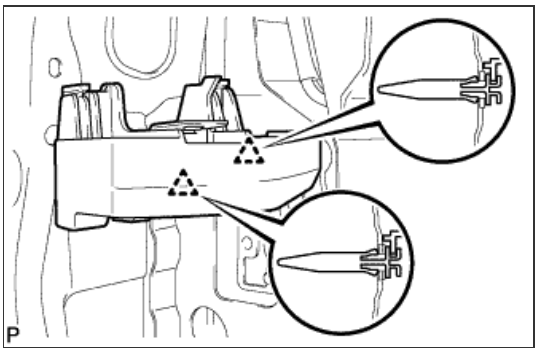
6. REMOVE REAR COMBINATION LIGHT ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

7. REMOVE REAR UPPER BUMPER RETAINER LH

a. Detach the 2 clips and remove the bumper retainer.



8. REMOVE REAR UPPER BUMPER RETAINER RH

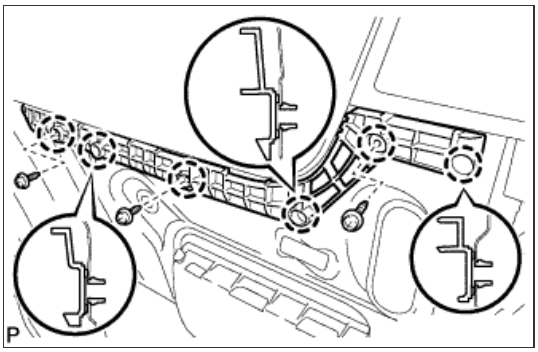
HINT:

Use the same procedures described for the LH side.

9. REMOVE REAR BUMPER SIDE SUPPORT LH

a. Remove the 3 screws.

b. Detach the 6 claws and remove the bumper side support.



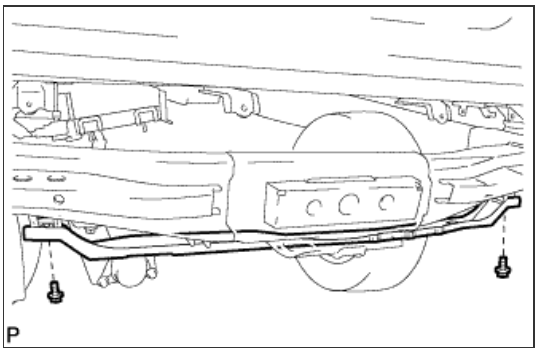
10. REMOVE REAR BUMPER SIDE SUPPORT RH

HINT:

Use the same procedures described for the LH side.

11. REMOVE REAR NO. 2 BUMPER REINFORCEMENT

a. Remove the 2 bolts and bumper reinforcement.

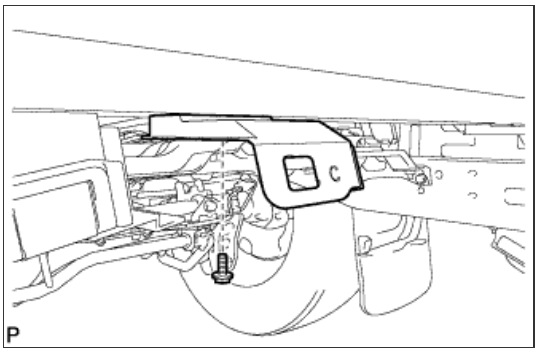


12. REMOVE REAR BUMPER ARM BRACKET

HINT:

Use the same procedure to remove the bumper arm bracket on the other side.

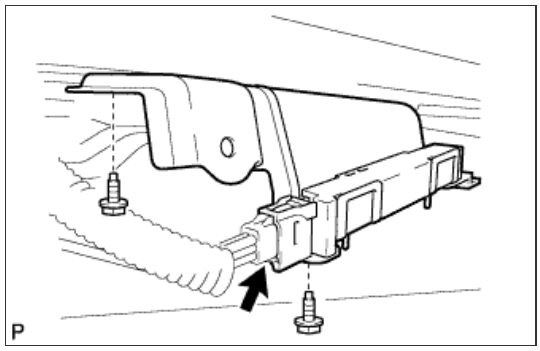
a. Remove the bolt and bumper arm bracket.



13. REMOVE REAR BUMPER ARM BRACKET LH

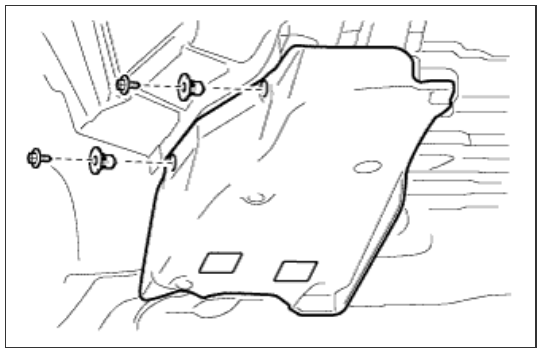
a. Disconnect the connector.

b. Remove the 2 bolts and bumper arm bracket.



14. REMOVE NO. 2 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR

a. Remove the 2 screws, 2 grommets and protector.



15. REMOVE NO. 1 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR

HINT:

Use the same procedures described for the No. 2 luggage compartment side cover protector.

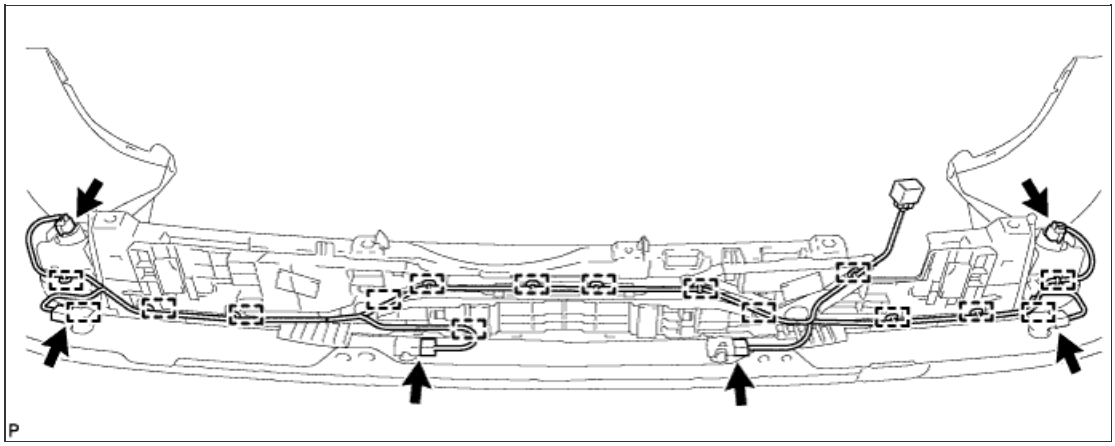
for Preparation Click here

1. REMOVE NO. 2 FRAME WIRE

a. w/ LEXUS Parking Assist-sensor System, w/ Rear Fog Light:
Remove the No. 2 frame wire.

i. Disconnect the 6 connectors.

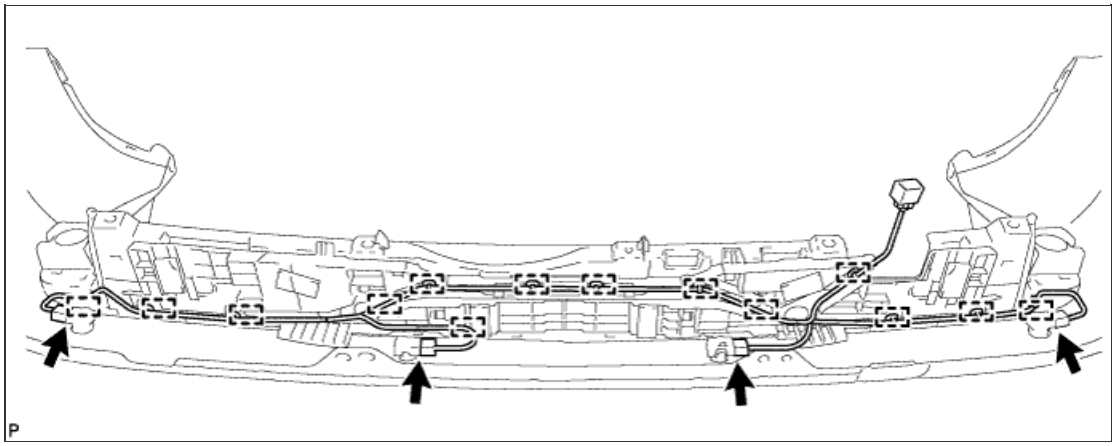
ii. Detach the 16 clamps and remove the frame wire.



b. w/ LEXUS Parking Assist-sensor System, w/o Rear Fog Light:
Remove the No. 2 frame wire.

i. Disconnect the 4 connectors.

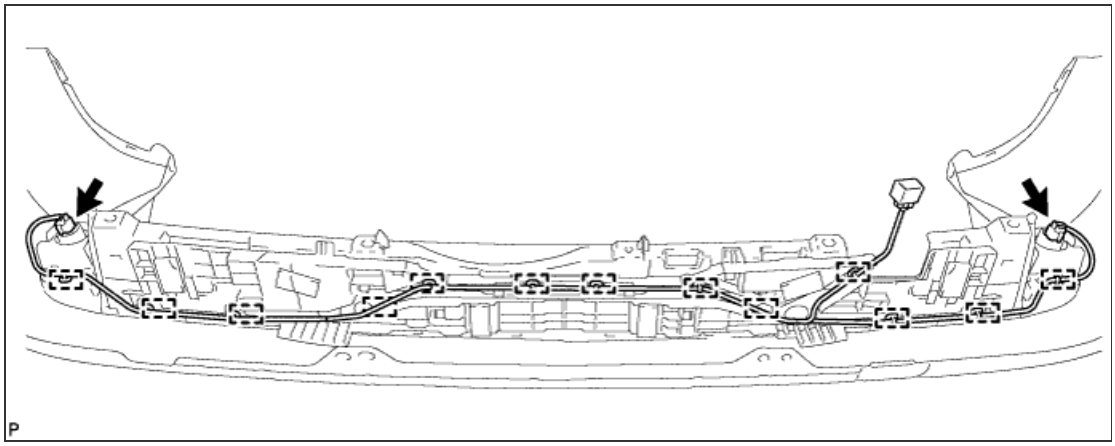
ii. Detach the 14 clamps and remove the frame wire.



c. w/o LEXUS Parking Assist-sensor System, w/ Rear Fog Light:
Remove the No. 2 frame wire.

i. Disconnect the 2 connectors.

ii. Detach the 13 clamps and remove the frame wire.



2. REMOVE NO. 2 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

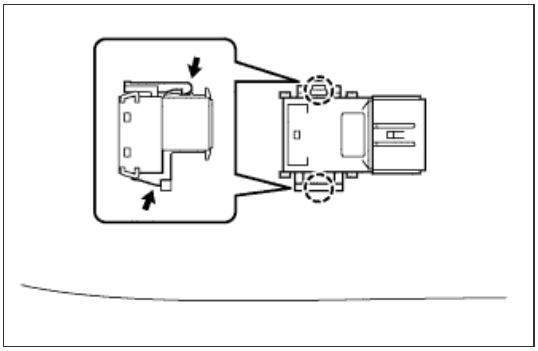
HINT:

Use the same procedure to remove the No. 2 ultrasonic sensor on the other side.

a. While pushing down on the lever with a finger to release the one claw, detach the claw on the other side to remove the ultrasonic sensor.

HINT:

The type of claw on the top and the type of claw on the bottom of the sensor are different. Observe the claws carefully before removing the sensor.



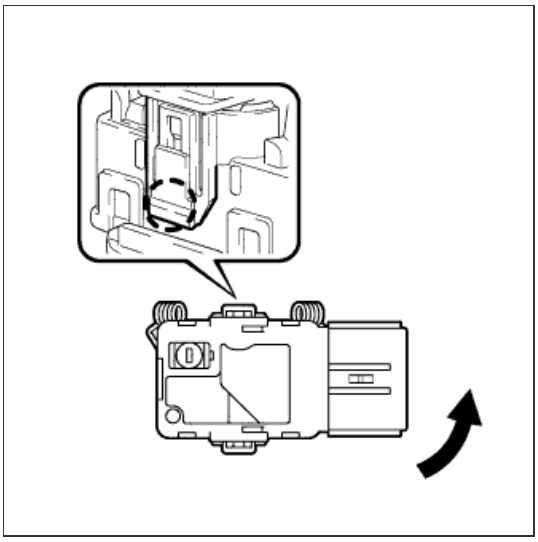
3. REMOVE NO. 3 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to remove the No. 3 ultrasonic sensor on the other side.

a. Remove the ultrasonic sensor clip.

b. Detach the claw and remove the ultrasonic sensor as shown in the illustration.

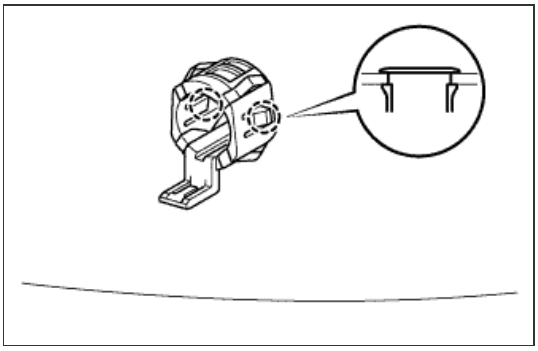


4. REMOVE NO. 2 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to remove the No. 2 ultrasonic sensor retainer on the other side.

a. Detach the 2 claws and remove the ultrasonic sensor retainer from the rear bumper cover.

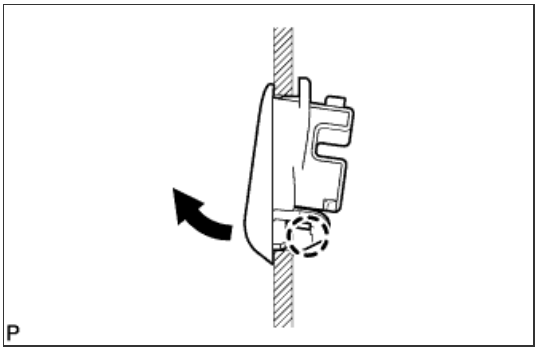


5. REMOVE NO. 3 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

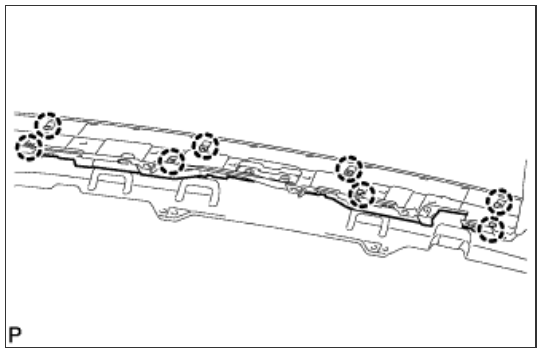
Use the same procedure to remove the No. 3 ultrasonic sensor retainer on the other side.

a. Detach the claw and remove the ultrasonic sensor retainer from the rear bumper cover.



6. REMOVE REAR BUMPER ENERGY ABSORBER

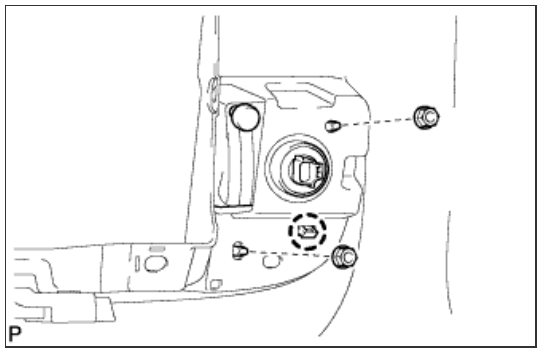
a. Detach the 8 claws and remove the energy absorber.



7. REMOVE REAR FOG LIGHT ASSEMBLY LH

a. Remove the 2 nuts.

b. Detach the claw and remove the fog light.



8. REMOVE REAR FOG LIGHT ASSEMBLY RH

HINT:

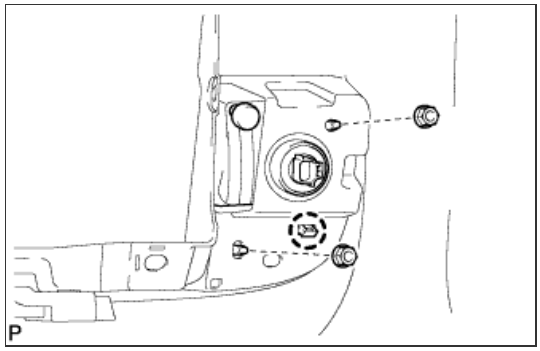
Use the same procedures described for the LH side.

for Preparation Click here

1. INSTALL REAR FOG LIGHT ASSEMBLY LH

a. Attach the claw to install the fog light.

b. Install the 2 nuts.



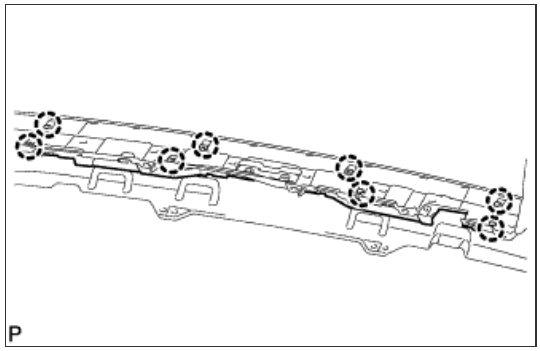
2. INSTALL REAR FOG LIGHT ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

3. INSTALL REAR BUMPER ENERGY ABSORBER

a. Attach the 8 claws to install the energy absorber.



4. INSTALL NO. 2 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

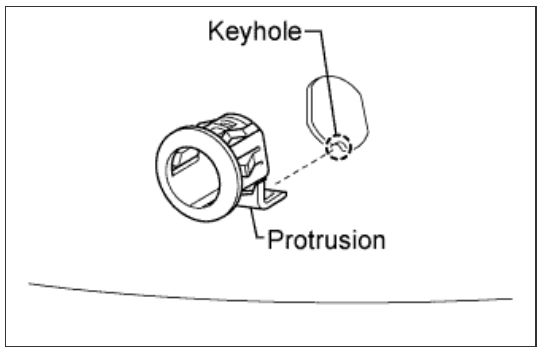
Use the same procedure to install the No. 2 ultrasonic sensor retainer on the other side.

a. Align the keyhole and protrusion as shown in the illustration.

b. Install the ultrasonic sensor retainer to the rear bumper.

NOTICE:

Do not damage the bumper with the protrusion when installing the retainer.

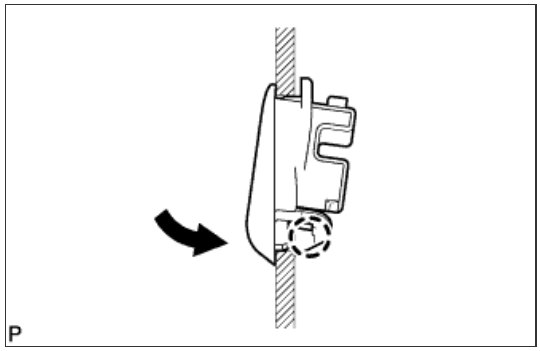


5. INSTALL NO. 3 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to install the No. 3 ultrasonic sensor retainer on the other side.

a. Attach the claw to install the ultrasonic sensor retainer as shown in the illustration.



6. INSTALL NO. 2 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

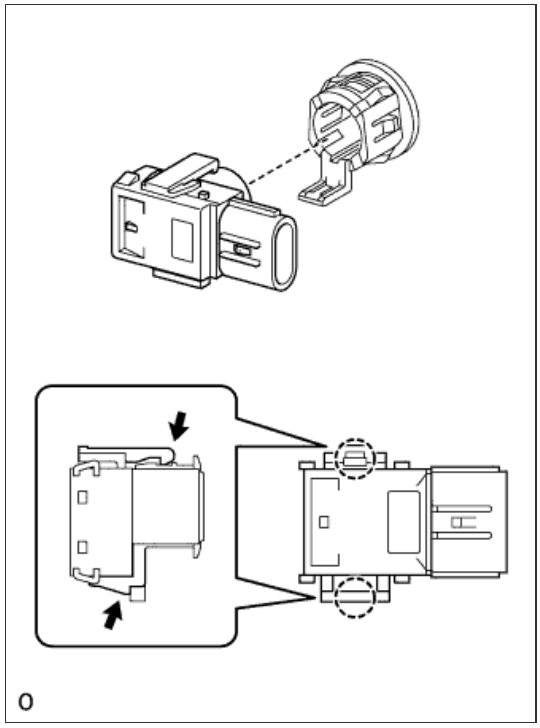
HINT:

Use the same procedure to install the No. 2 ultrasonic sensor on the other side.

a. Attach the 2 claws to install the ultrasonic sensor.

b. Connect the connector.

c. Install the ultrasonic sensor clip.



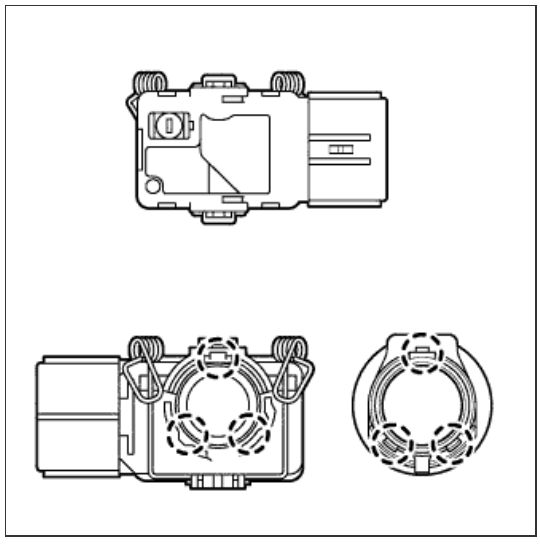
7. INSTALL NO. 3 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to install the No. 3 ultrasonic sensor on the other side.

a. Attach the 3 claws to install the ultrasonic sensor.

b. Connect the connector.

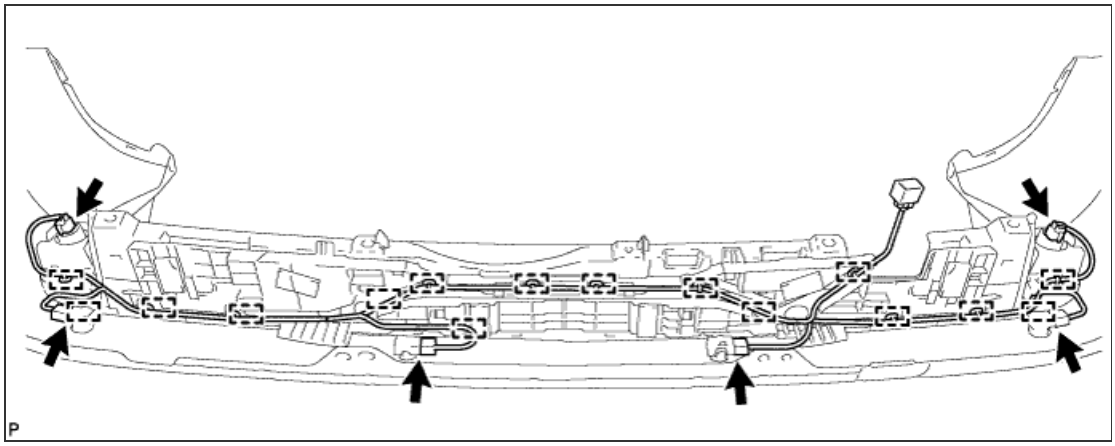


8. INSTALL NO. 2 FRAME WIRE

a. w/ LEXUS Parking Assist-sensor System, w/ Rear Fog Light:
Install the No. 2 frame wire.

i. Attach the 16 clamps to install the frame wire.

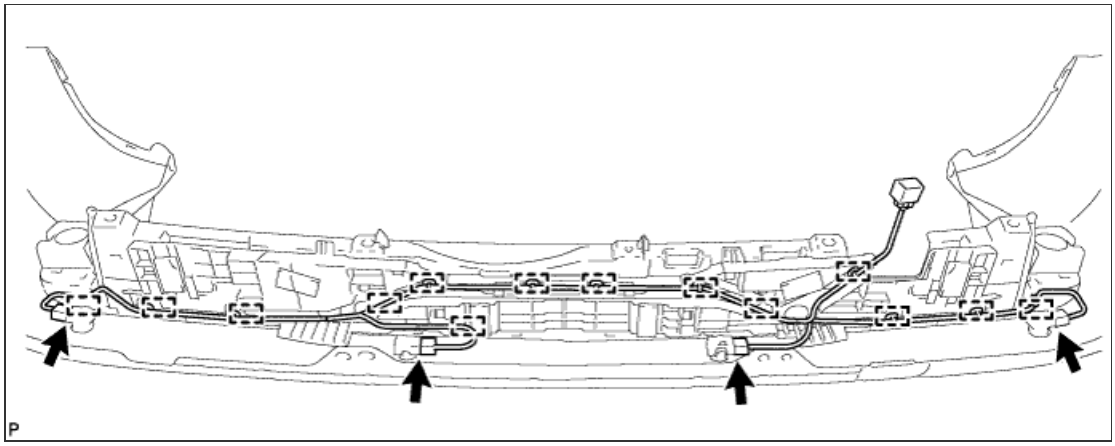
ii. Connect the 6 connectors.



b. w/ LEXUS Parking Assist-sensor System, w/o Rear Fog Light:
Install the No. 2 frame wire.

i. Attach the 14 clamps to install the frame wire.

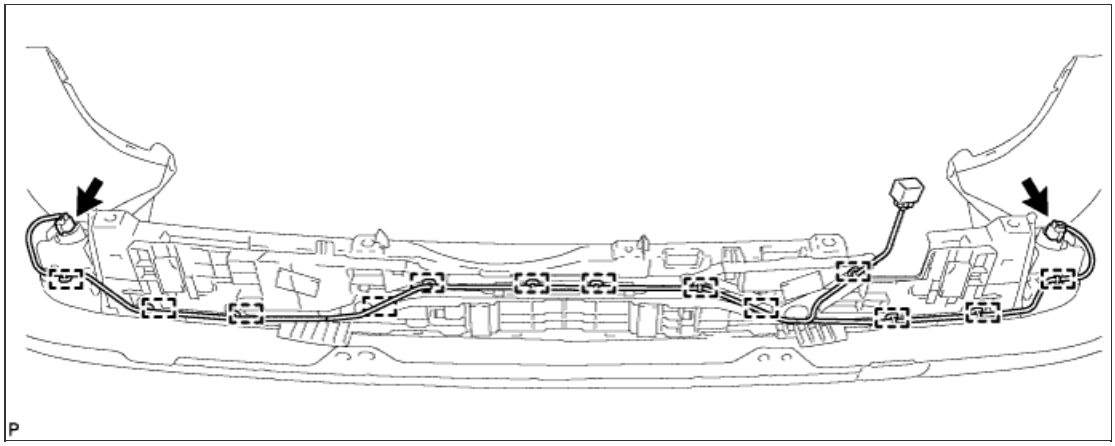
ii. Connect the 4 connectors.



c. w/o LEXUS Parking Assist-sensor System, w/ Rear Fog Light:
Install the No. 2 frame wire.

i. Attach the 13 clamps to install the frame wire.

ii. Connect the 2 connectors.



for Preparation Click here

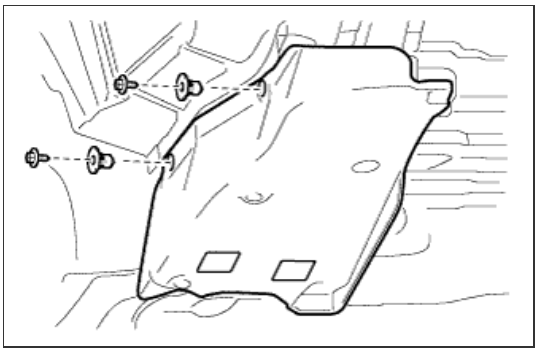
HINT:

A bolt without a torque specification is shown in the standard bolt chart (Click here).

1. INSTALL NO. 2 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR

a. Install the protector with 2 new grommets.

b. Install the 2 screws.



2. INSTALL NO. 1 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR

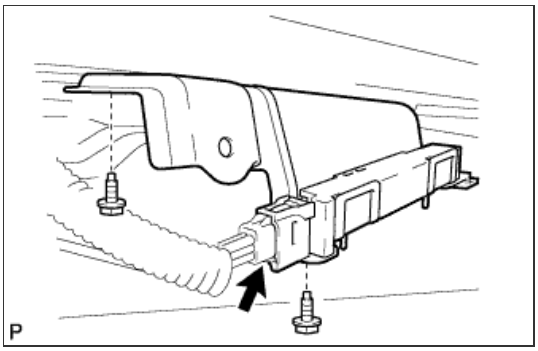
HINT:

Use the same procedures described for the No. 2 luggage compartment side cover protector.

3. INSTALL REAR BUMPER ARM BRACKET LH

a. Install the bumper arm bracket with the 2 bolts.

b. Connect the connector.

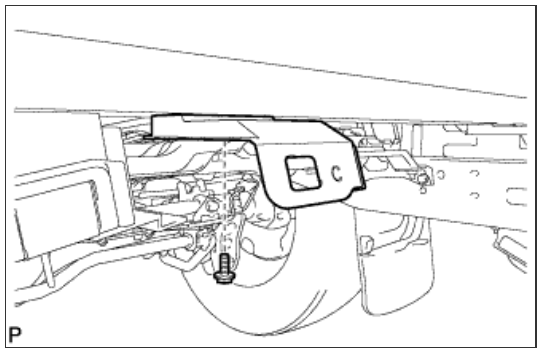


4. INSTALL REAR BUMPER ARM BRACKET

HINT:

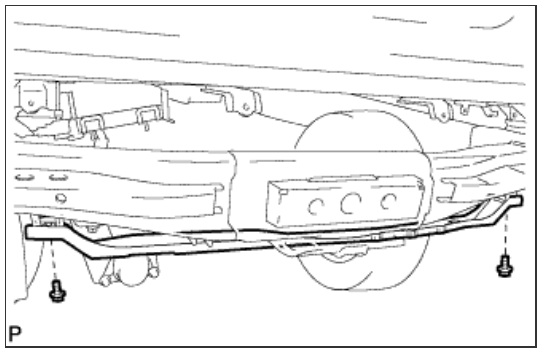
Use the same procedure to install the bumper arm bracket on the other side.

a. Install the bumper arm bracket with the bolt.



5. INSTALL REAR NO. 2 BUMPER REINFORCEMENT

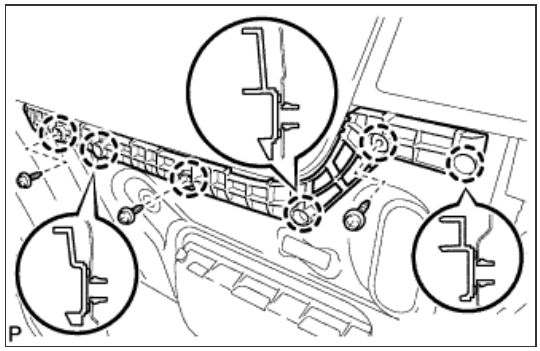
a. Install the bumper reinforcement with the 2 bolts.



6. INSTALL REAR BUMPER SIDE SUPPORT LH

a. Attach the 6 claws to install the bumper side support.

b. Install the 3 screws.



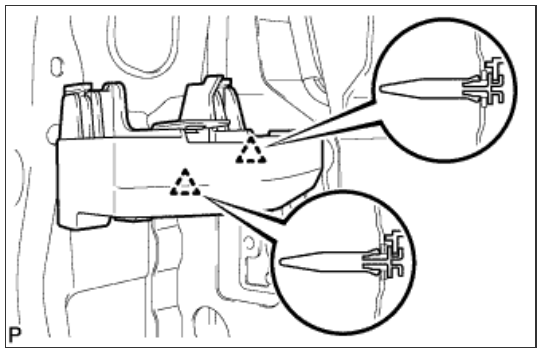
7. INSTALL REAR BUMPER SIDE SUPPORT RH

HINT:

Use the same procedures described for the LH side.

8. INSTALL REAR UPPER BUMPER RETAINER LH

a. Attach the 2 clips to install the bumper retainer.



9. INSTALL REAR UPPER BUMPER RETAINER RH

HINT:

Use the same procedures described for the LH side.

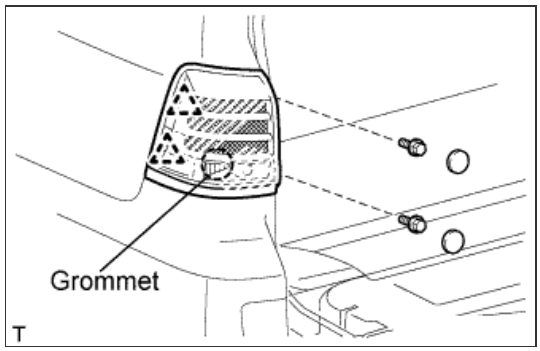
10. INSTALL REAR COMBINATION LIGHT ASSEMBLY LH

a. Connect the connector.

b. Attach the 2 clips to install the rear combination light.

c. Install the 2 bolts.

d. Install the 2 covers.



11. INSTALL REAR COMBINATION LIGHT ASSEMBLY RH

HINT:

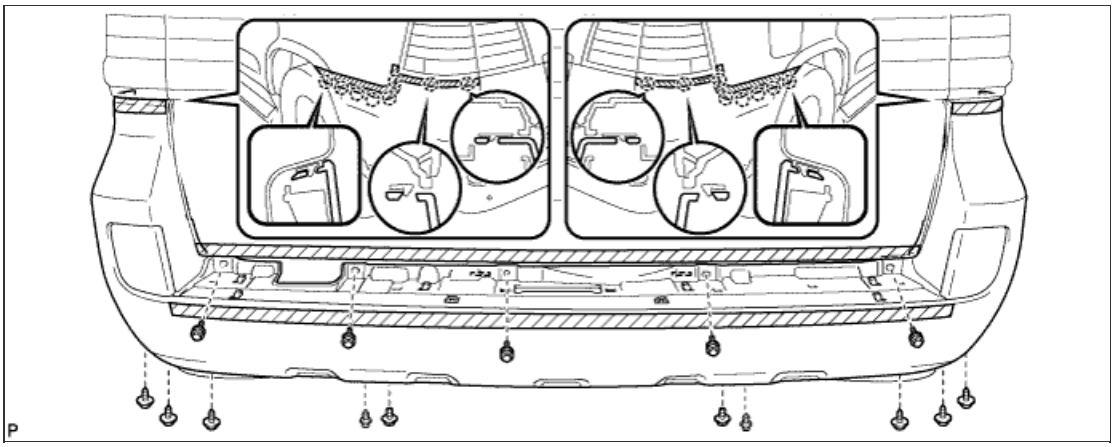
Use the same procedures described for the LH side.

12. INSTALL REAR BUMPER COVER

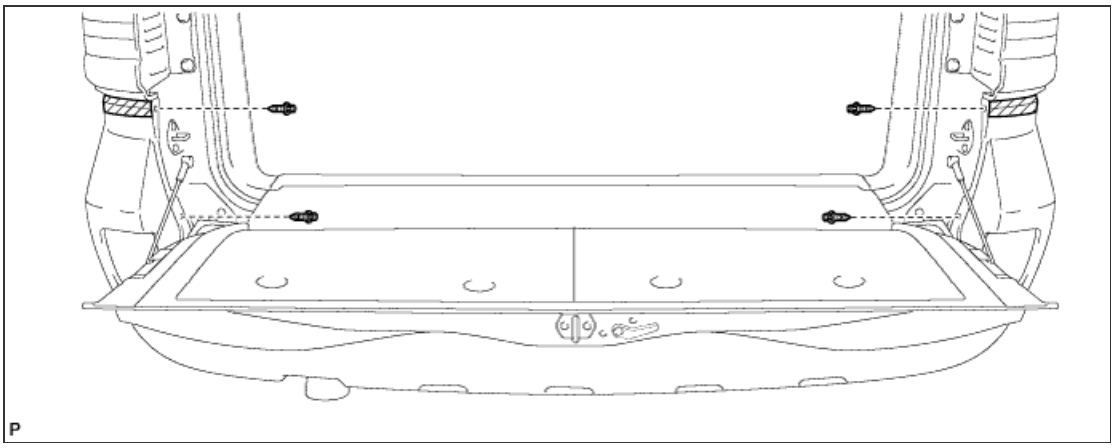
a. w/o LEXUS Parking Assist-sensor System, w/o Rear Fog Light:
Attach the 16 claws to install the bumper cover.

b. w/ LEXUS Parking Assist-sensor System or w/ Rear Fog Light:
Connect the No. 2 frame wire connector and attach the 16 claws to install the bumper cover.

c. Install the 7 bolts, 6 screws and 2 clips.



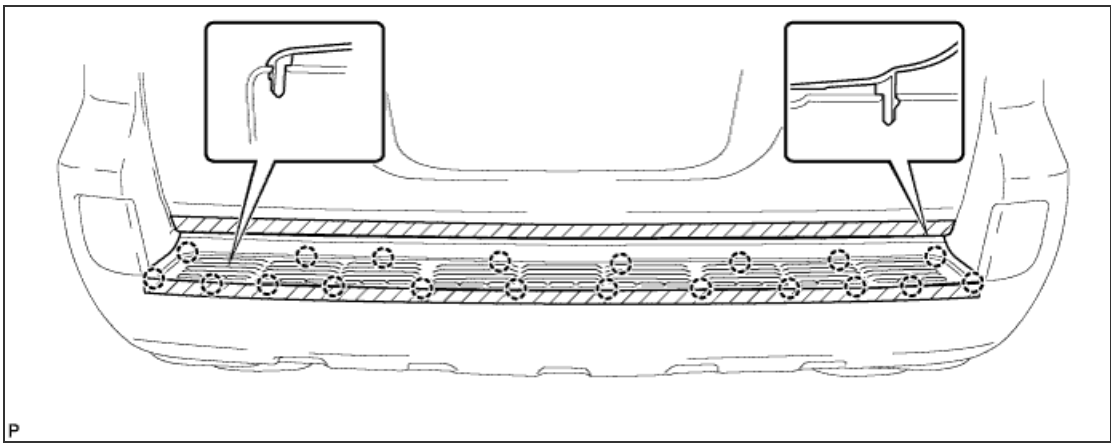
d. Open the tail gate and install the 4 clips.



e. Close the tail gate.

13. INSTALL REAR NO. 1 BUMPER PLATE

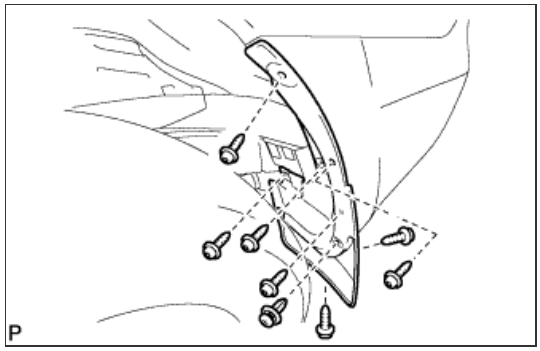
a. Attach the 20 claws to install the bumper plate.



14. INSTALL REAR QUARTER PANEL MUDGUARD LH

a. Install the mudguard with the clip.

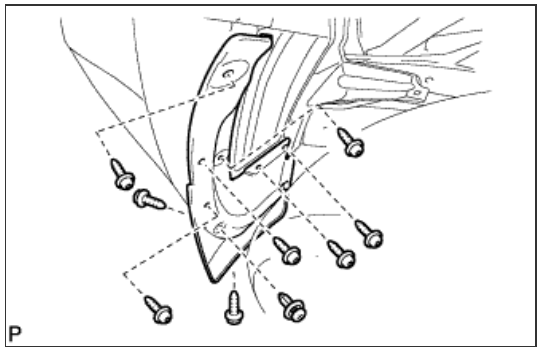
b. Using a T30 "TORX" socket, install the 7 screws.



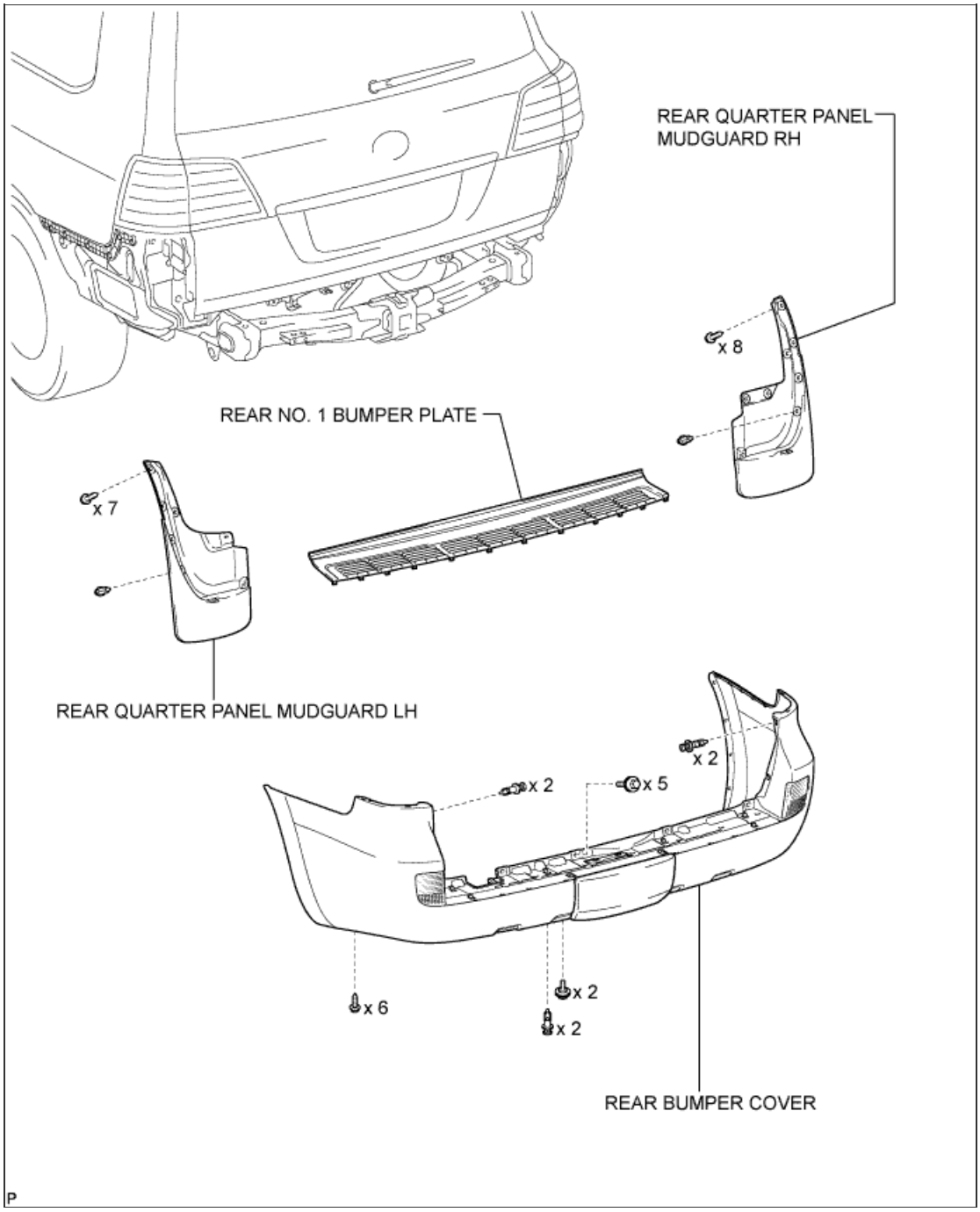
15. INSTALL REAR QUARTER PANEL MUDGUARD RH

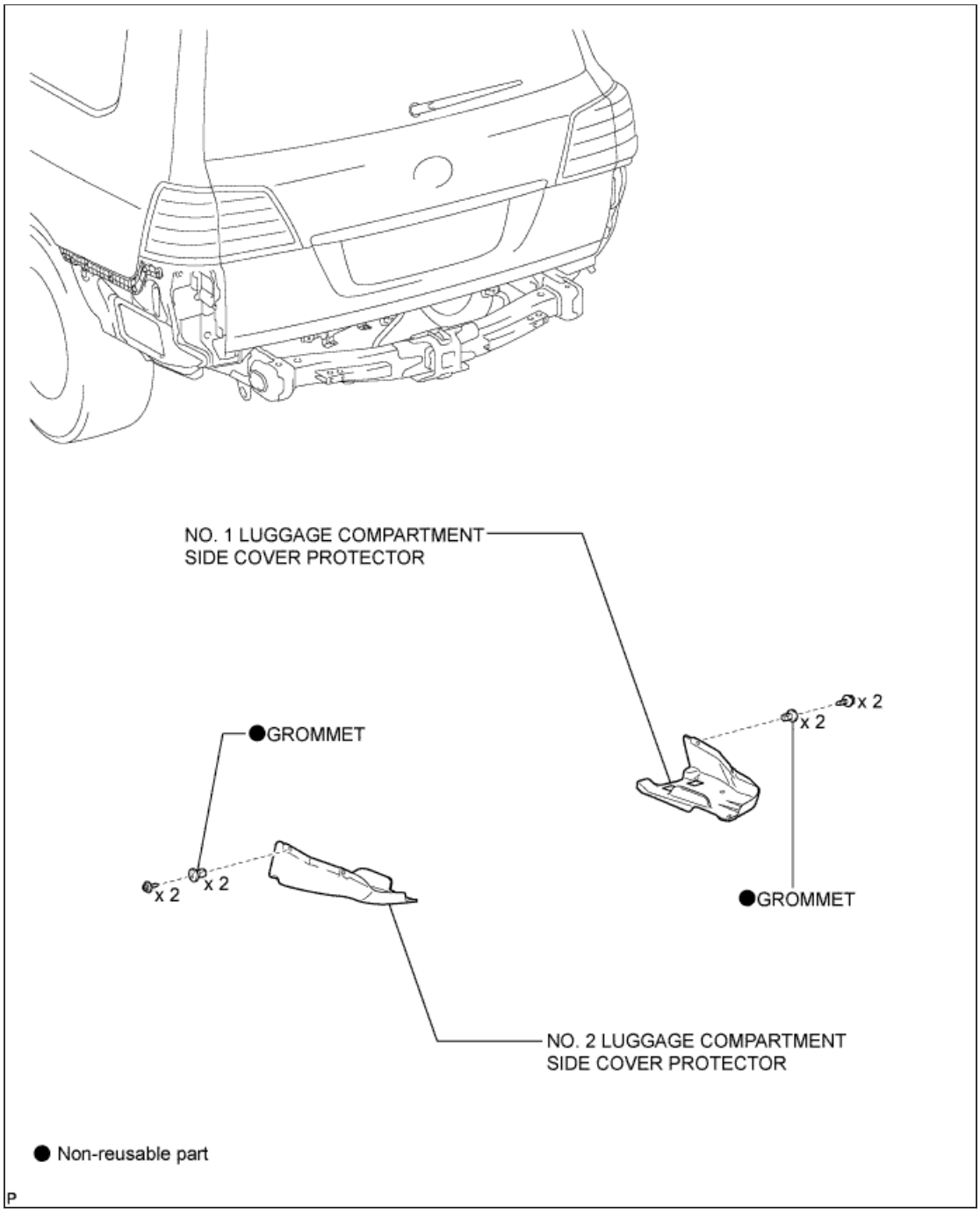
a. Install the mudguard with the clip.

b. Using a T30 "TORX" socket, install the 8 screws.

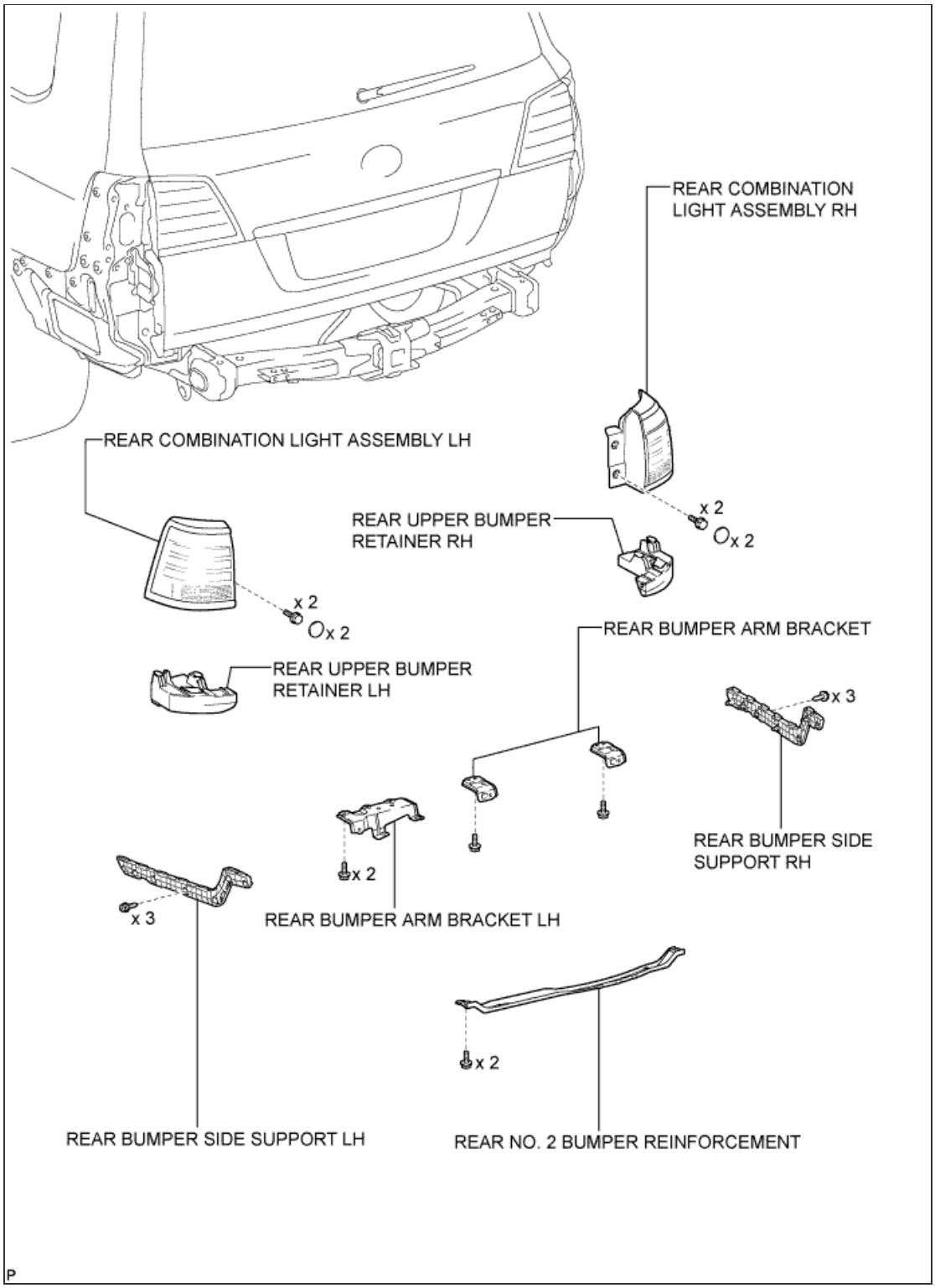


for Preparation Click here



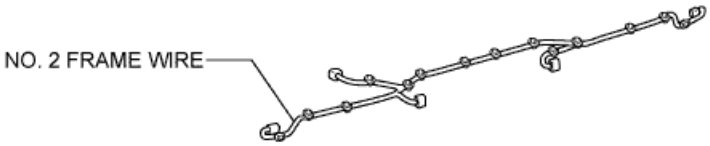

NO. 1 LUGGAGE COMPARTMENT
SIDE COVER PROTECTOR
x 2
x 2
GROMMET
x 2
x 2
GROMMET
NO. 2 LUGGAGE COMPARTMENT
SIDE COVER PROTECTOR
Non-reusable part

P

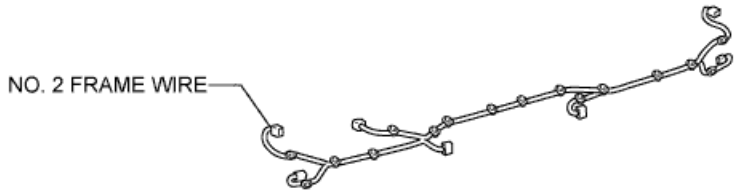

REAR COMBINATION LIGHT ASSEMBLY RH
REAR COMBINATION LIGHT ASSEMBLY LH
x 2
x 2
REAR UPPER BUMPER RETAINER RH
x 2
x 2
REAR UPPER BUMPER RETAINER LH
REAR BUMPER ARM BRACKET
x 3
REAR BUMPER SIDE SUPPORT RH
x 2
REAR BUMPER ARM BRACKET LH
x 3
x 2
REAR BUMPER SIDE SUPPORT LH
REAR NO. 2 BUMPER REINFORCEMENT
P

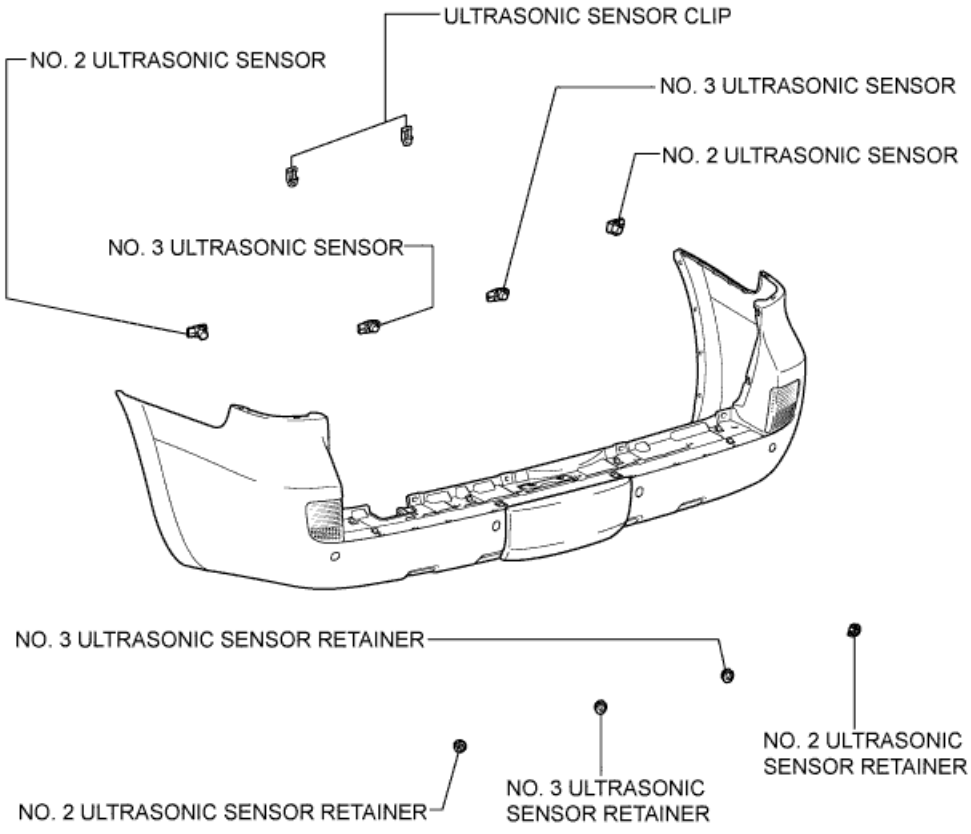
w/ LEXUS Parking Assist-sensor System:

w/o Rear Fog Light:

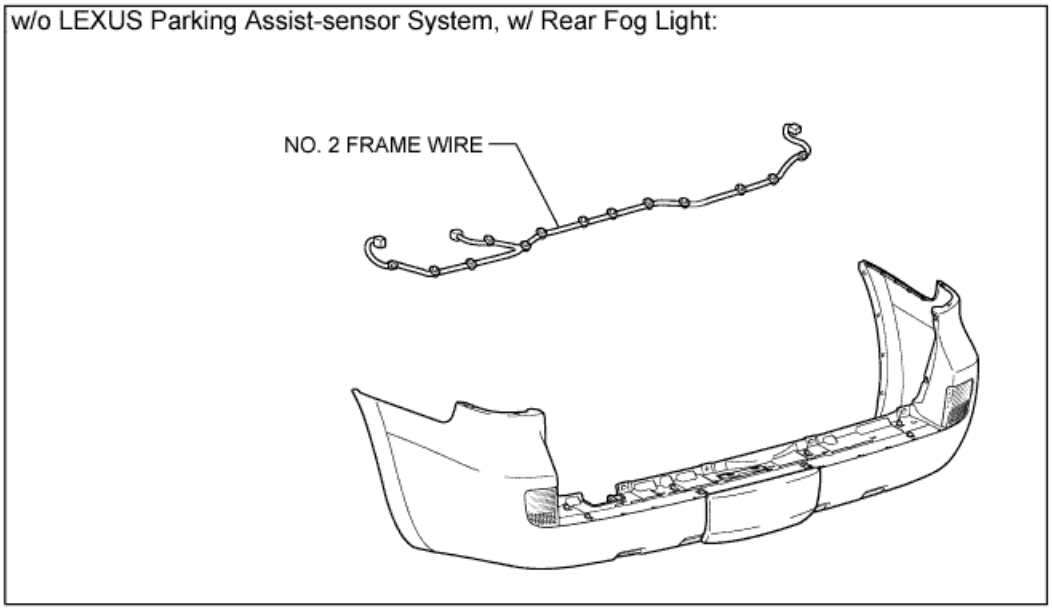


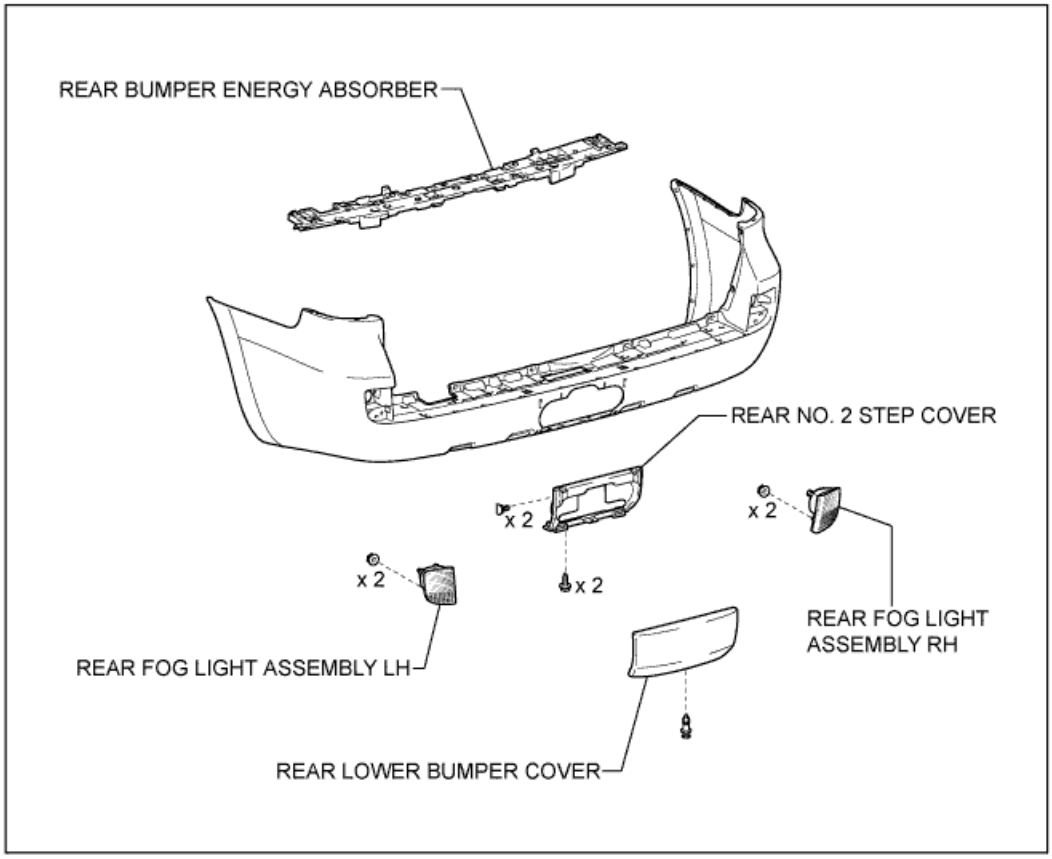
w/ Rear Fog Light:





w/o LEXUS Parking Assist-sensor System, w/ Rear Fog Light:





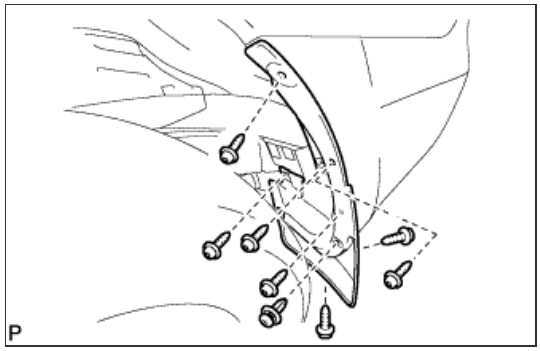
P

for Preparation Click here

1. REMOVE REAR QUARTER PANEL MUDGUARD LH

a. Remove the clip.

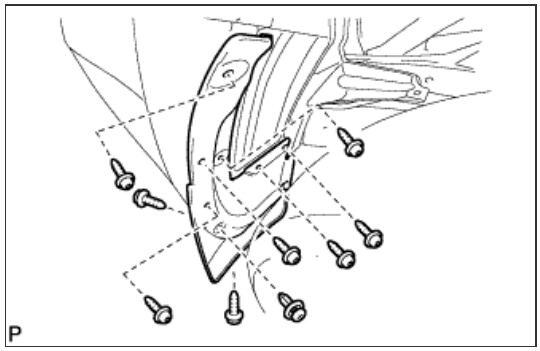
b. Using a T30 "TORX" socket, remove the 7 screws and mudguard.



2. REMOVE REAR QUARTER PANEL MUDGUARD RH

a. Remove the clip.

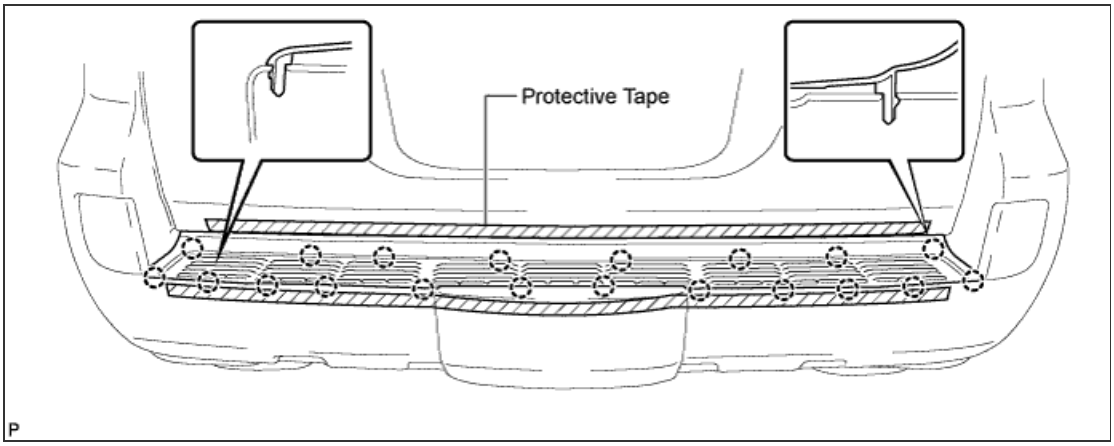
b. Using a T30 "TORX" socket, remove the 8 screws and mudguard.



3. REMOVE REAR NO. 1 BUMPER PLATE

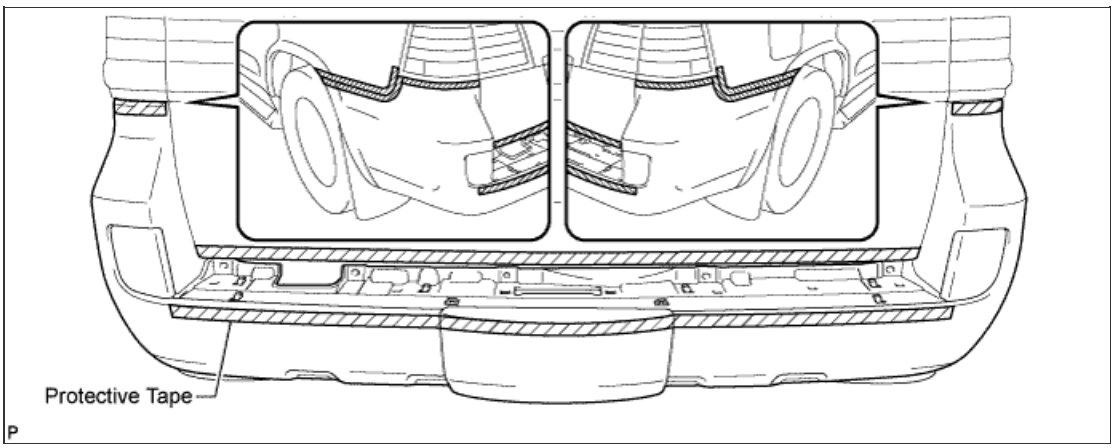
a. Put protective tape around the bumper plate.

b. Detach the 20 claws and remove the bumper plate.

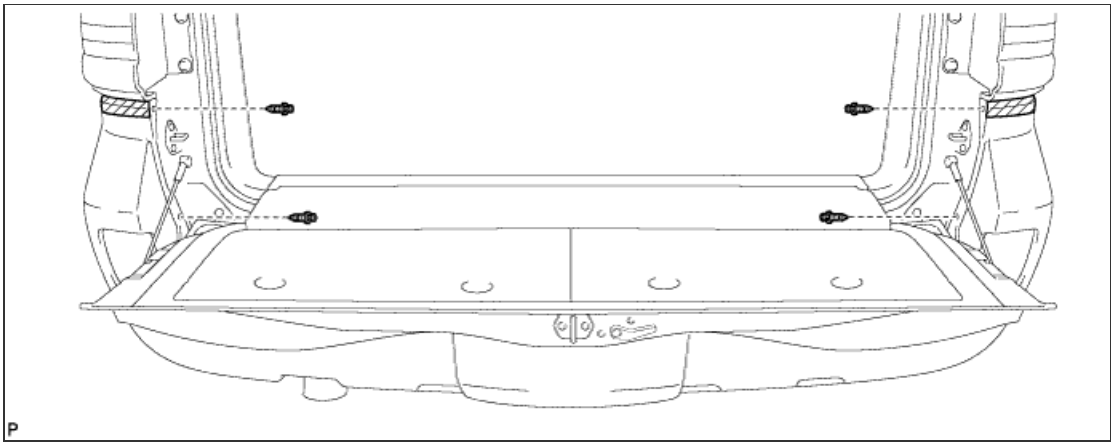


4. REMOVE REAR BUMPER COVER

a. Put protective tape around the bumper cover.



b. Open the tail gate and remove the 4 clips.

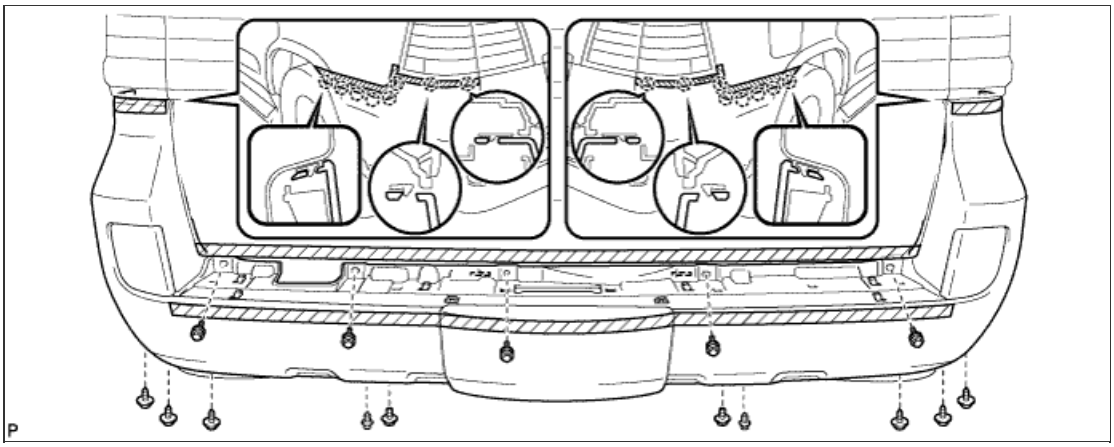


c. Close the tail gate.

d. Remove the 7 bolts, 6 screws and 2 clips.

e. w/o LEXUS Parking Assist-sensor System, w/o Rear Fog Light:
Detach the 16 claws and remove the bumper cover.

f. w/ LEXUS Parking Assist-sensor System or w/ Rear Fog Light:
Detach the 16 claws, disconnect the No. 2 frame wire connector and remove the bumper cover.



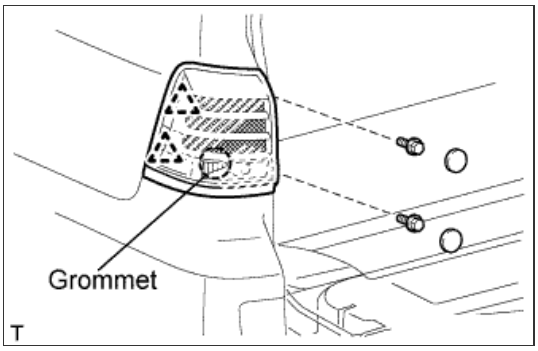
5. REMOVE REAR COMBINATION LIGHT ASSEMBLY LH

a. Remove the 2 covers.

b. Remove the 2 bolts.

c. Detach the 2 clips and remove the rear combination light.

d. Disconnect the connector.



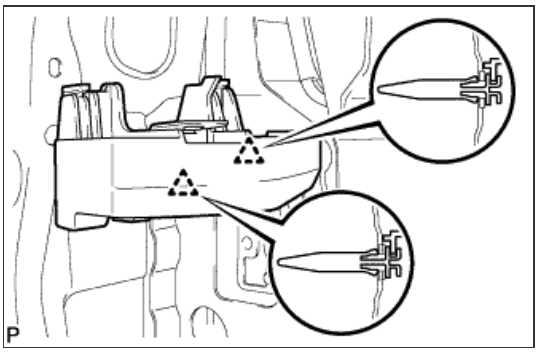
6. REMOVE REAR COMBINATION LIGHT ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

7. REMOVE REAR UPPER BUMPER RETAINER LH

a. Detach the 2 clips and remove the bumper retainer.



8. REMOVE REAR UPPER BUMPER RETAINER RH

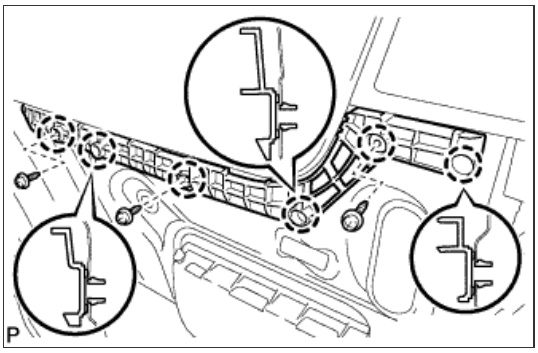
HINT:

Use the same procedures described for the LH side.

9. REMOVE REAR BUMPER SIDE SUPPORT LH

a. Remove the 3 screws.

b. Detach the 6 claws and remove the bumper side support.



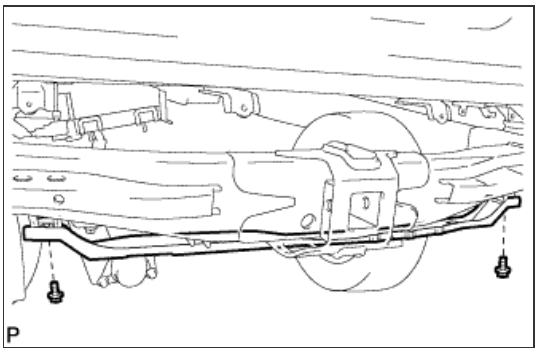
10. REMOVE REAR BUMPER SIDE SUPPORT RH

HINT:

Use the same procedures described for the LH side.

11. REMOVE REAR NO. 2 BUMPER REINFORCEMENT

a. Remove the 2 bolts and bumper reinforcement.

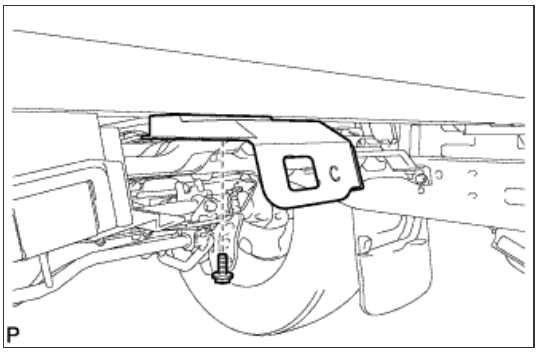


12. REMOVE REAR BUMPER ARM BRACKET

HINT:

Use the same procedure to remove the bumper arm bracket on the other side.

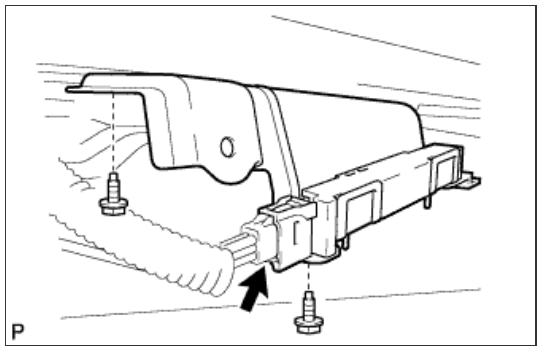
a. Remove the bolt and bumper arm bracket.



13. REMOVE REAR BUMPER ARM BRACKET LH

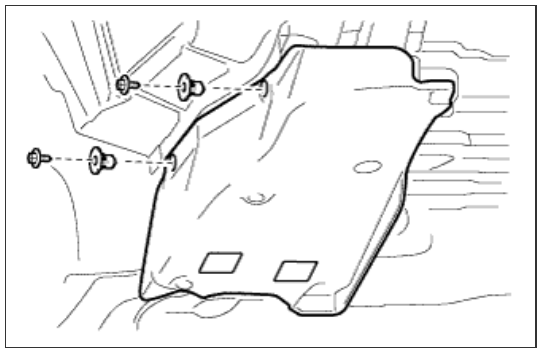
a. Disconnect the connector.

b. Remove the 2 bolts and bumper arm bracket.



14. REMOVE NO. 2 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR

a. Remove the 2 screws, 2 grommets and protector.



15. REMOVE NO. 1 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR

HINT:

Use the same procedures described for the No. 2 luggage compartment side cover protector.

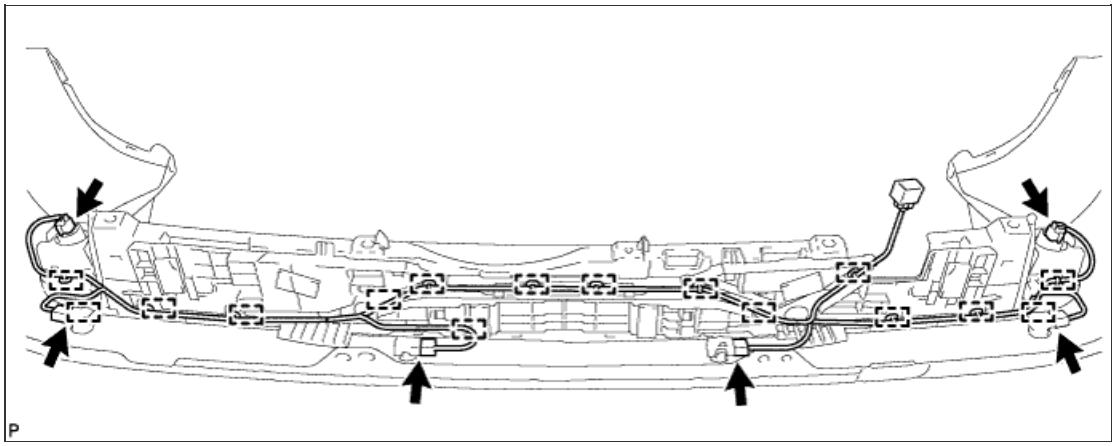
for Preparation Click here

1. REMOVE NO. 2 FRAME WIRE

a. w/ LEXUS Parking Assist-sensor System, w/ Rear Fog Light:
Remove the No. 2 frame wire.

i. Disconnect the 6 connectors.

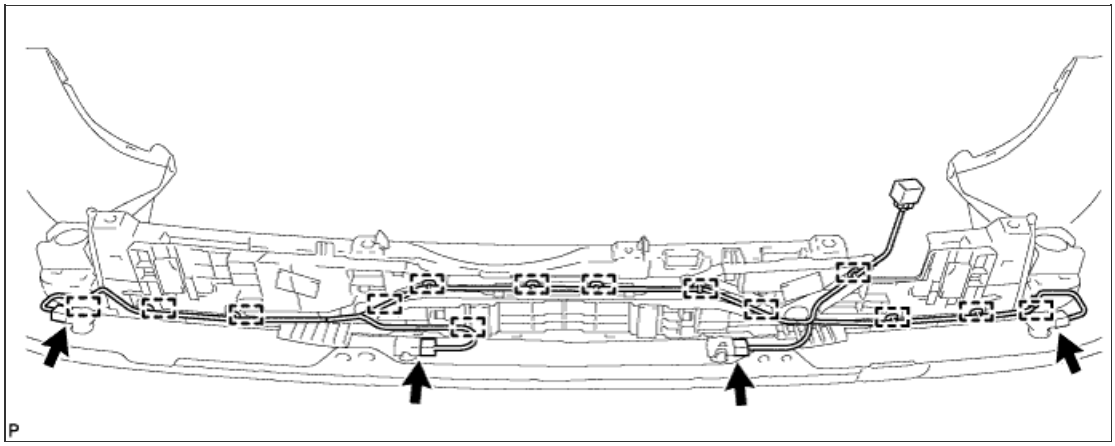
ii. Detach the 16 clamps and remove the frame wire.



b. w/ LEXUS Parking Assist-sensor System, w/o Rear Fog Light:
Remove the No. 2 frame wire.

i. Disconnect the 4 connectors.

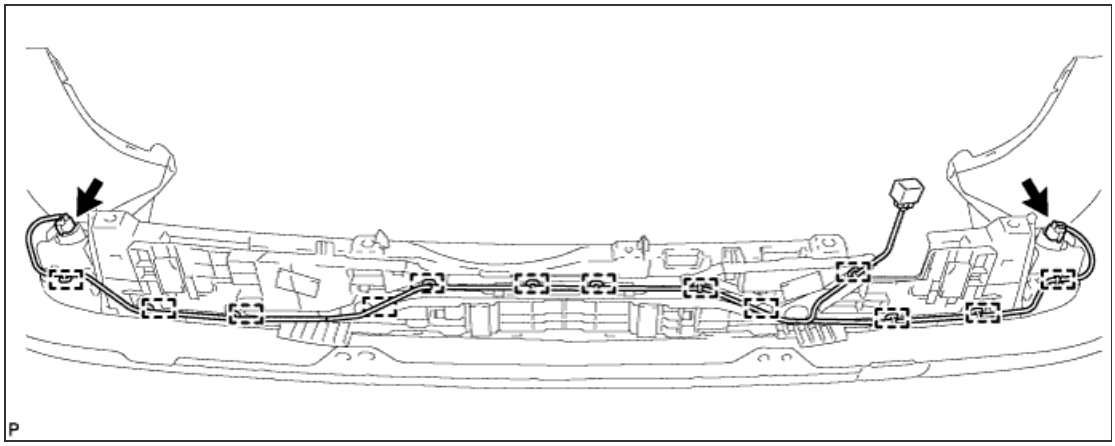
ii. Detach the 14 clamps and remove the frame wire.



c. w/o LEXUS Parking Assist-sensor System, w/ Rear Fog Light:
Remove the No. 2 frame wire.

i. Disconnect the 2 connectors.

ii. Detach the 13 clamps and remove the frame wire.



2. REMOVE NO. 2 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

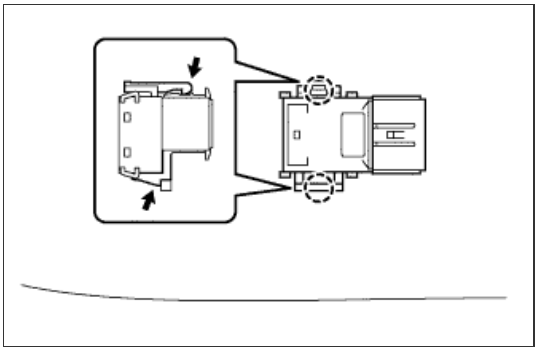
HINT:

Use the same procedure to remove the No. 2 ultrasonic sensor on the other side.

a. While pushing down on the lever with a finger to release the one claw, detach the claw on the other side to remove the ultrasonic sensor.

HINT:

The type of claw on the top and the type of claw on the bottom of the sensor are different. Observe the claws carefully before removing the sensor.



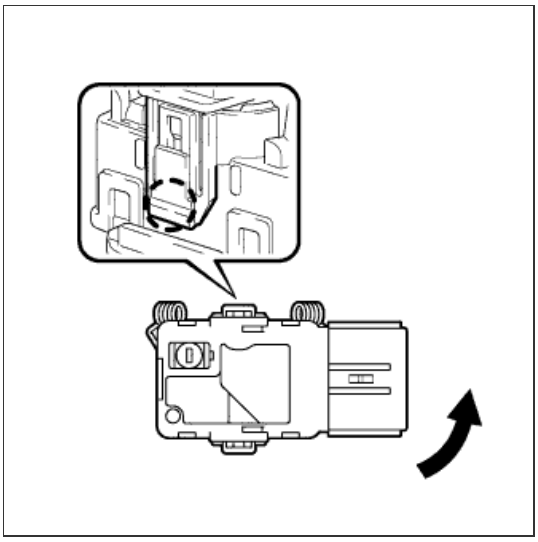
3. REMOVE NO. 3 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to remove the No. 3 ultrasonic sensor on the other side.

a. Remove the ultrasonic sensor clip.

b. Detach the claw and remove the ultrasonic sensor as shown in the illustration.

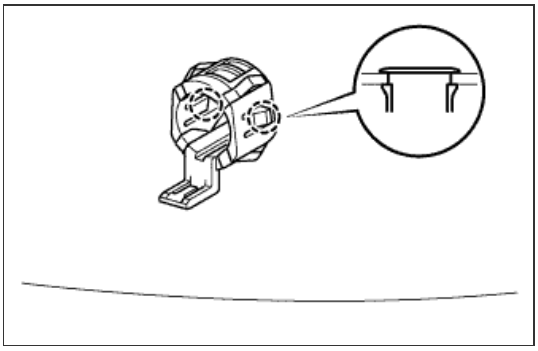


4. REMOVE NO. 2 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to remove the No. 2 ultrasonic sensor retainer on the other side.

a. Detach the 2 claws and remove the ultrasonic sensor retainer from the rear bumper cover.

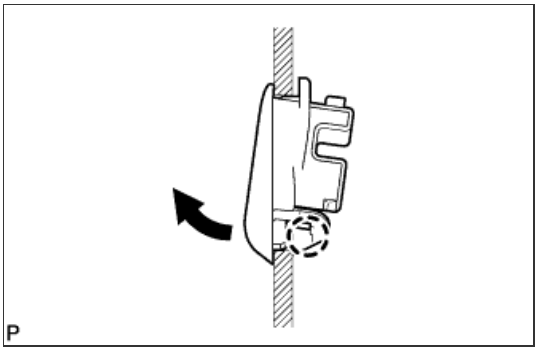


5. REMOVE NO. 3 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

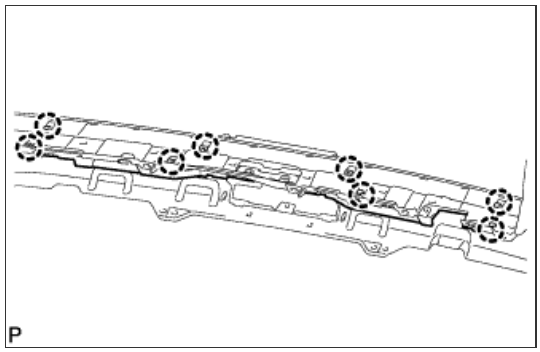
Use the same procedure to remove the No. 3 ultrasonic sensor retainer on the other side.

a. Detach the claw and remove the ultrasonic sensor retainer from the rear bumper cover.



6. REMOVE REAR BUMPER ENERGY ABSORBER

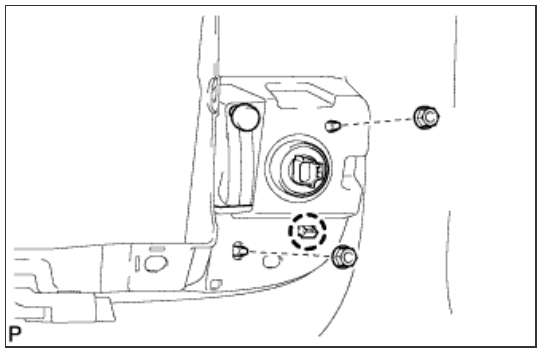
a. Detach the 8 claws and remove the energy absorber.



7. REMOVE REAR FOG LIGHT ASSEMBLY LH

a. Remove the 2 nuts.

b. Detach the claw and remove the fog light.



8. REMOVE REAR FOG LIGHT ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

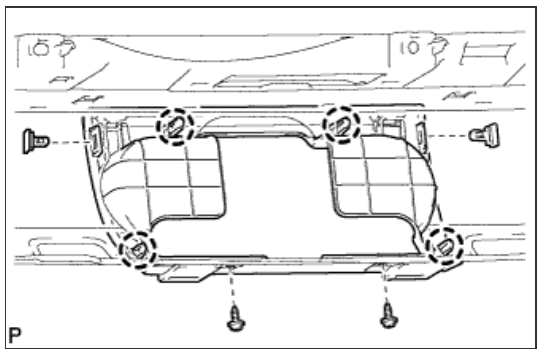
9. REMOVE REAR LOWER BUMPER COVER

a. Remove the clip and rear lower bumper cover.

10. REMOVE REAR NO. 2 STEP COVER

a. Remove the 2 screws and 2 clips.

b. Detach the 4 claws and remove the step cover.

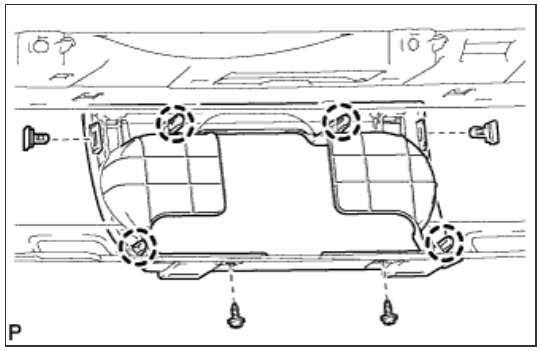


for Preparation Click here

1. INSTALL REAR NO. 2 STEP COVER

a. Attach the 4 claws to install the step cover.

b. Install the 2 screws and 2 clips.



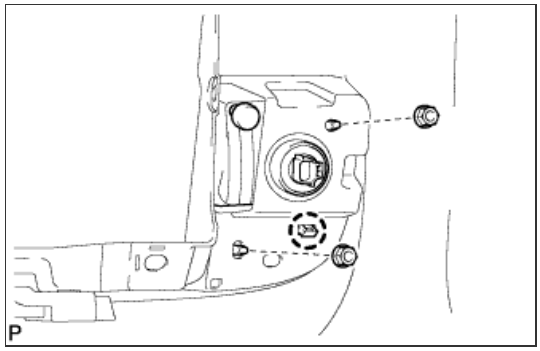
2. INSTALL REAR LOWER BUMPER COVER

a. Install the rear lower bumper cover with the clip.

3. INSTALL REAR FOG LIGHT ASSEMBLY LH

a. Attach the claw to install the fog light.

b. Install the 2 nuts.



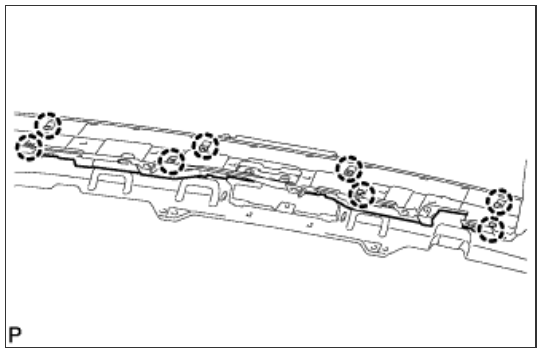
4. INSTALL REAR FOG LIGHT ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

5. INSTALL REAR BUMPER ENERGY ABSORBER

a. Attach the 8 claws to install the energy absorber.



6. INSTALL NO. 2 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

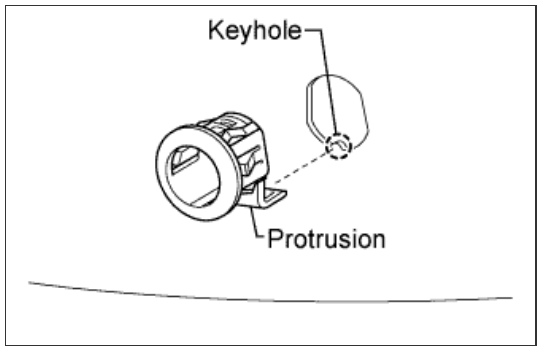
Use the same procedure to install the No. 2 ultrasonic sensor retainer on the other side.

a. Align the keyhole and protrusion as shown in the illustration.

b. Install the ultrasonic sensor retainer to the rear bumper.

NOTICE:

Do not damage the bumper with the protrusion when installing the retainer.

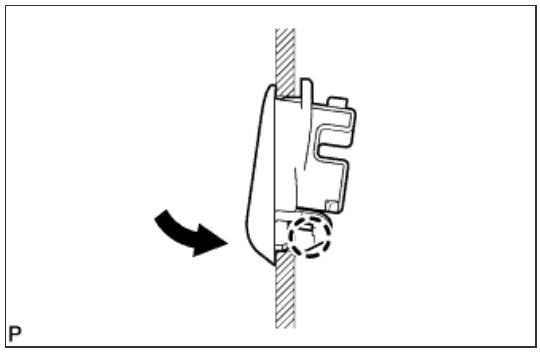


7. INSTALL NO. 3 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to install the No. 3 ultrasonic sensor retainer on the other side.

a. Attach the claw to install the ultrasonic sensor retainer as shown in the illustration.



8. INSTALL NO. 2 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

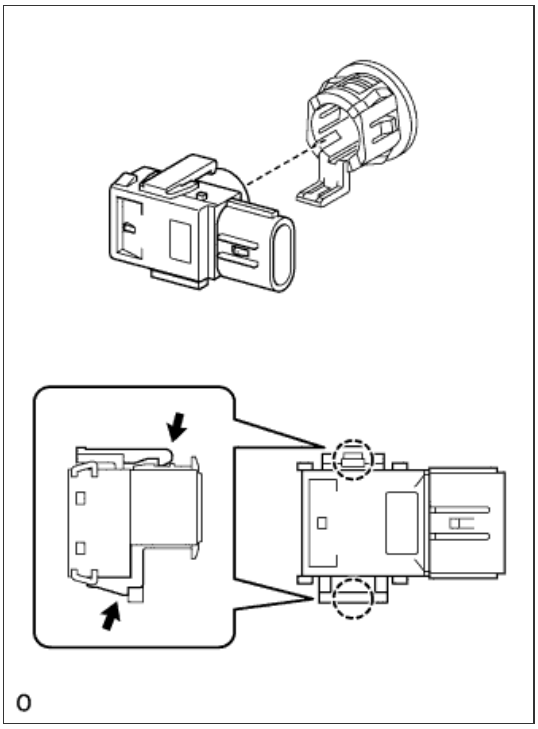
HINT:

Use the same procedure to install the No. 2 ultrasonic sensor on the other side.

a. Attach the 2 claws to install the ultrasonic sensor.

b. Connect the connector.

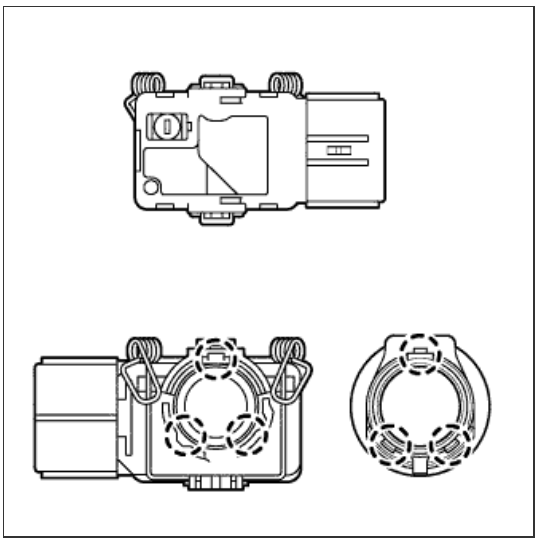
c. Install the ultrasonic sensor clip.



9. INSTALL NO. 3 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to install the No. 3 ultrasonic sensor on the other side.



a. Attach the 3 claws to install the ultrasonic sensor.

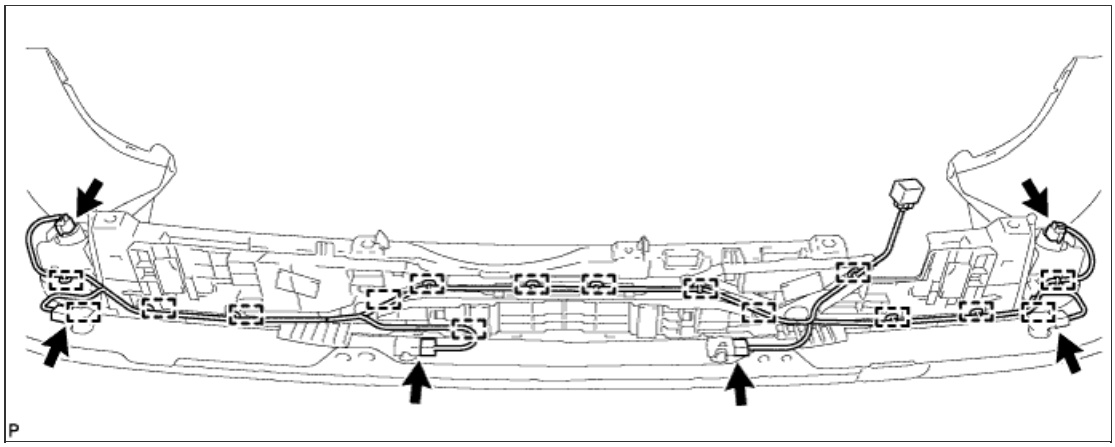
b. Connect the connector.

10. INSTALL NO. 2 FRAME WIRE

a. w/ LEXUS Parking Assist-sensor System, w/ Rear Fog Light:
Install the No. 2 frame wire.

i. Attach the 16 clamps to install the frame wire.

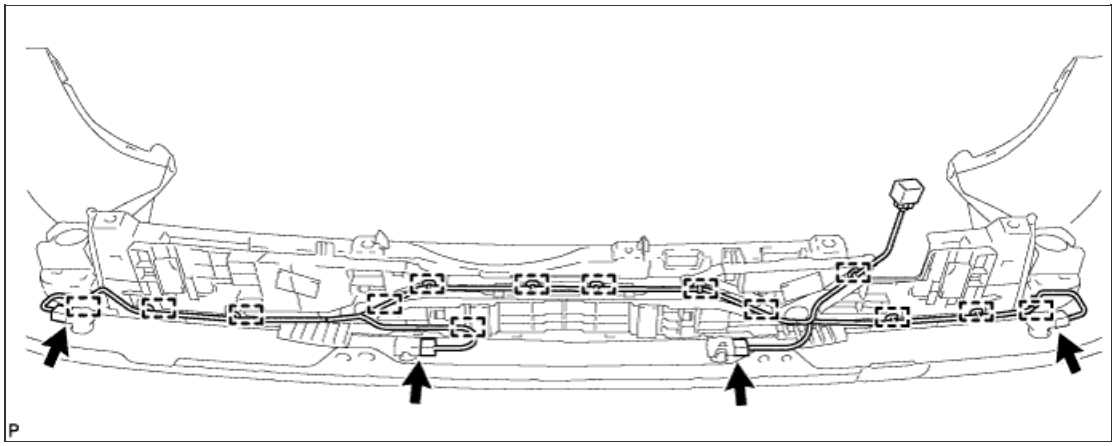
ii. Connect the 6 connectors.



b. w/ LEXUS Parking Assist-sensor System, w/o Rear Fog Light:
Install the No. 2 frame wire.

i. Attach the 14 clamps to install the frame wire.

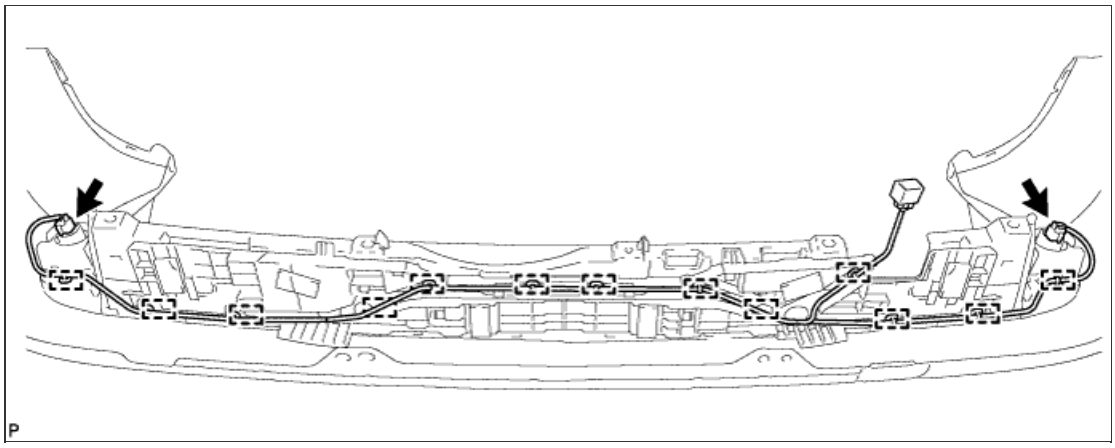
ii. Connect the 4 connectors.



c. w/o LEXUS Parking Assist-sensor System, w/ Rear Fog Light:
Install the No. 2 frame wire.

i. Attach the 13 clamps to install the frame wire.

ii. Connect the 2 connectors.


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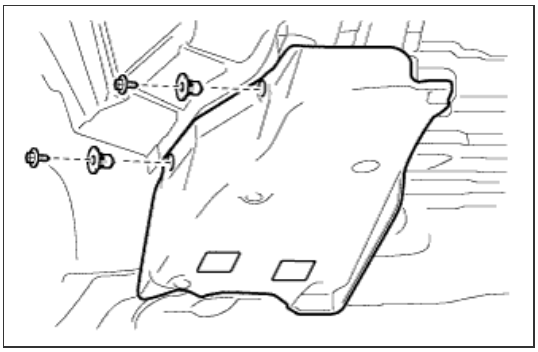
HINT:

A bolt without a torque specification is shown in the standard bolt chart (Click here).

1. INSTALL NO. 2 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR

a. Install the protector with 2 new grommets.

b. Install the 2 screws.



2. INSTALL NO. 1 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR

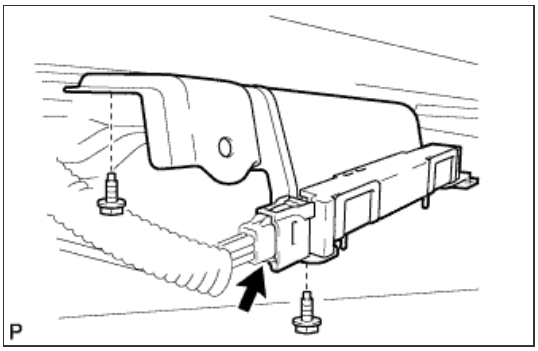
HINT:

Use the same procedures described for the No. 2 luggage compartment side cover protector.

3. INSTALL REAR BUMPER ARM BRACKET LH

a. Install the bumper arm bracket with the 2 bolts.

b. Connect the connector.

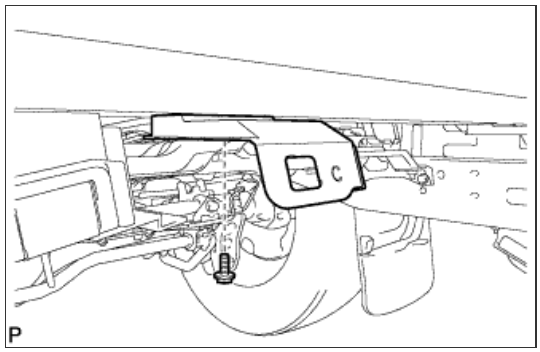


4. INSTALL REAR BUMPER ARM BRACKET

HINT:

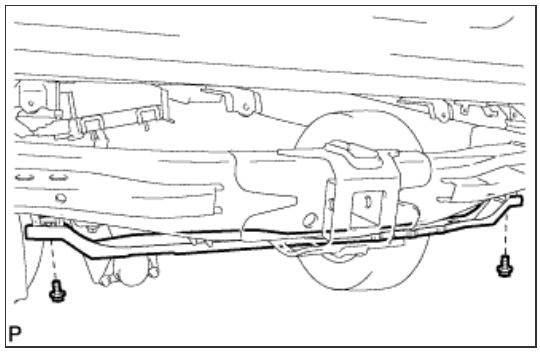
Use the same procedure to install the bumper arm bracket on the other side.

a. Install the bumper arm bracket with the bolt.



5. INSTALL REAR NO. 2 BUMPER REINFORCEMENT

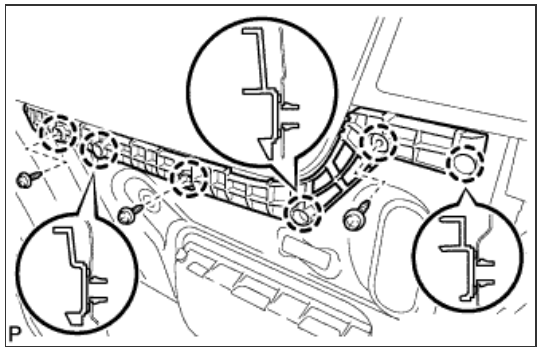
a. Install the bumper reinforcement with the 2 bolts.



6. INSTALL REAR BUMPER SIDE SUPPORT LH

a. Attach the 6 claws to install the bumper side support.

b. Install the 3 screws.



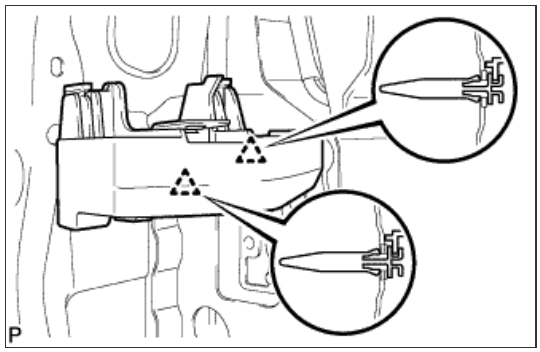
7. INSTALL REAR BUMPER SIDE SUPPORT RH

HINT:

Use the same procedures described for the LH side.

8. INSTALL REAR UPPER BUMPER RETAINER LH

a. Attach the 2 clips to install the bumper retainer.



9. INSTALL REAR UPPER BUMPER RETAINER RH

HINT:

Use the same procedures described for the LH side.

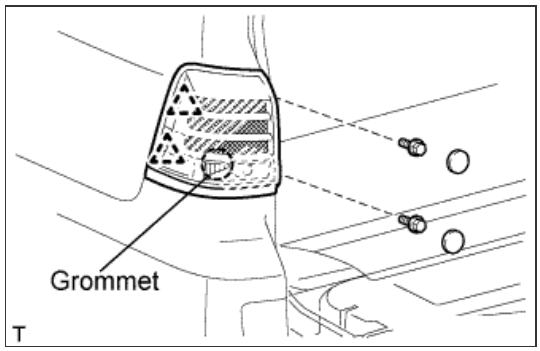
10. INSTALL REAR COMBINATION LIGHT ASSEMBLY LH

a. Connect the connector.

b. Attach the 2 clips to install the rear combination light.

c. Install the 2 bolts.

d. Install the 2 covers.



11. INSTALL REAR COMBINATION LIGHT ASSEMBLY RH

HINT:

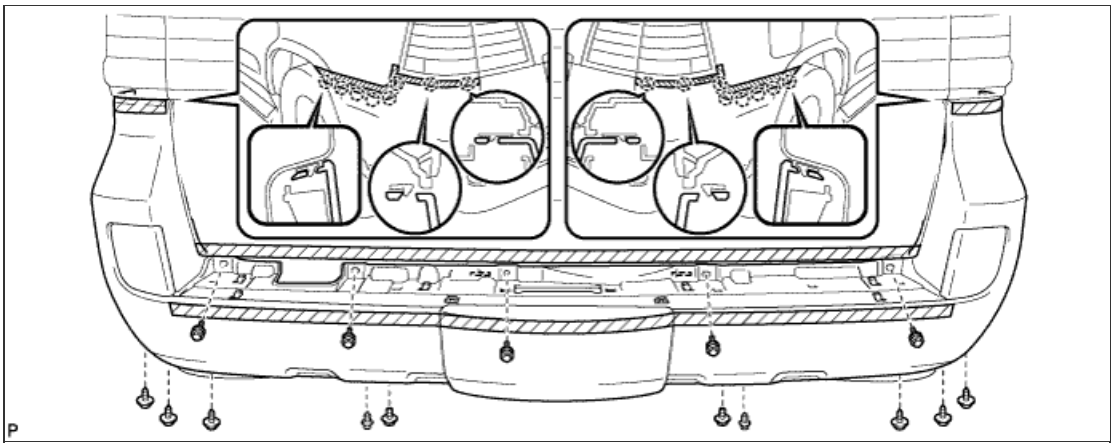
Use the same procedures described for the LH side.

12. INSTALL REAR BUMPER COVER

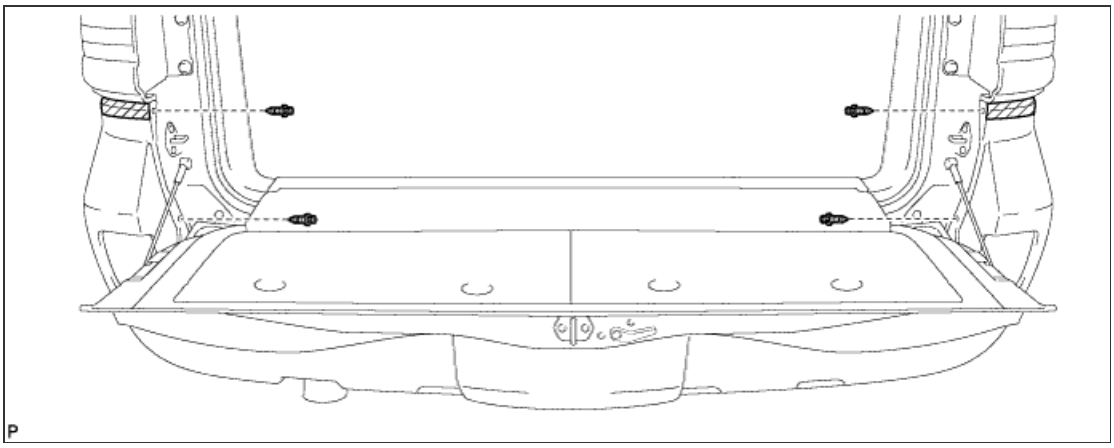
a. w/o LEXUS Parking Assist-sensor System, w/o Fog Light:
Attach the 16 claws to install the bumper cover.

b. w/ LEXUS Parking Assist-sensor System or w/ Fog Light:
Connect the No. 2 frame wire connector and attach the 16 claws to install the bumper cover.

c. Install the 7 bolts, 6 screws and 2 clips.



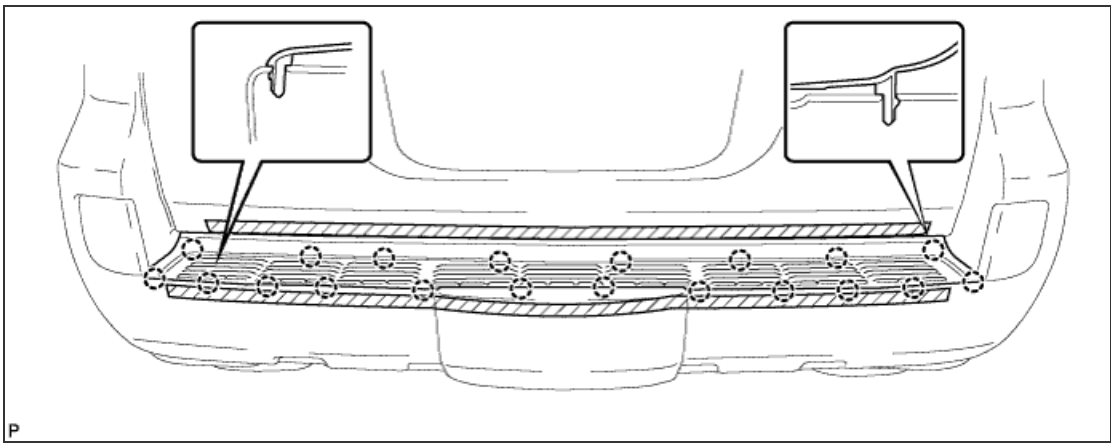
d. Open the tail gate and install the 4 clips.



e. Close the tail gate.

13. INSTALL REAR NO. 1 BUMPER PLATE

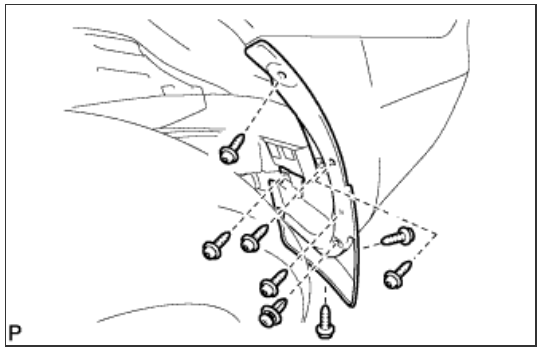
a. Attach the 20 claws to install the bumper plate.



14. INSTALL REAR QUARTER PANEL MUDGUARD LH

a. Install the mudguard with the clip.

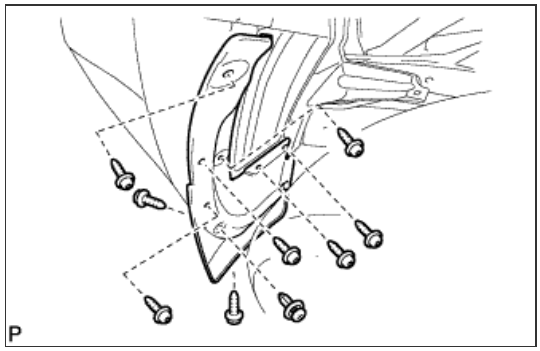
b. Using a T30 "TORX" socket, install the 7 screws.



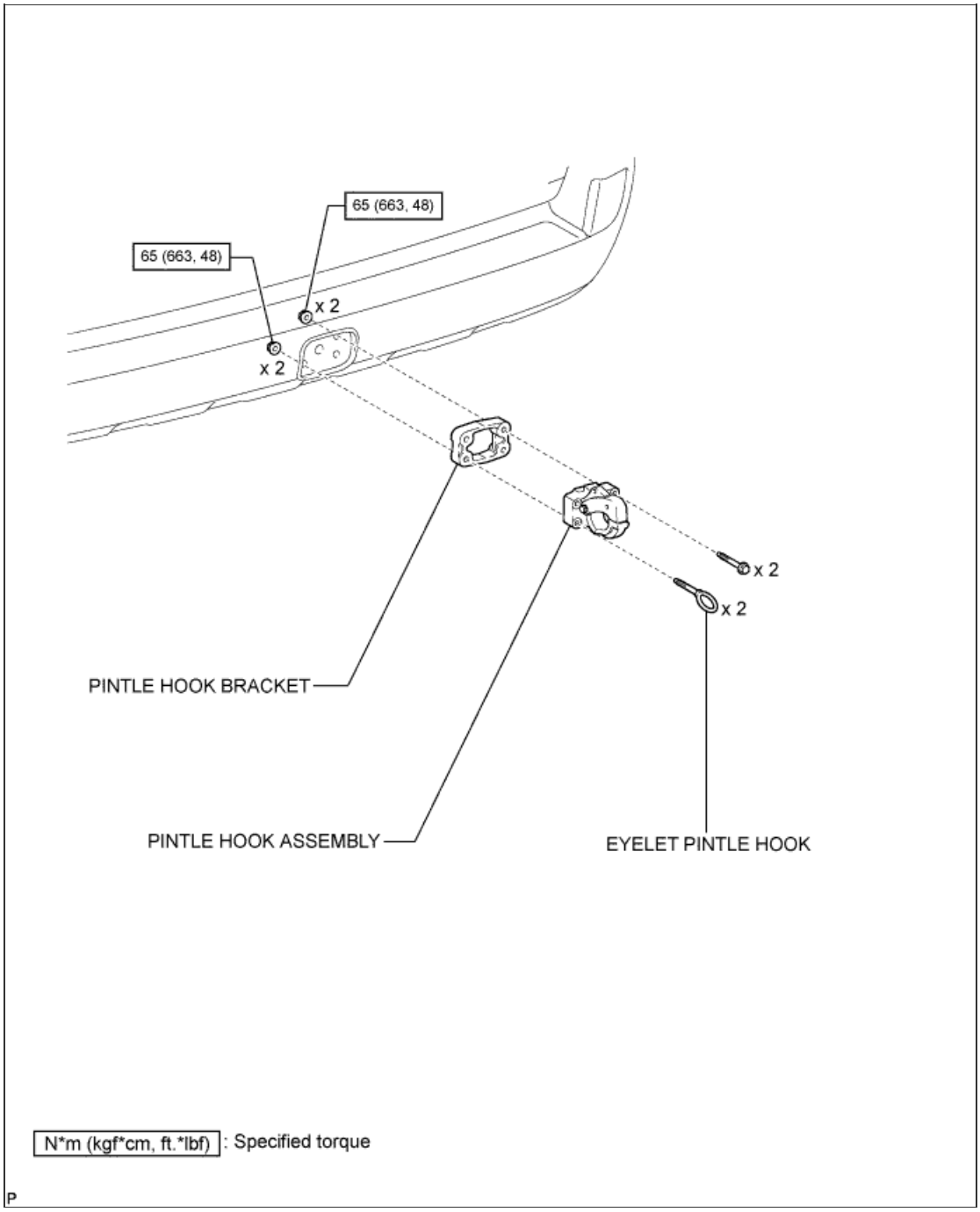
15. INSTALL REAR QUARTER PANEL MUDGUARD RH

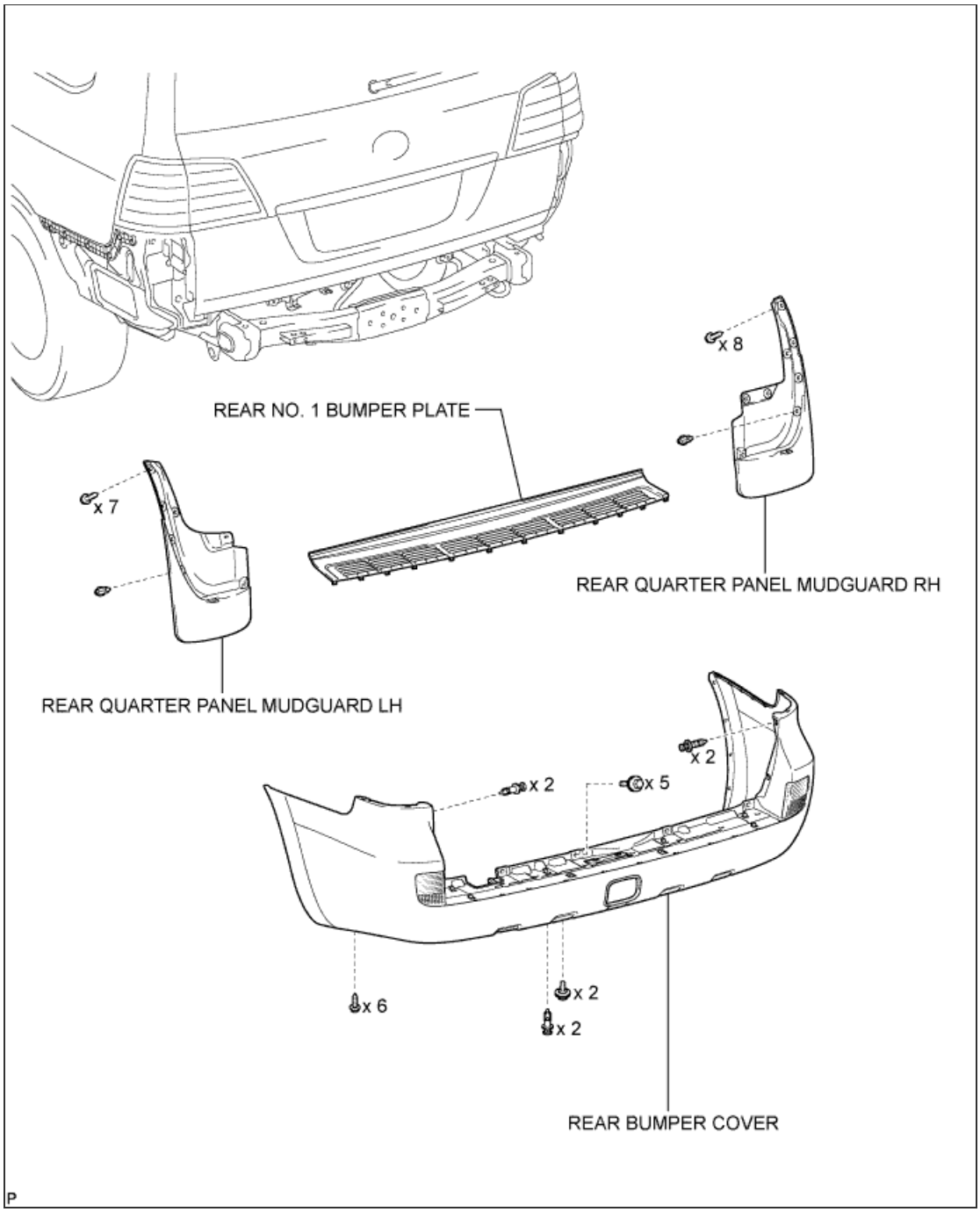
a. Install the mudguard with the clip.

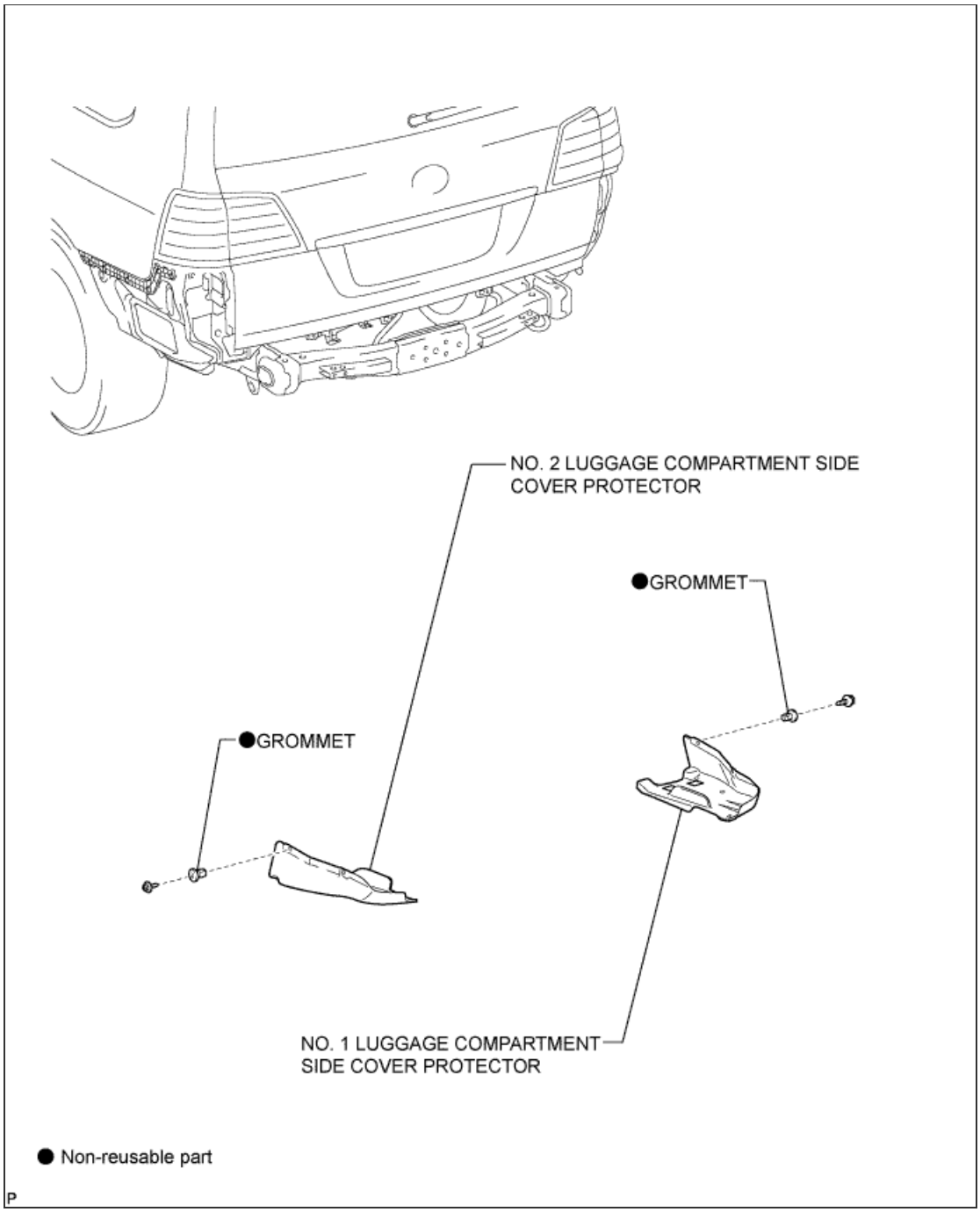
b. Using a T30 "TORX" socket, install the 8 screws.

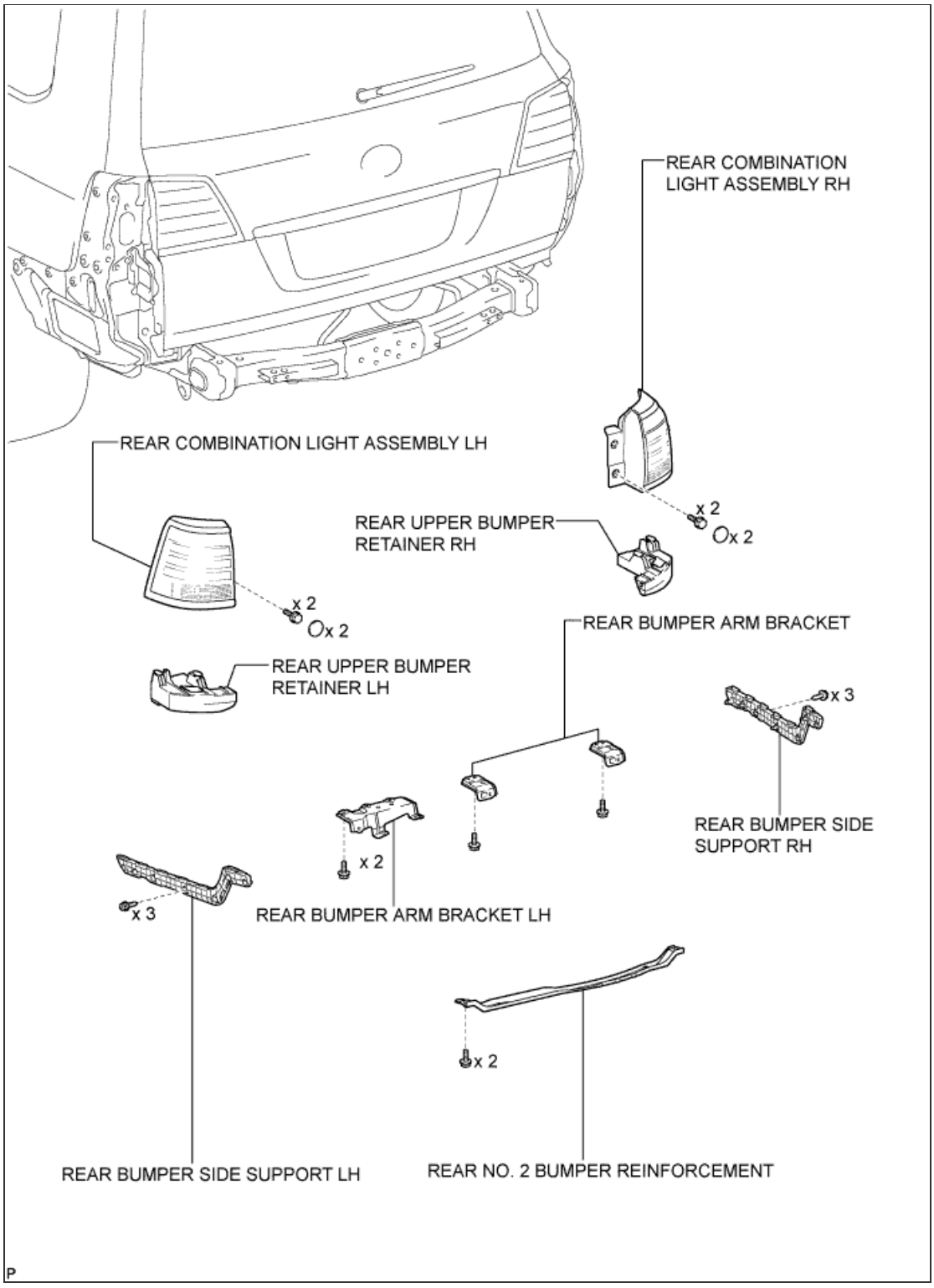


for Preparation Click here



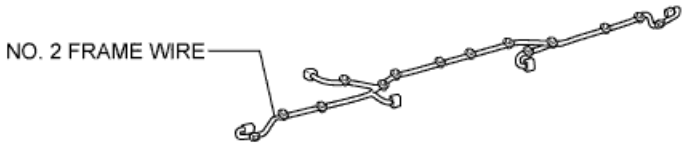

x 8
REAR NO. 1 BUMPER PLATE
x 7
REAR QUARTER PANEL MUDGUARD RH
REAR QUARTER PANEL MUDGUARD LH
x 2
x 2
x 5
x 6
x 2
x 2
REAR BUMPER COVER
P


NO. 2 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR
GROMMET
GROMMET
NO. 1 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR
● Non-reusable part
P

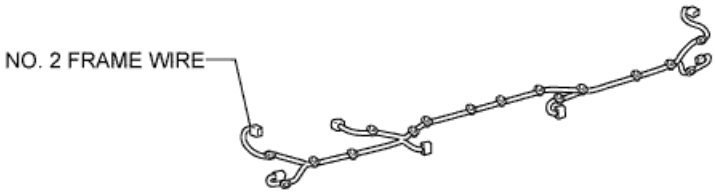

REAR COMBINATION LIGHT ASSEMBLY RH
REAR COMBINATION LIGHT ASSEMBLY LH
x 2
Ox 2
REAR UPPER BUMPER RETAINER RH
x 2
Ox 2
REAR BUMPER ARM BRACKET
REAR UPPER BUMPER RETAINER LH
x 3
REAR BUMPER SIDE SUPPORT RH
x 2
x 3
REAR BUMPER ARM BRACKET LH
x 2
REAR BUMPER SIDE SUPPORT LH
REAR NO. 2 BUMPER REINFORCEMENT
P

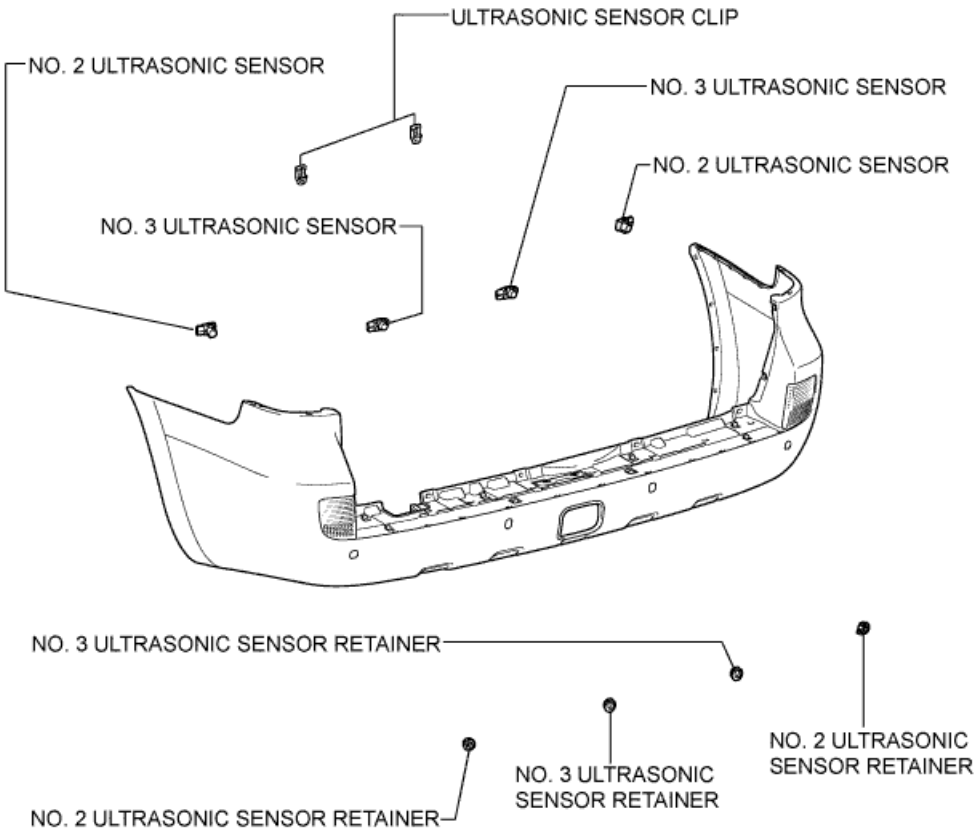
w/ LEXUS Parking Assist-sensor System:

w/o Rear Fog Light:

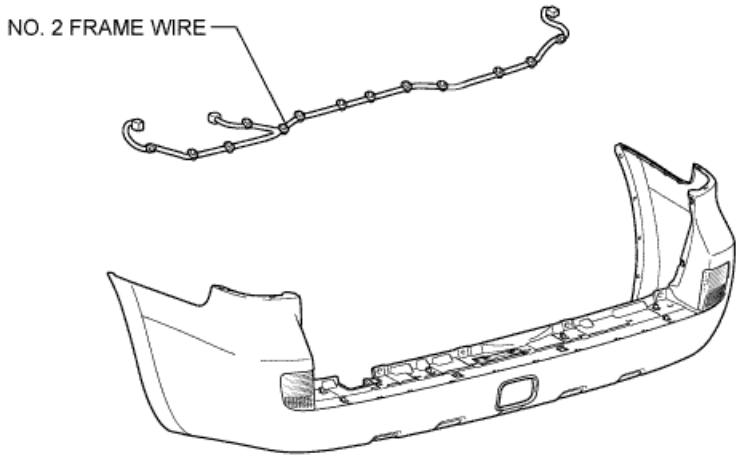


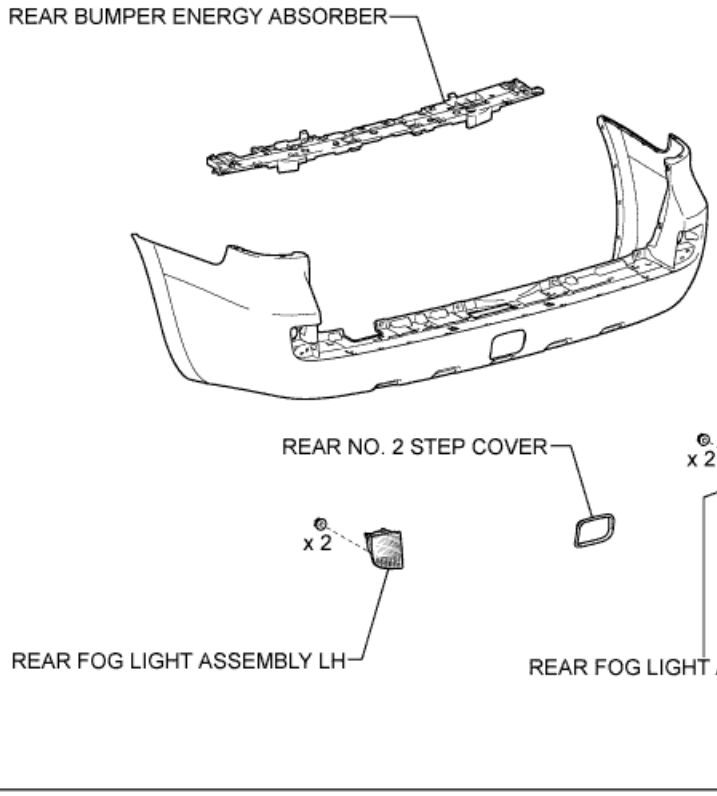
w/ Rear Fog Light:





w/o LEXUS Parking Assist-sensor System, w/ Rear Fog Light:





P

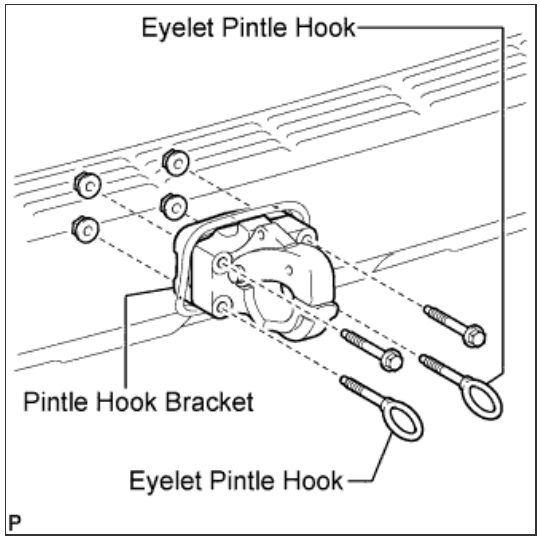
for Preparation Click here

1. REMOVE PINTLE HOOK ASSEMBLY

a. For vehicles with a spare tire installed to the underbody, remove the spare tire.

b. Remove the 4 nuts.

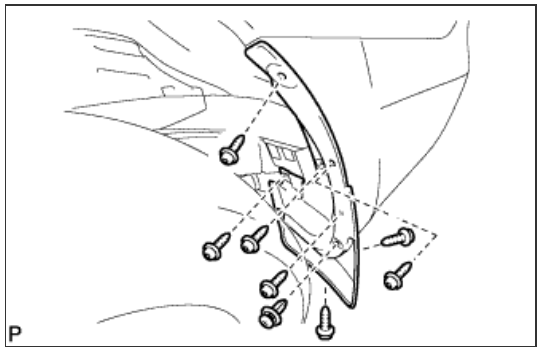
c. Remove the 2 bolts, 2 eyelet pintle hooks, pintle hook assembly and pintle hook bracket.



2. REMOVE REAR QUARTER PANEL MUDGUARD LH

a. Remove the clip.

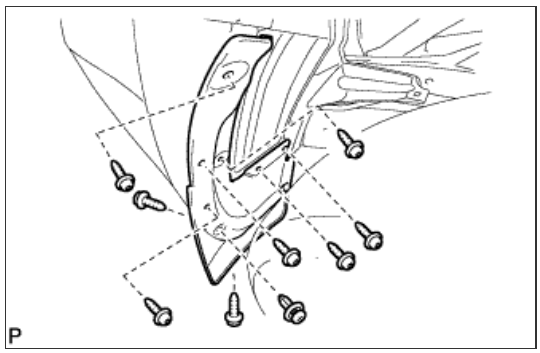
b. Using a T30 "TORX" socket, remove the 7 screws and mudguard.



3. REMOVE REAR QUARTER PANEL MUDGUARD RH

a. Remove the clip.

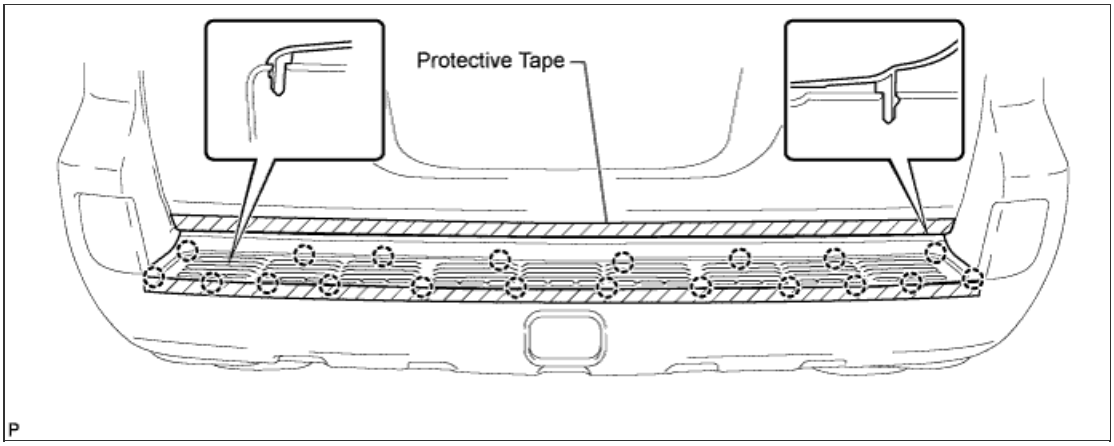
b. Using a T30 "TORX" socket, remove the 8 screws and mudguard.



4. REMOVE REAR NO. 1 BUMPER PLATE

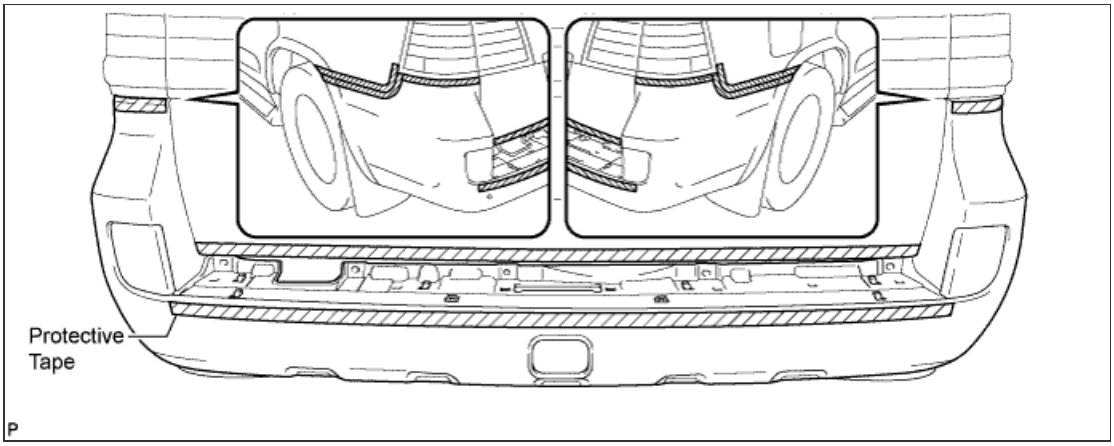
a. Put protective tape around the bumper plate.

b. Detach the 20 claws and remove the bumper plate.

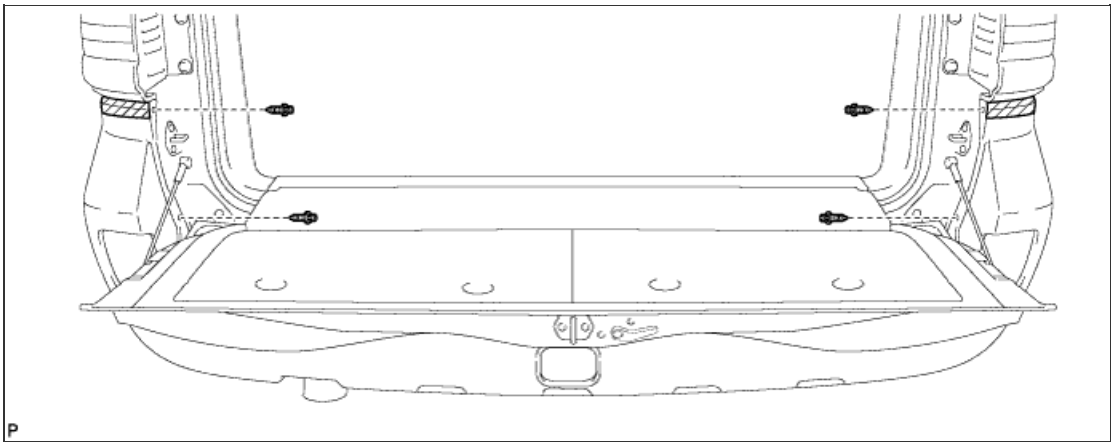


5. REMOVE REAR BUMPER COVER

a. Put protective tape around the bumper cover.



b. Open the tail gate and remove the 4 clips.

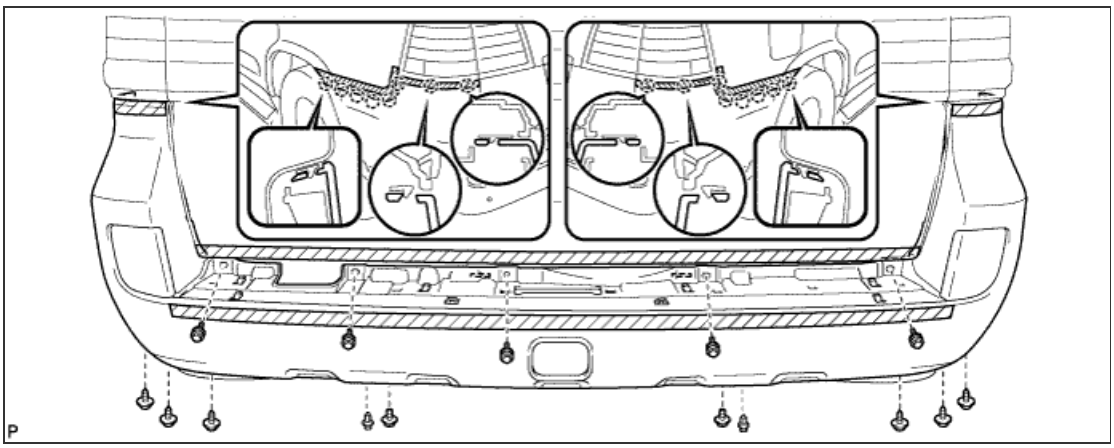


c. Close the tail gate.

d. Remove the 7 bolts, 6 screws and 2 clips.

e. w/o LEXUS Parking Assist-sensor System, w/o Rear Fog Light:
Detach the 16 claws and remove the bumper cover.

f. w/ LEXUS Parking Assist-sensor System or w/ Rear Fog Light:
Detach the 16 claws, disconnect the No. 2 frame wire connector and remove the bumper cover.



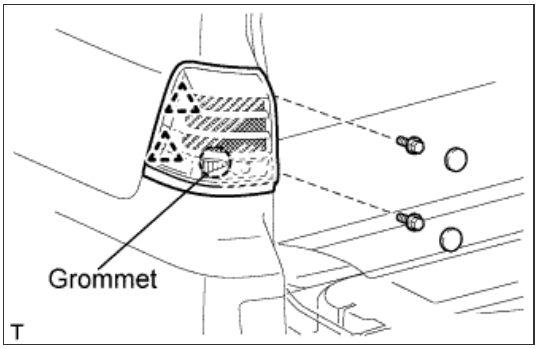
6. REMOVE REAR COMBINATION LIGHT ASSEMBLY LH

a. Remove the 2 covers.

b. Remove the 2 bolts.

c. Detach the 2 clips and remove the rear combination light.

d. Disconnect the connector.



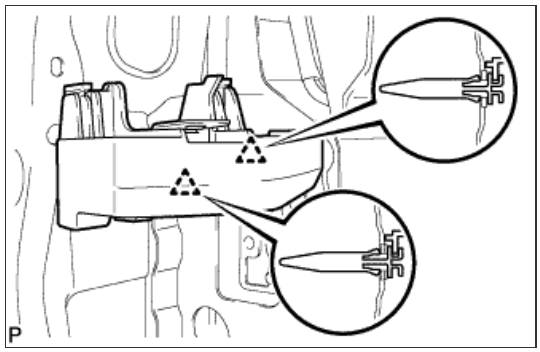
7. REMOVE REAR COMBINATION LIGHT ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

8. REMOVE REAR UPPER BUMPER RETAINER LH

a. Detach the 2 clips and remove the bumper retainer.



9. REMOVE REAR UPPER BUMPER RETAINER RH

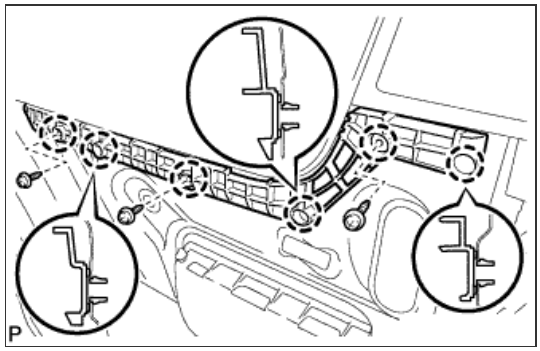
HINT:

Use the same procedures described for the LH side.

10. REMOVE REAR BUMPER SIDE SUPPORT LH

a. Remove the 3 screws.

b. Detach the 6 claws and remove the bumper side support.



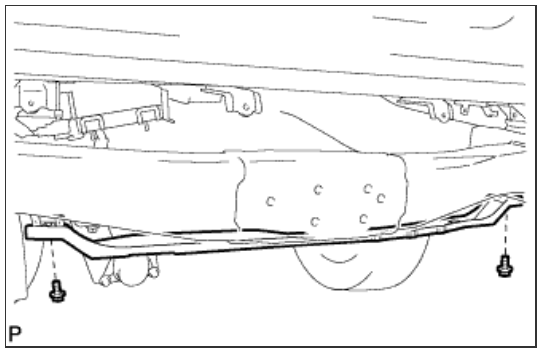
11. REMOVE REAR BUMPER SIDE SUPPORT RH

HINT:

Use the same procedures described for the LH side.

12. REMOVE REAR NO. 2 BUMPER REINFORCEMENT

a. Remove the 2 bolts and bumper reinforcement.

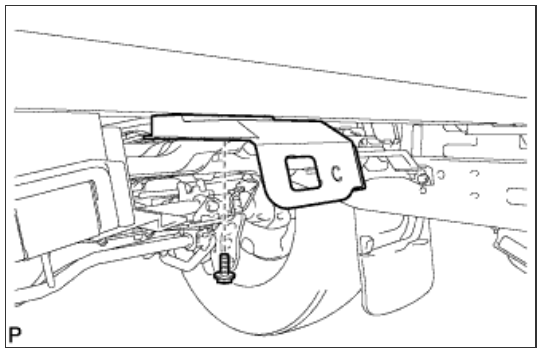


13. REMOVE REAR BUMPER ARM BRACKET

HINT:

Use the same procedure to remove the bumper arm bracket on the other side.

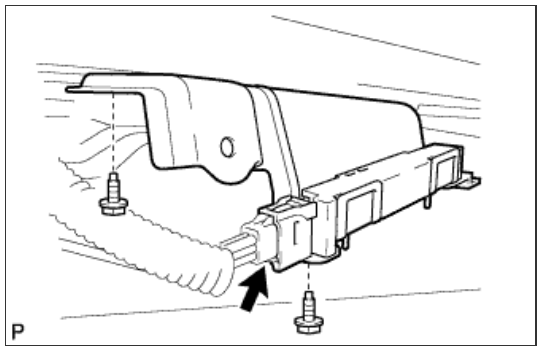
a. Remove the bolt and bumper arm bracket.



14. REMOVE REAR BUMPER ARM BRACKET LH

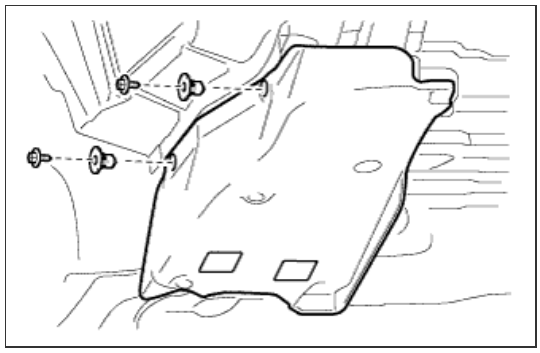
a. Disconnect the connector.

b. Remove the 2 bolts and bumper arm bracket.



15. REMOVE NO. 2 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR

a. Remove the 2 screws, 2 grommets and protector.



16. REMOVE NO. 1 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR

HINT:

Use the same procedures described for the No. 2 luggage compartment side cover protector.

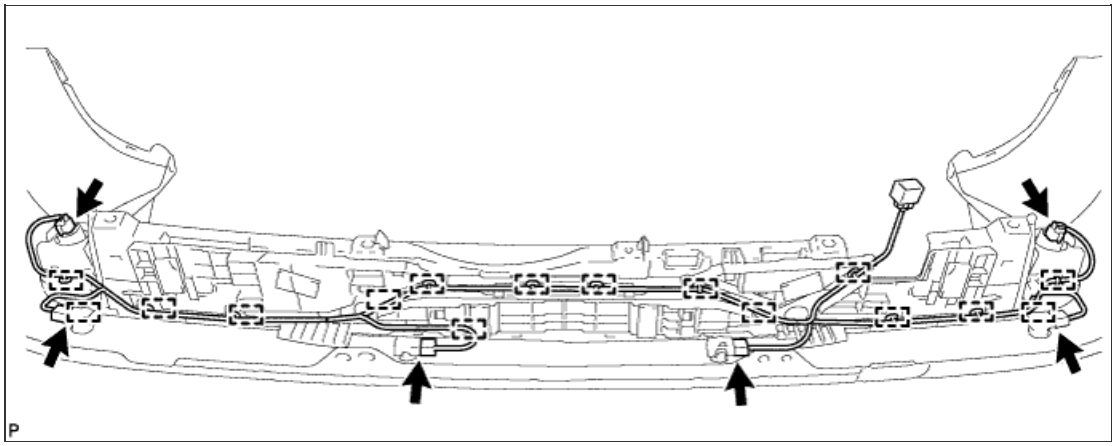
for Preparation Click here

1. REMOVE NO. 2 FRAME WIRE

a. w/ LEXUS Parking Assist-sensor System, w/ Rear Fog Light:
Remove the No. 2 frame wire.

i. Disconnect the 6 connectors.

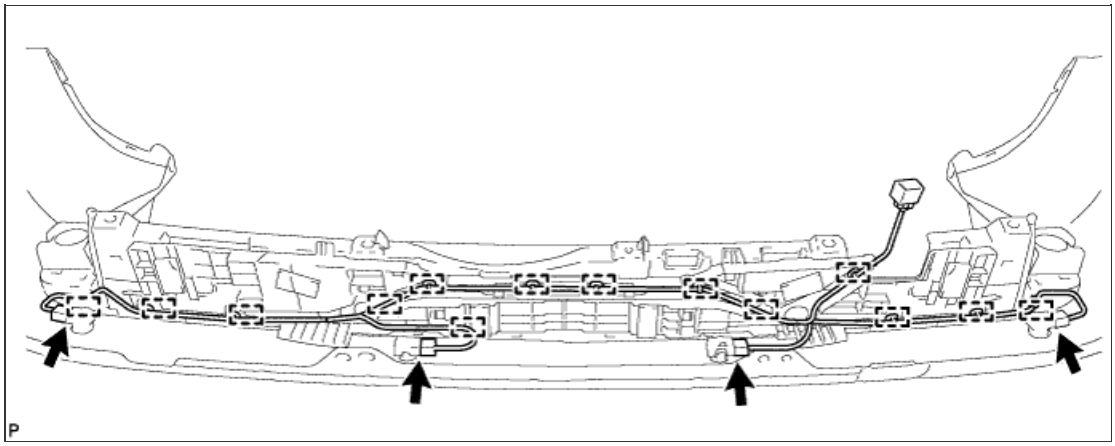
ii. Detach the 16 clamps and remove the frame wire.



b. w/ LEXUS Parking Assist-sensor System, w/o Rear Fog Light:
Remove the No. 2 frame wire.

i. Disconnect the 4 connectors.

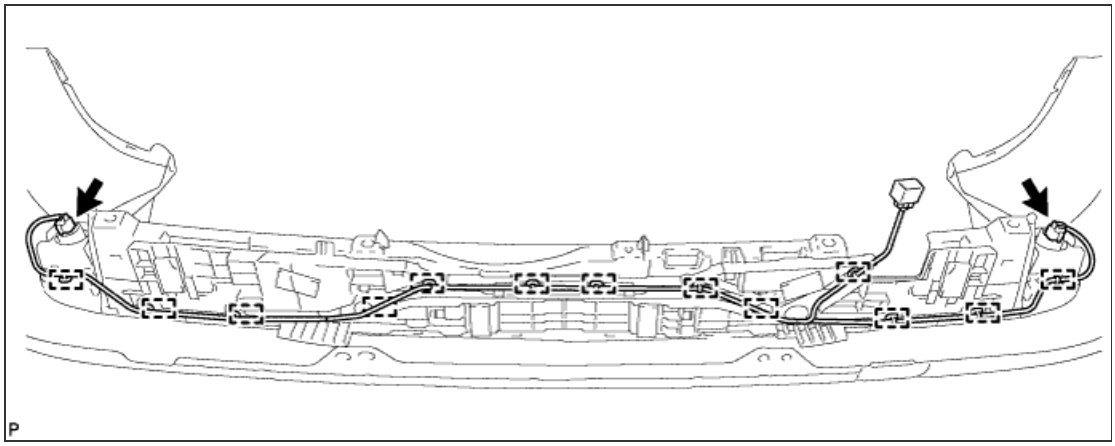
ii. Detach the 14 clamps and remove the frame wire.



c. w/o LEXUS Parking Assist-sensor System, w/ Rear Fog Light:
Remove the No. 2 frame wire.

i. Disconnect the 2 connectors.

ii. Detach the 13 clamps and remove the frame wire.



2. REMOVE NO. 2 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

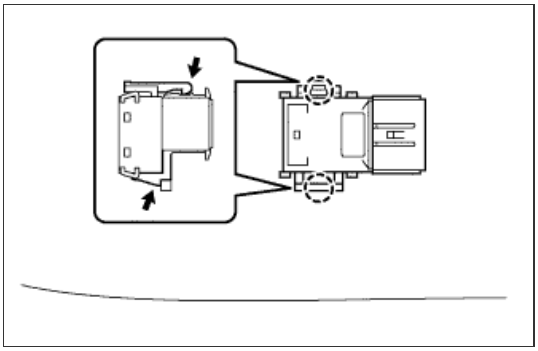
HINT:

Use the same procedure to remove the No. 2 ultrasonic sensor on the other side.

a. While pushing down on the lever with a finger to release the one claw, detach the claw on the other side to remove the ultrasonic sensor.

HINT:

The type of claw on the top and the type of claw on the bottom of the sensor are different. Observe the claws carefully before removing the sensor.



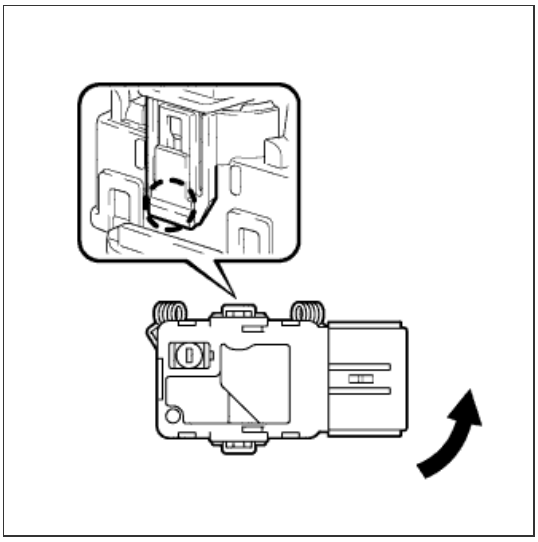
3. REMOVE NO. 3 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to remove the No. 3 ultrasonic sensor on the other side.

a. Remove the ultrasonic sensor clip.

b. Detach the claw and remove the ultrasonic sensor as shown in the illustration.

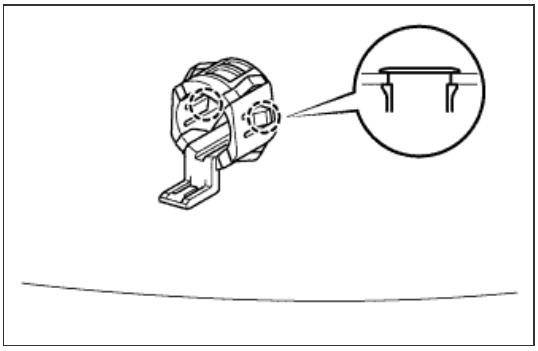


4. REMOVE NO. 2 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to remove the No. 2 ultrasonic sensor retainer on the other side.

a. Detach the 2 claws and remove the ultrasonic sensor retainer from the rear bumper cover.

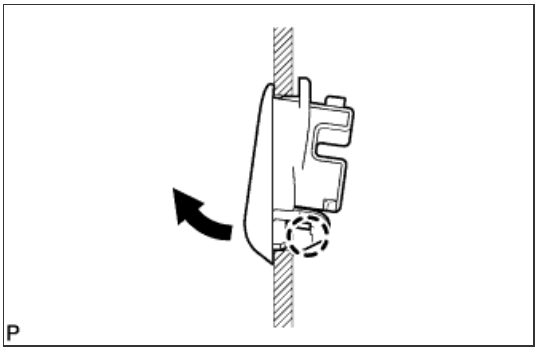


5. REMOVE NO. 3 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

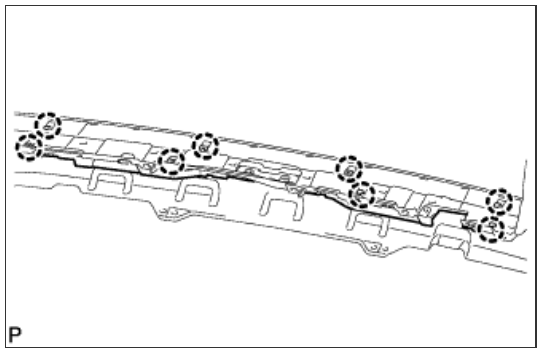
Use the same procedure to remove the No. 3 ultrasonic sensor retainer on the other side.

a. Detach the claw and remove the ultrasonic sensor retainer from the rear bumper cover.



6. REMOVE REAR BUMPER ENERGY ABSORBER

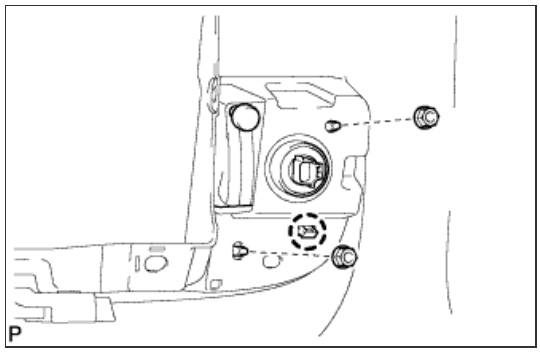
a. Detach the 8 claws and remove the energy absorber.



7. REMOVE REAR FOG LIGHT ASSEMBLY LH

a. Remove the 2 nuts.

b. Detach the claw and remove the fog light.



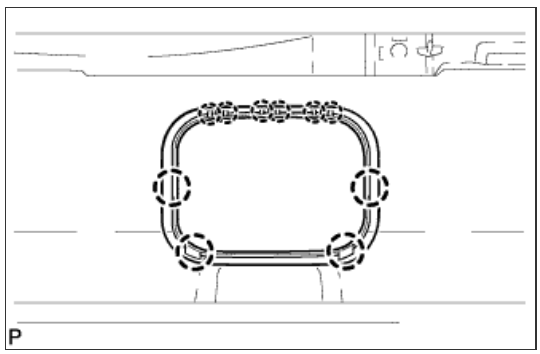
8. REMOVE REAR FOG LIGHT ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

9. REMOVE REAR NO. 2 STEP COVER

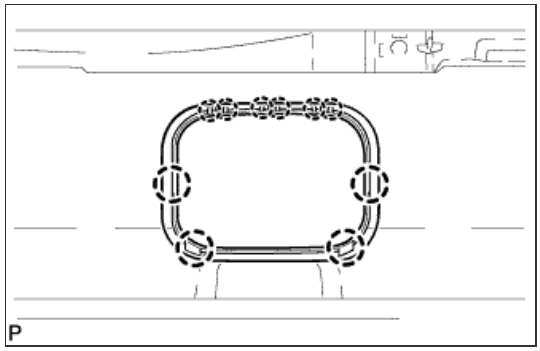
a. Detach the 10 claws and remove the step cover.



for Preparation Click here

1. INSTALL REAR NO. 2 STEP COVER

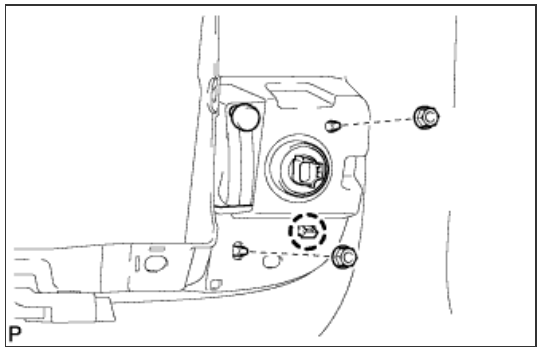
a. Attach the 10 claws to install the step cover.



2. INSTALL REAR FOG LIGHT ASSEMBLY LH

a. Attach the claw to install the fog light.

b. Install the 2 nuts.



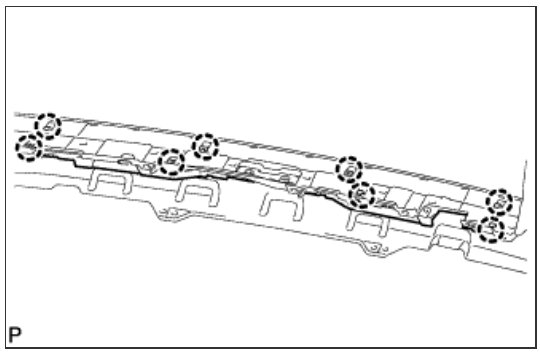
3. INSTALL REAR FOG LIGHT ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

4. INSTALL REAR BUMPER ENERGY ABSORBER

a. Attach the 8 claws to install the energy absorber.



5. INSTALL NO. 2 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

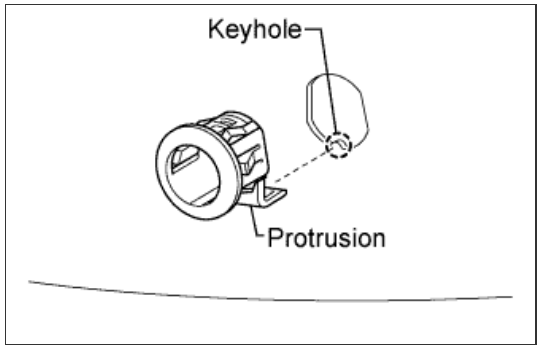
Use the same procedure to install the No. 2 ultrasonic sensor retainer on the other side.

a. Align the keyhole and protrusion as shown in the illustration.

b. Install the ultrasonic sensor retainer to the rear bumper.

NOTICE:

Do not damage the bumper with the protrusion when installing the retainer.

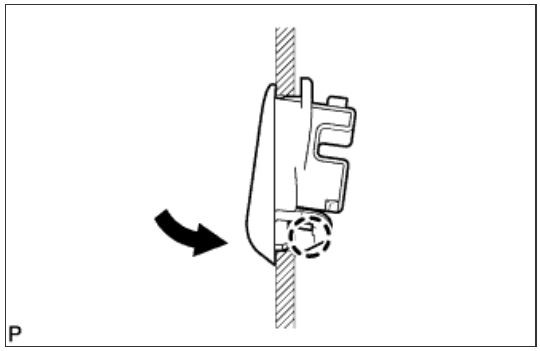


6. INSTALL NO. 3 ULTRASONIC SENSOR RETAINER (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to install the No. 3 ultrasonic sensor retainer on the other side.

a. Attach the claw to install the ultrasonic sensor retainer as shown in the illustration.



7. INSTALL NO. 2 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

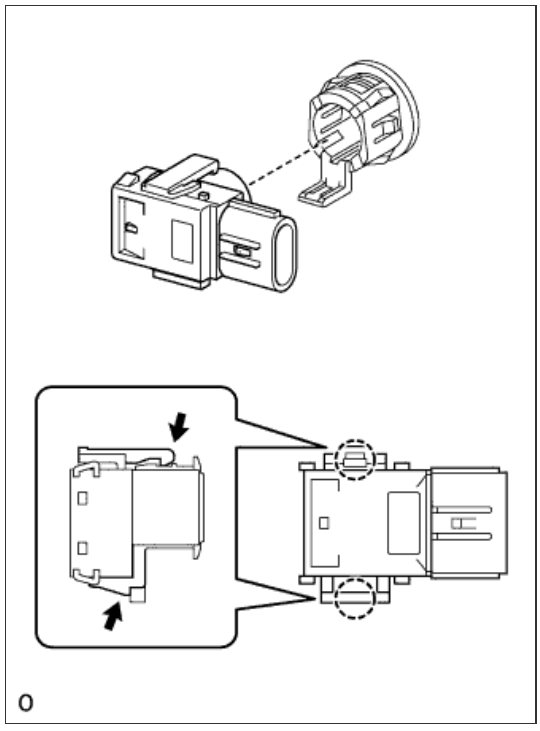
HINT:

Use the same procedure to install the No. 2 ultrasonic sensor on the other side.

a. Attach the 2 claws to install the ultrasonic sensor.

b. Connect the connector.

c. Install the ultrasonic sensor clip.



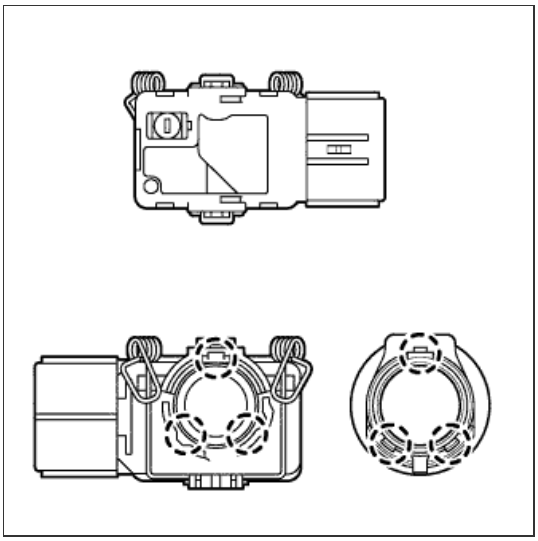
8. INSTALL NO. 3 ULTRASONIC SENSOR (w/ LEXUS Parking Assist-sensor System)

HINT:

Use the same procedure to install the No. 3 ultrasonic sensor on the other side.

a. Attach the 3 claws to install the ultrasonic sensor.

b. Connect the connector.

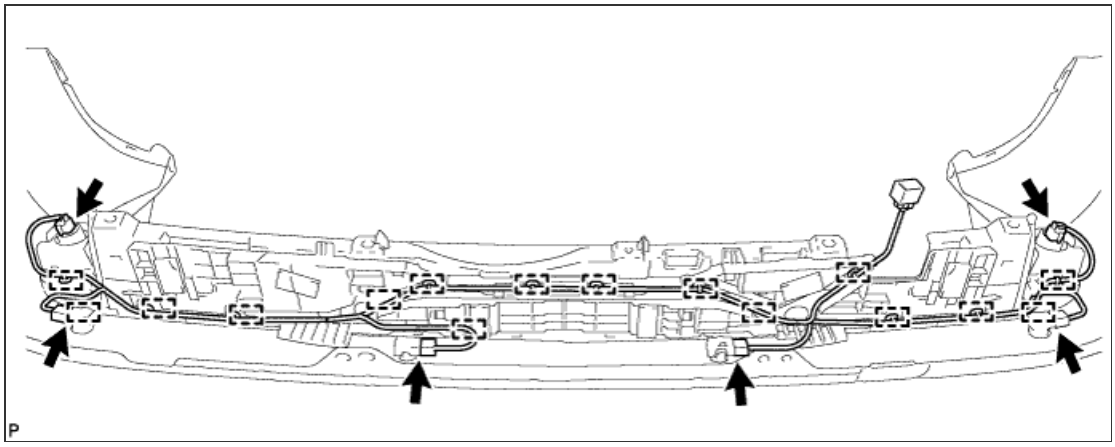


9. INSTALL NO. 2 FRAME WIRE

a. w/ LEXUS Parking Assist-sensor System, w/ Rear Fog Light:
Install the No. 2 frame wire.

i. Attach the 16 clamps to install the frame wire.

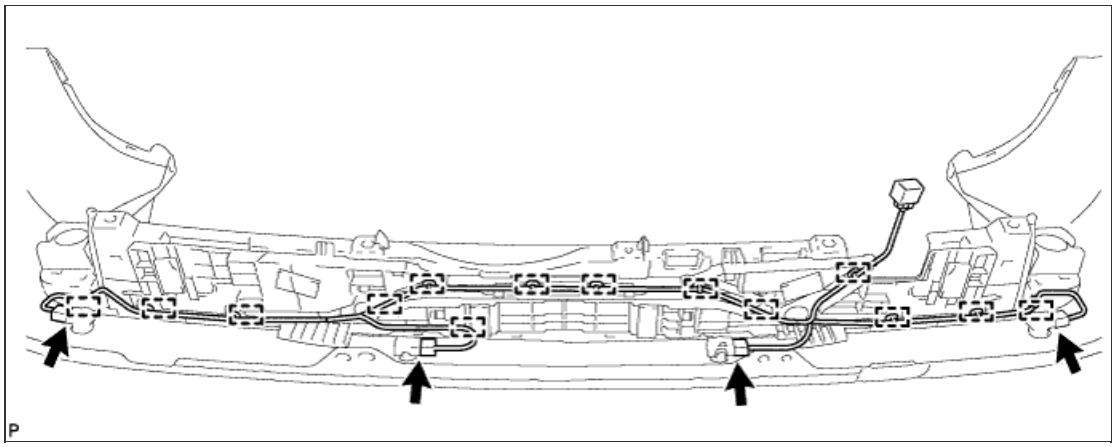
ii. Connect the 6 connectors.



b. w/ LEXUS Parking Assist-sensor System, w/o Rear Fog Light:
Install the No. 2 frame wire.

i. Attach the 14 clamps to install the frame wire.

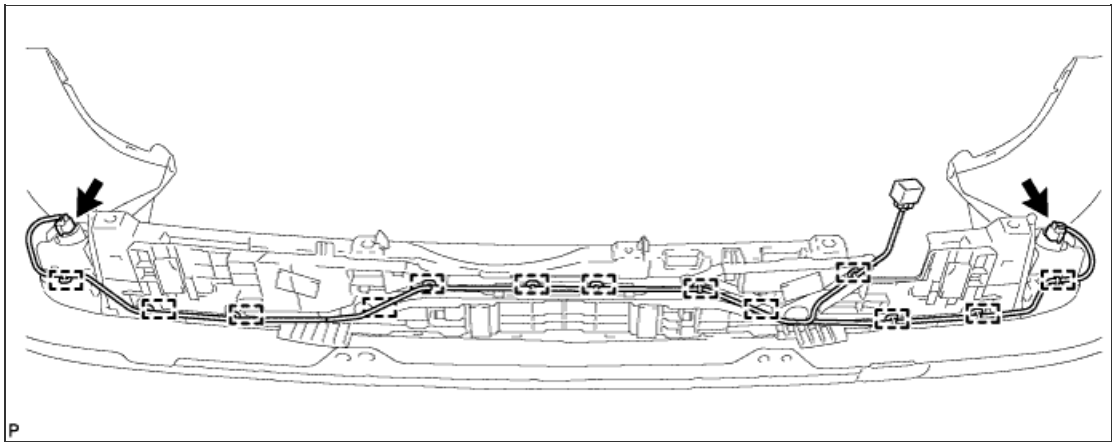
ii. Connect the 4 connectors.



c. w/o LEXUS Parking Assist-sensor System, w/ Rear Fog Light:
Install the No. 2 frame wire.

i. Attach the 13 clamps to install the frame wire.

ii. Connect the 2 connectors.



for Preparation Click here

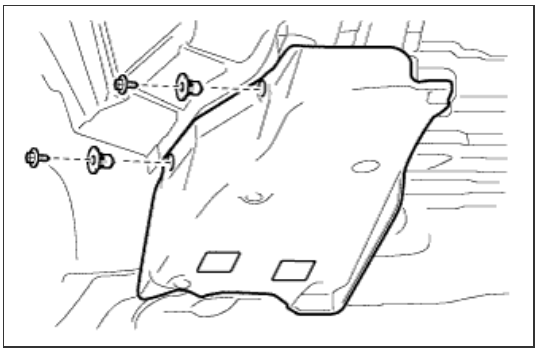
HINT:

A bolt without a torque specification is shown in the standard bolt chart (Click here).

1. INSTALL NO. 2 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR

a. Install the protector with 2 new grommets.

b. Install the 2 screws.



2. INSTALL NO. 1 LUGGAGE COMPARTMENT SIDE COVER PROTECTOR

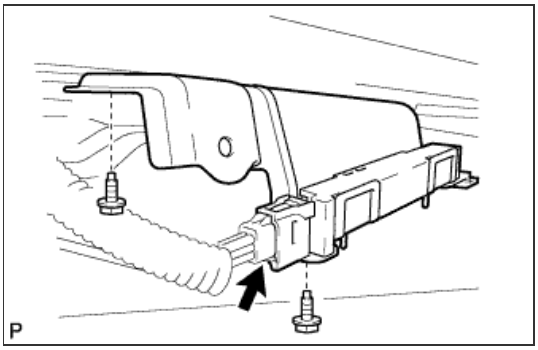
HINT:

Use the same procedures described for the No. 2 luggage compartment side cover protector.

3. INSTALL REAR BUMPER ARM BRACKET LH

a. Install the bumper arm bracket with the 2 bolts.

b. Connect the connector.

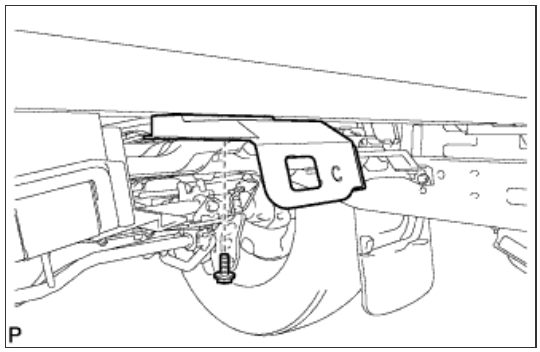


4. INSTALL REAR BUMPER ARM BRACKET

HINT:

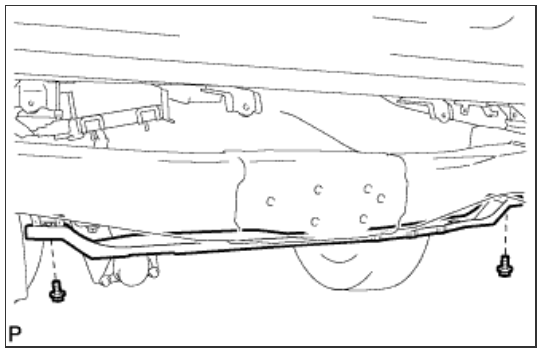
Use the same procedure to install the bumper arm bracket on the other side.

a. Install the bumper arm bracket with the bolt.



5. INSTALL REAR NO. 2 BUMPER REINFORCEMENT

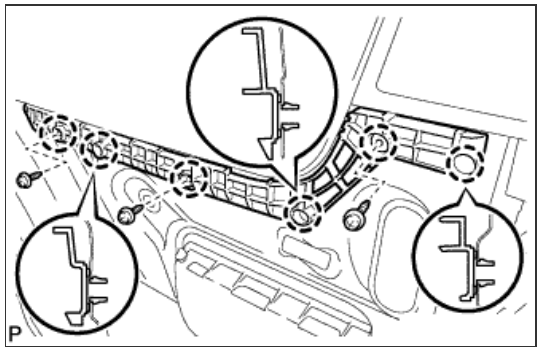
a. Install the bumper reinforcement with the 2 bolts.



6. INSTALL REAR BUMPER SIDE SUPPORT LH

a. Attach the 6 claws to install the bumper side support.

b. Install the 3 screws.



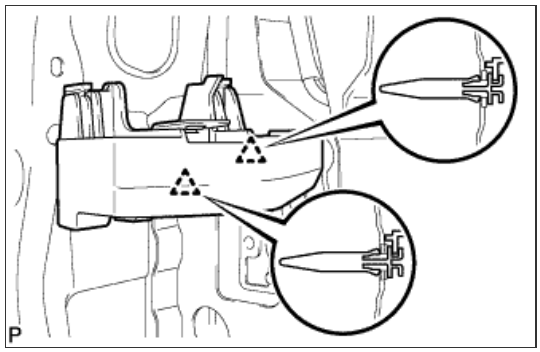
7. INSTALL REAR BUMPER SIDE SUPPORT RH

HINT:

Use the same procedures described for the LH side.

8. INSTALL REAR UPPER BUMPER RETAINER LH

a. Attach the 2 clips to install the bumper retainer.



9. INSTALL REAR UPPER BUMPER RETAINER RH

HINT:

Use the same procedures described for the LH side.

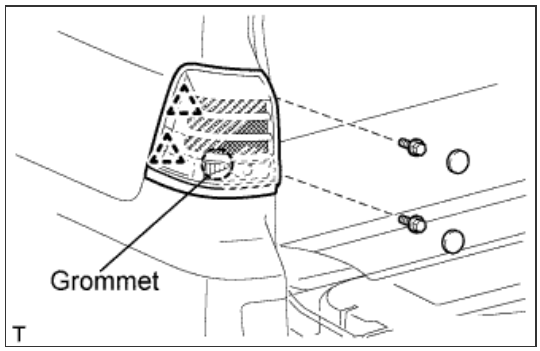
10. INSTALL REAR COMBINATION LIGHT ASSEMBLY LH

a. Connect the connector.

b. Attach the 2 clips to install the rear combination light.

c. Install the 2 bolts.

d. Install the 2 covers.



11. INSTALL REAR COMBINATION LIGHT ASSEMBLY RH

HINT:

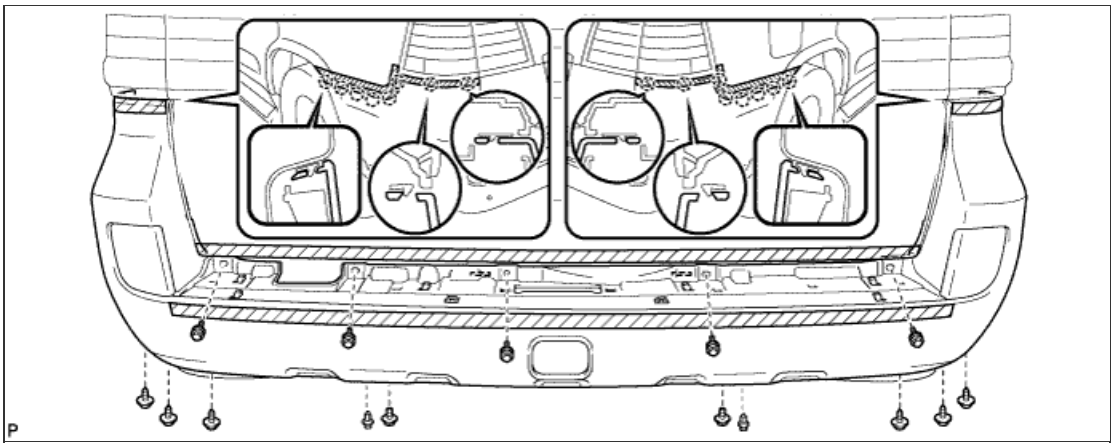
Use the same procedures described for the LH side.

12. INSTALL REAR BUMPER COVER

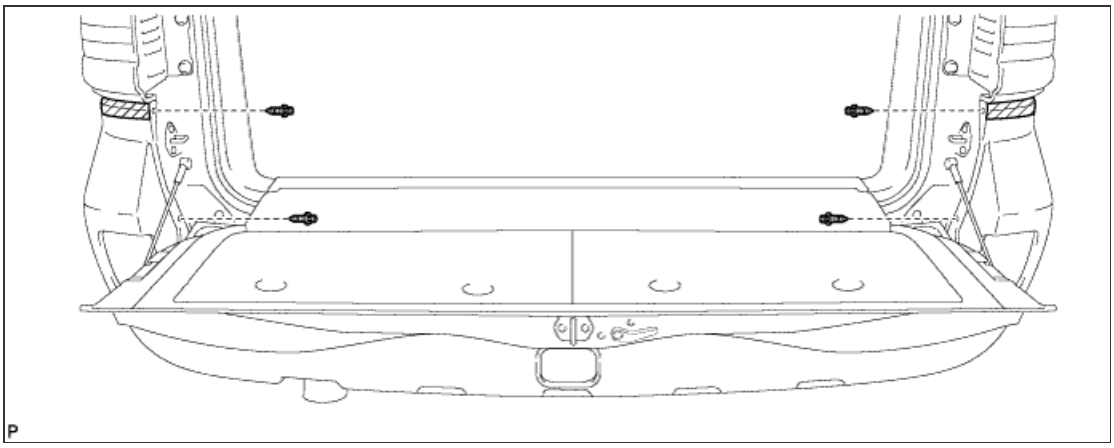
a. w/o LEXUS Parking Assist-sensor System, w/o Rear Fog Light:
Attach the 16 claws to install the bumper cover.

b. w/ LEXUS Parking Assist-sensor System or w/ Rear Fog Light:
Connect the No. 2 frame wire connector and attach the 16 claws to install the bumper cover.

c. Install the 7 bolts, 6 screws and 2 clips.



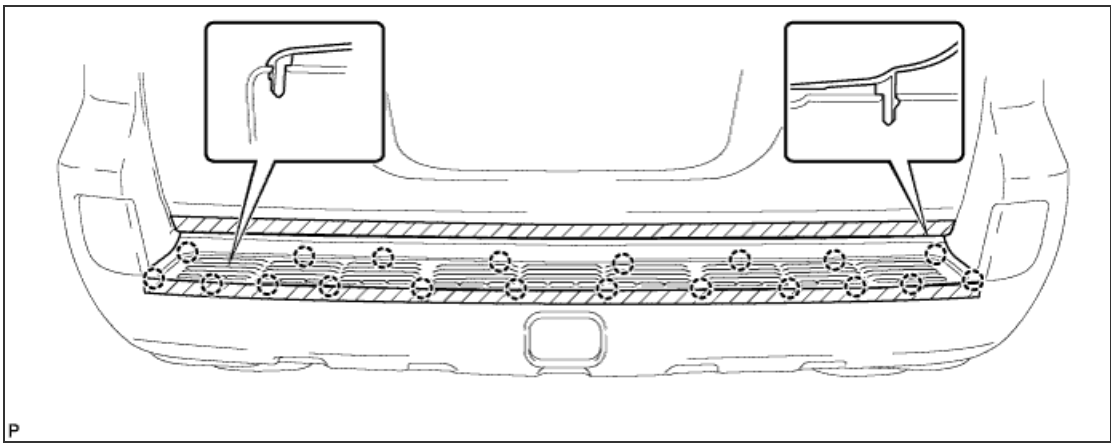
d. Open the tail gate and install the 4 clips.



e. Close the tail gate.

13. INSTALL REAR NO. 1 BUMPER PLATE

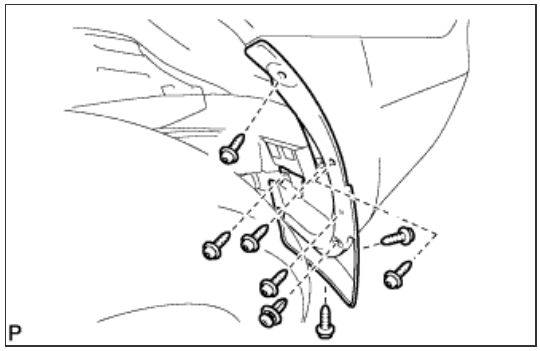
a. Attach the 20 claws to install the bumper plate.



14. INSTALL REAR QUARTER PANEL MUDGUARD LH

a. Install the mudguard with the clip.

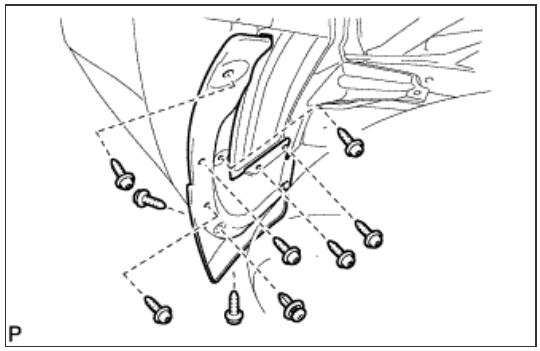
b. Using a T30 "TORX" socket, install the 7 screws.



15. INSTALL REAR QUARTER PANEL MUDGUARD RH

a. Install the mudguard with the clip.

b. Using a T30 "TORX" socket, install the 8 screws.

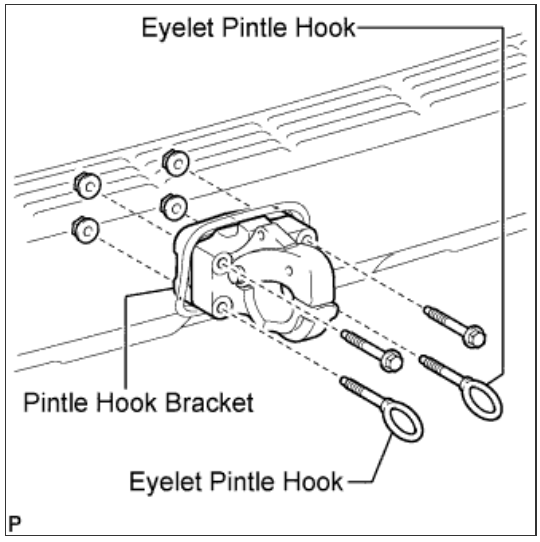


16. INSTALL PINTLE HOOK ASSEMBLY

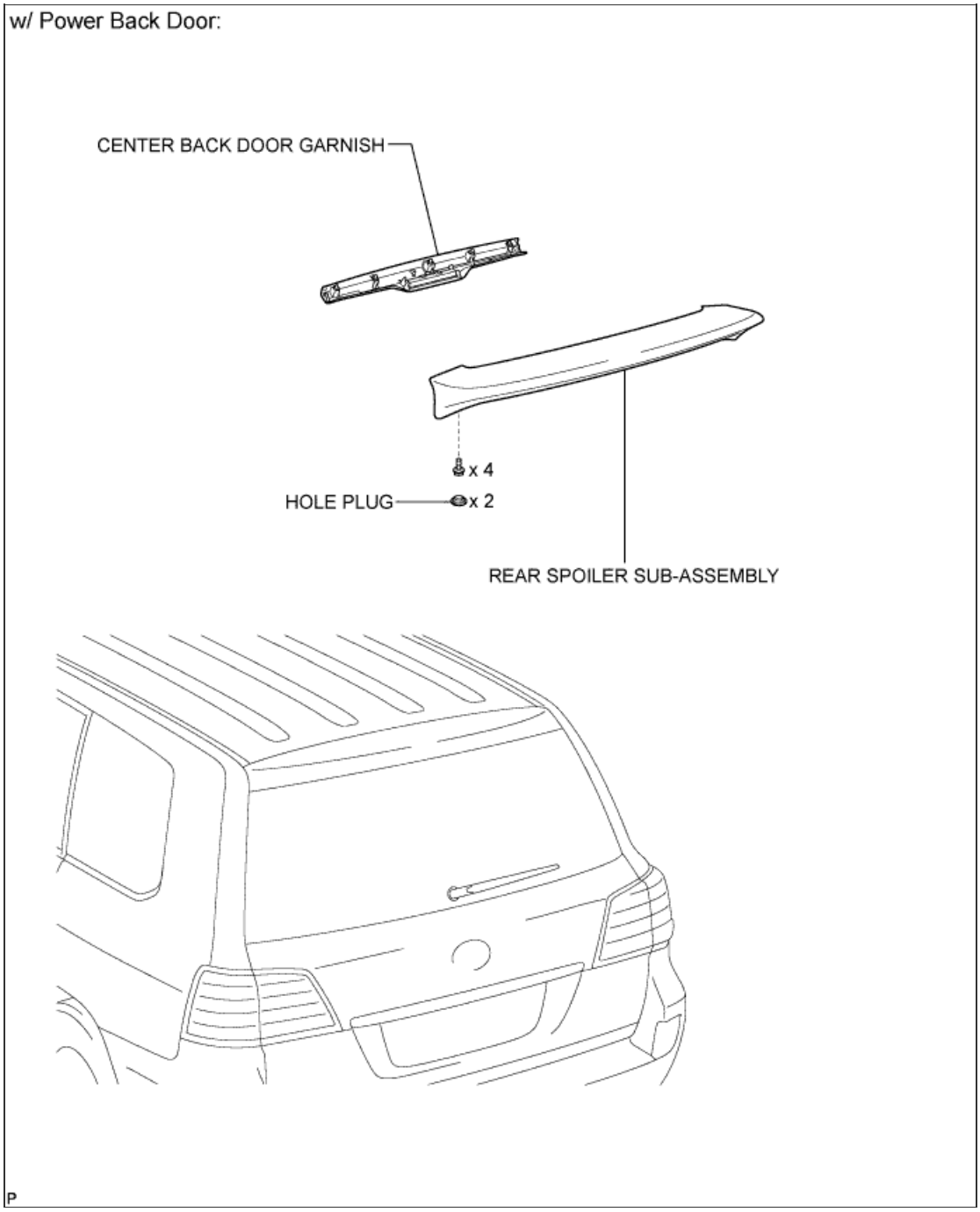
a. Install the pintle hook assembly and pintle hook bracket with the 2 bolts, 2 eyelet pintle hooks and 4 nuts.

Torque:
for nut:
65 N*m{ 663 kgf*cm , 48 ft.*lbf }

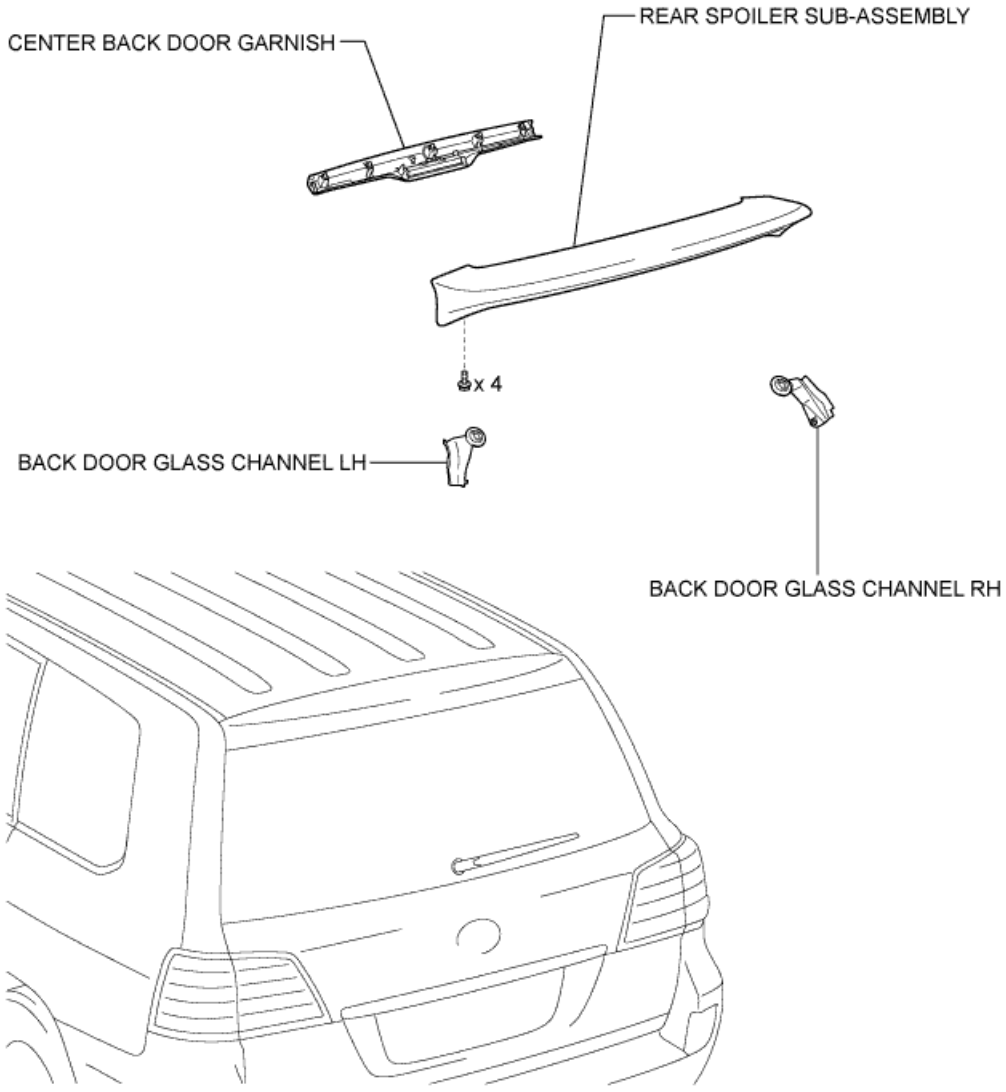
b. For vehicles with a spare installed to the underbody, install the spare tire.



for Preparation [Click here]



w/o Power Back Door:

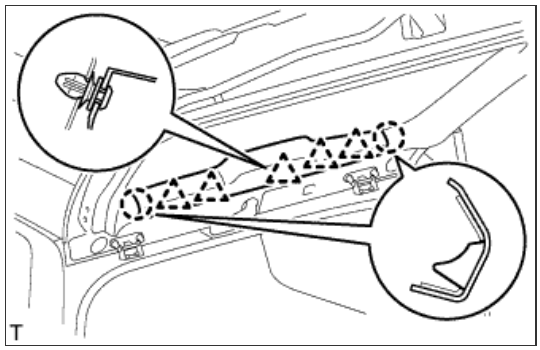


P

for Preparation Click here

1. REMOVE CENTER BACK DOOR GARNISH

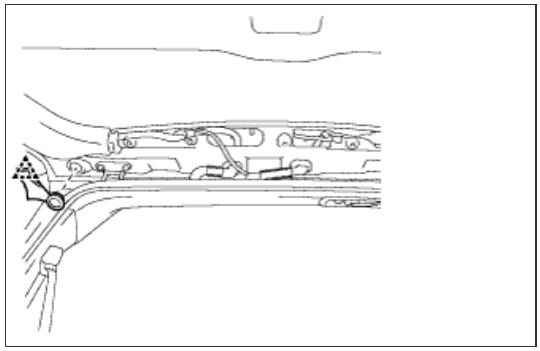
a. Detach the 5 clips and 2 claws, and remove the back door garnish.



2. REMOVE BACK DOOR GLASS CHANNEL LH (w/o Power Back Door)

a. Using a clip remover, remove the clip.

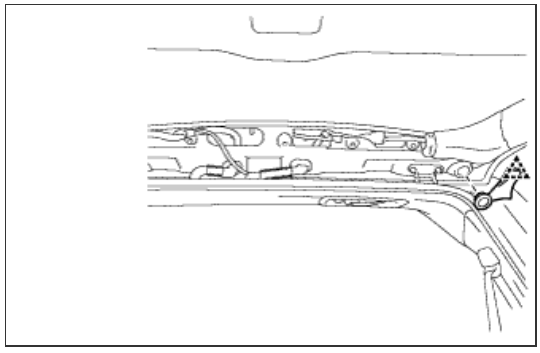
b. Remove the back door glass channel LH.



3. REMOVE BACK DOOR GLASS CHANNEL RH (w/o Power Back Door)

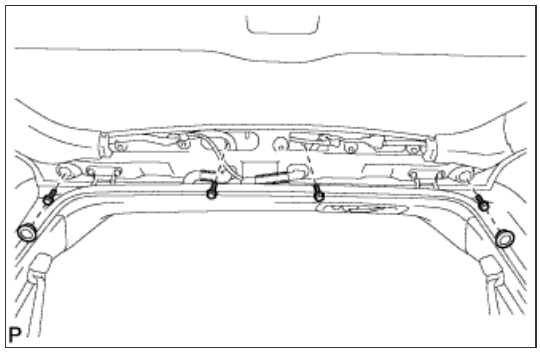
a. Using a clip remover, remove the clip.

b. Remove the back door glass channel RH.

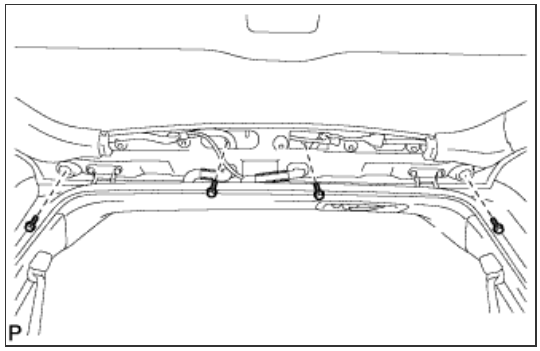


4. REMOVE REAR SPOILER SUB-ASSEMBLY

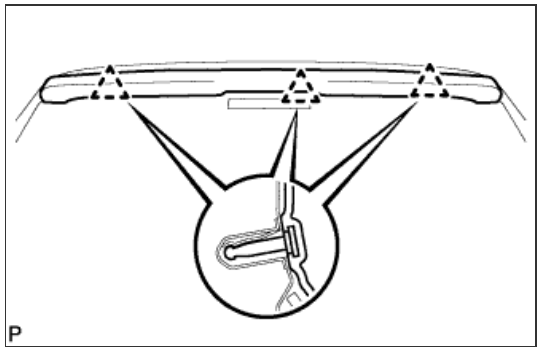
a. w/ Power Back Door:
Remove the 2 hole plugs and 4 bolts.



b. w/o Power Back Door:
Remove the 4 bolts.



c. Detach the 3 clips and remove the rear spoiler.



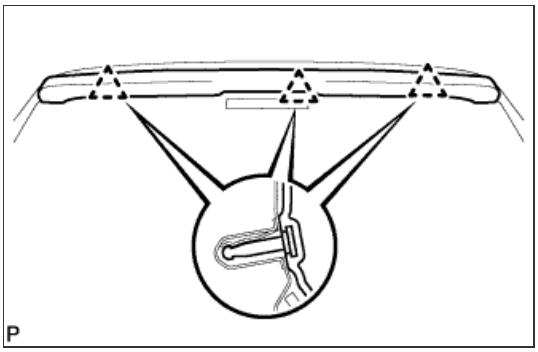
for Preparation Click here

HINT:

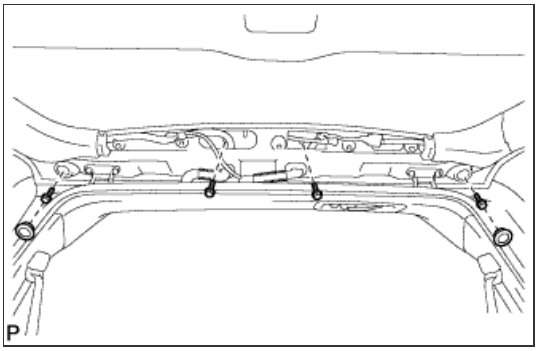
A bolt without a torque specification is shown in the standard bolt chart (Click here).

1. INSTALL REAR SPOILER SUB-ASSEMBLY

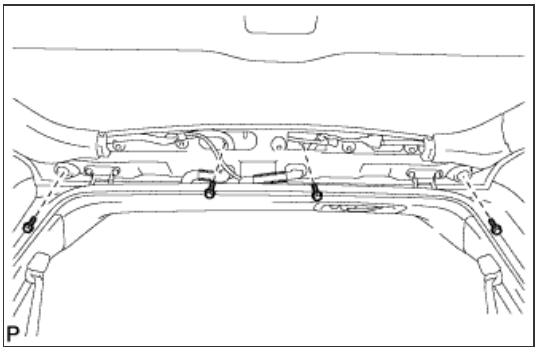
a. Attach the 3 clips to install the rear spoiler.



b. w/ Power Back Door:
Install the 4 bolts and 2 hole plugs.

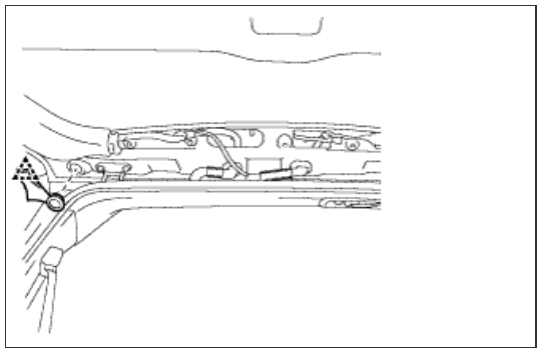


c. w/o Power Back Door:
Install the 4 bolts.



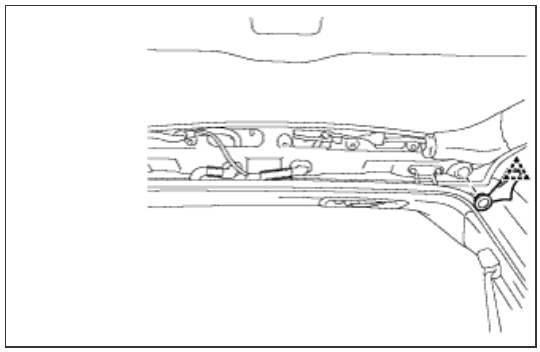
2. INSTALL BACK DOOR GLASS CHANNEL LH (w/o Power Back Door)

a. Attach the clip and install the back door glass channel.



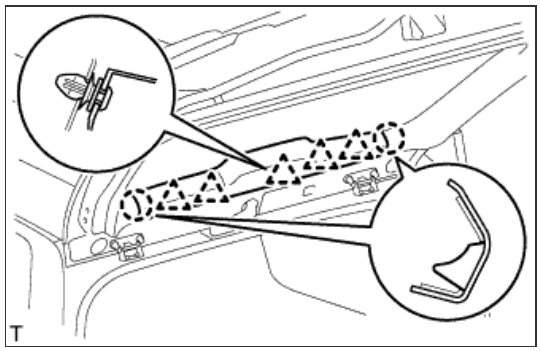
3. INSTALL BACK DOOR GLASS CHANNEL RH (w/o Power Back Door)

a. Attach the clip and install the back door glass channel.

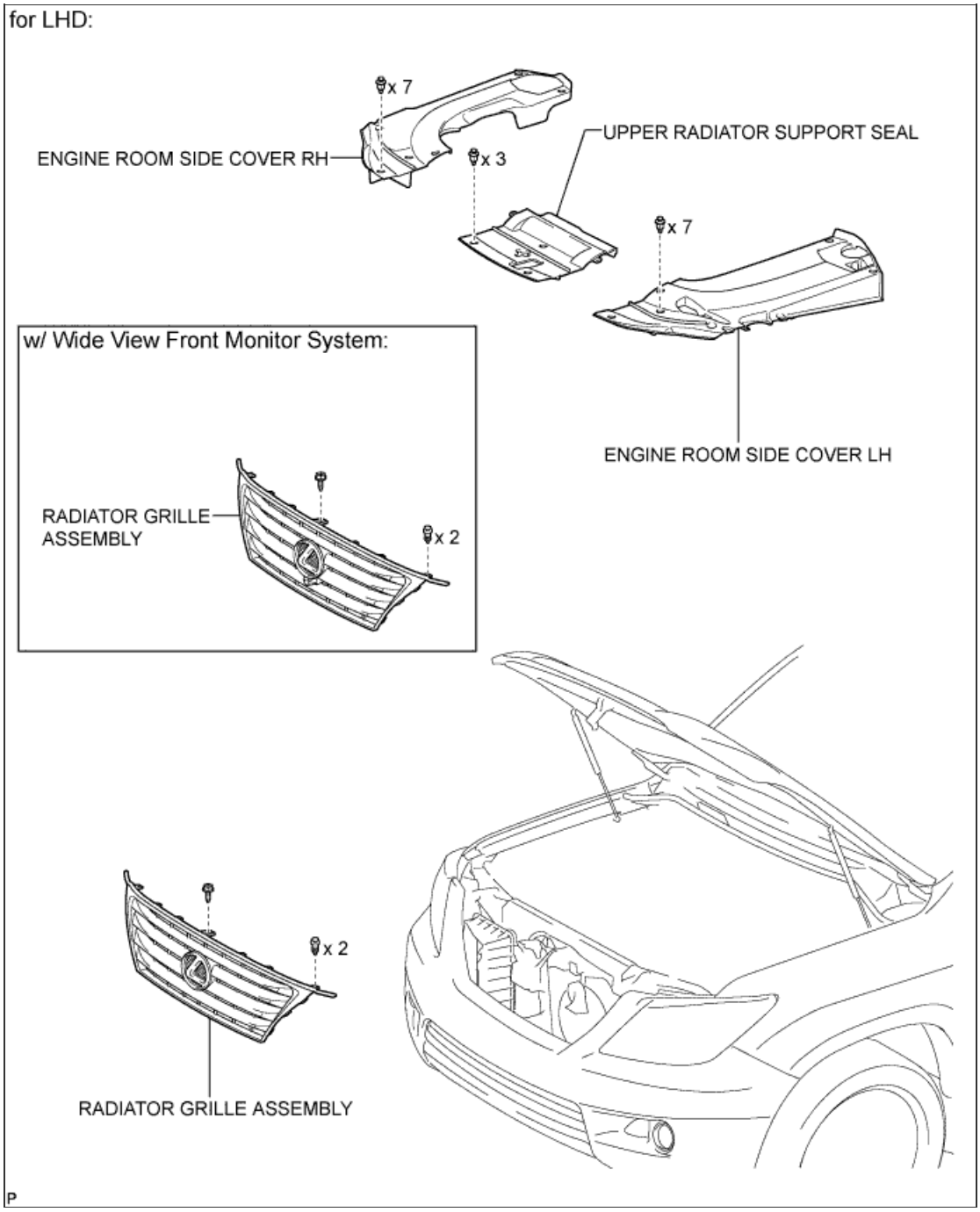


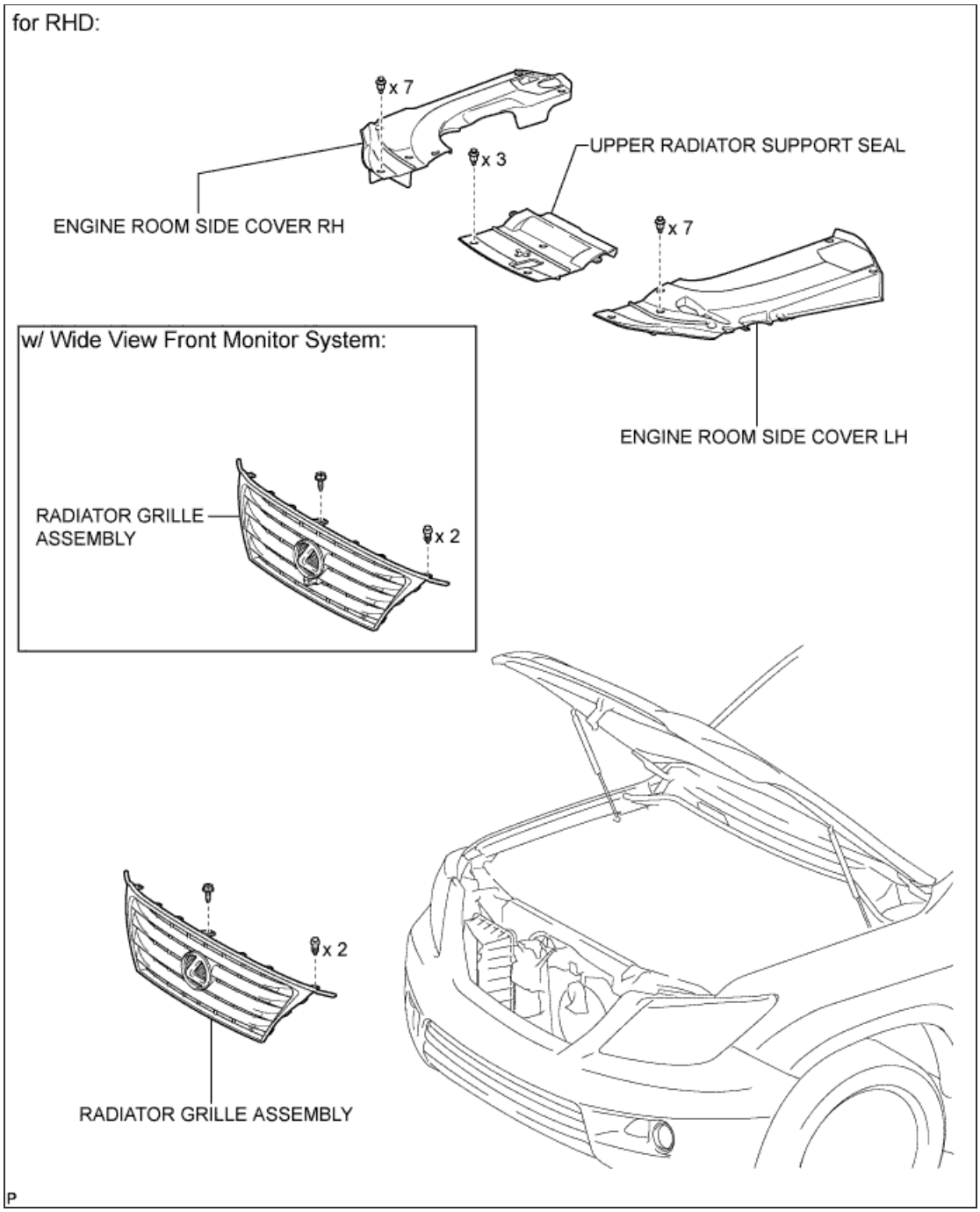
4. INSTALL CENTER BACK DOOR GARNISH

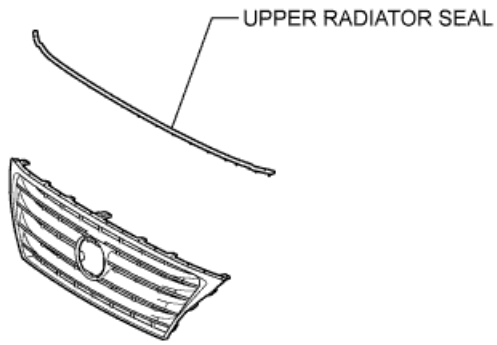
a. Attach the 5 clips and 2 claws to install the back door garnish.



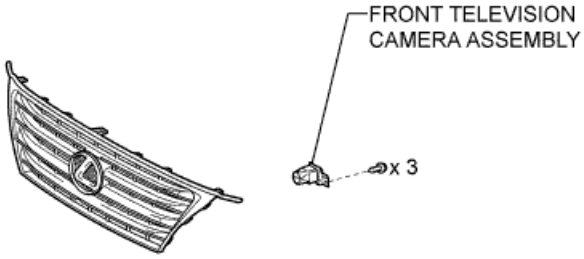
for Preparation Click here



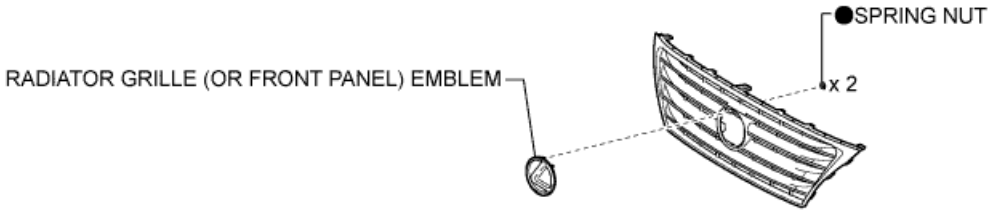

for RHD:
x 7
x 3
UPPER RADIATOR SUPPORT SEAL
ENGINE ROOM SIDE COVER RH
x 7
ENGINE ROOM SIDE COVER LH
w/ Wide View Front Monitor System:
RADIATOR GRILLE ASSEMBLY
x 2
x 2
RADIATOR GRILLE ASSEMBLY
P



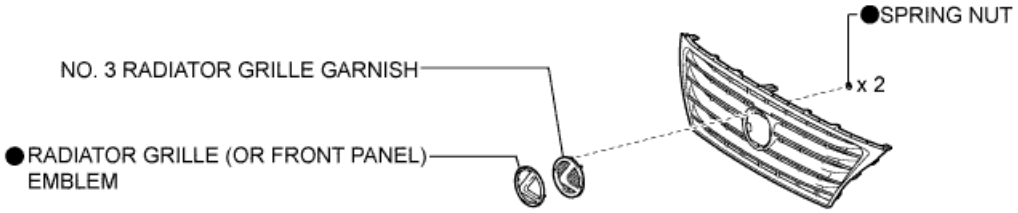
w/ Wide View Front Monitor System:



w/ Dynamic Radar Cruise Control System:



w/o Dynamic Radar Cruise Control System:



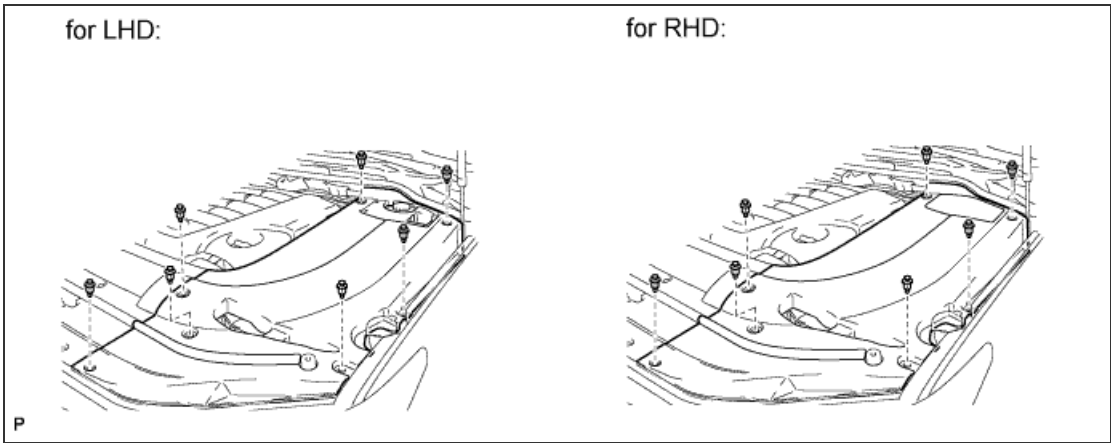
● Non-reusable part

P

for Preparation Click here

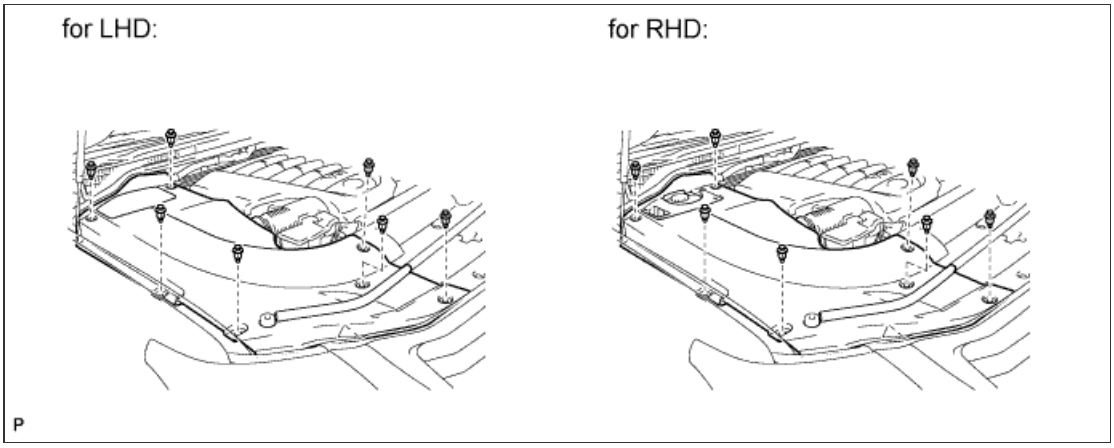
1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



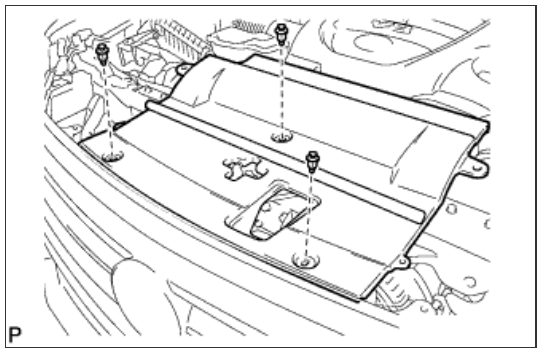
2. REMOVE ENGINE ROOM SIDE COVER RH

a. Remove the 7 clips and engine room side cover.



3. REMOVE UPPER RADIATOR SUPPORT SEAL

a. Remove the 3 clips and upper radiator support seal.



4. REMOVE RADIATOR GRILLE ASSEMBLY

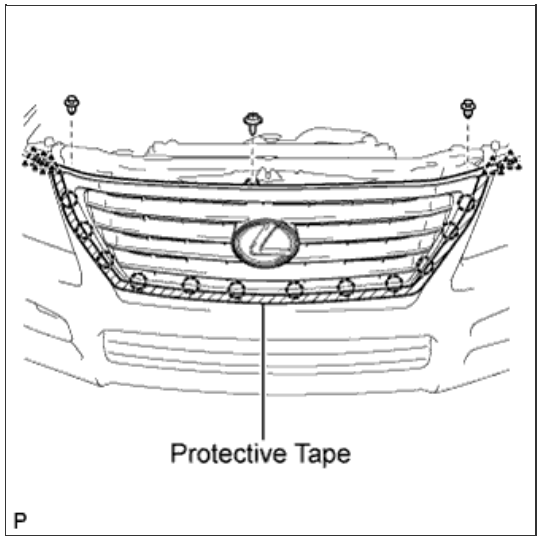
a. Put protective tape around the radiator grille.

b. Remove the screw and 2 clips.

c. Detach the 5 clips and partially remove the upper radiator seal.

d. w/o Wide View Front Monitor System:
Detach the 12 claws and remove the radiator grille.

e. w/ Wide View Front Monitor System:
Detach the 12 claws, disconnect the connector and remove the radiator grille.



for Preparation Click here

HINT:
w/o Dynamic Radar Cruise Control System:

When removing the emblem, heat the radiator grille and emblem using a heat light.

Standard:

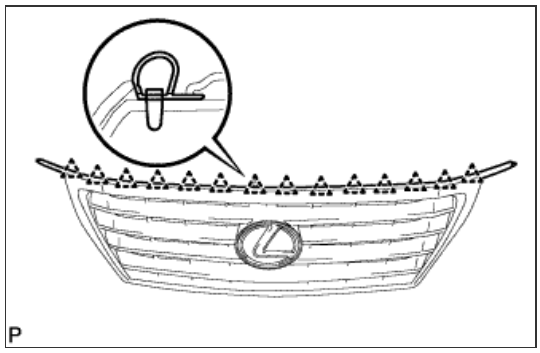
Item	Temperature
Radiator Grille	20 to 30°C (68 to 86°F)
Emblem	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the radiator grille and emblem excessively.

1. REMOVE UPPER RADIATOR SEAL

a. Detach the 14 clips and remove the radiator seal.



2. REMOVE RADIATOR GRILLE (OR FRONT PANEL) EMBLEM (w/o Dynamic Radar Cruise Control System)

a. Put protective tape around the emblem.

b. Insert a piano wire between the radiator grille and emblem.

HINT:

Be careful of the boss positions.

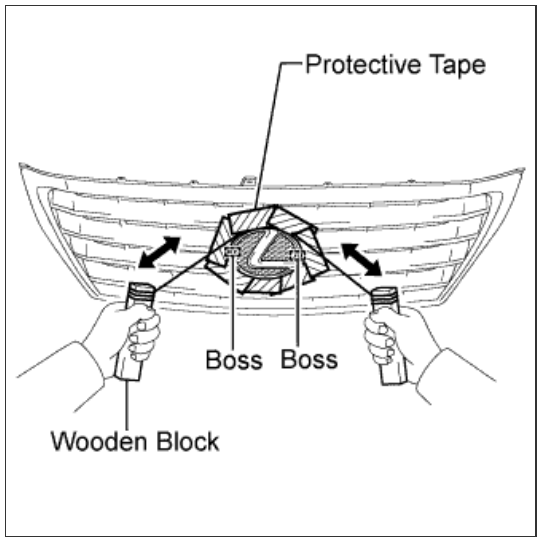
c. Tie objects that can serve as handles (for example, wooden blocks) to both wire ends.

d. Pull the piano wire and scrape off the double-sided tape that holds the emblem to the radiator grille.

NOTICE:

Be careful not to damage the radiator grille.

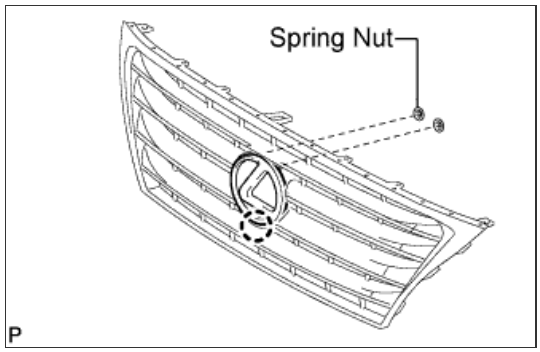
e. Remove the emblem.



3. REMOVE RADIATOR GRILLE (OR FRONT PANEL) EMBLEM (w/ Dynamic Radar Cruise Control System)

a. Remove the 2 spring nuts.

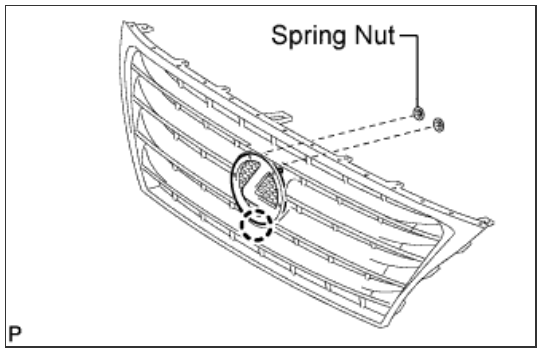
b. Detach the claw and remove the emblem.



4. REMOVE NO. 3 RADIATOR GRILLE GARNISH (w/o Dynamic Radar Cruise Control System)

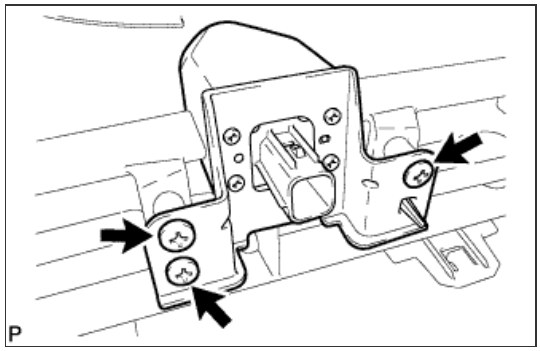
a. Remove the 2 spring nuts.

b. Detach the claw and remove the garnish.



5. REMOVE FRONT TELEVISION CAMERA ASSEMBLY (w/ Wide View Front Monitor System)

a. Remove the 3 screws and front television camera.



for Preparation Click here

HINT:
w/o Dynamic Radar Cruise Control System:

When installing the emblem, heat the radiator grille and emblem using a heat light.

Standard:

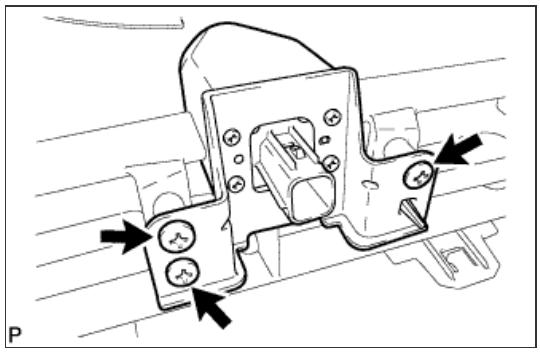
Item	Temperature
Radiator Grille	20 to 30°C (68 to 86°F)
Emblem	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the radiator grille and emblem excessively.

1. INSTALL FRONT TELEVISION CAMERA ASSEMBLY (w/ Wide View Front Monitor System)

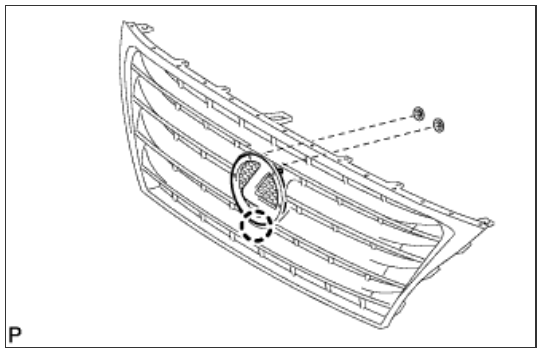
a. Install the front television camera with the 3 screws.



2. INSTALL NO. 3 RADIATOR GRILLE GARNISH (w/o Dynamic Radar Cruise Control System)

a. Attach the claw to install the garnish.

b. Install 2 new spring nuts.



3. INSTALL RADIATOR GRILLE (OR FRONT PANEL) EMBLEM (w/o Dynamic Radar Cruise Control System)

a. Clean the radiator grille surface.

i. Using a heat light, heat the radiator grille surface.

ii. Remove the double-sided tape from the radiator grille.

iii. Wipe off any tape adhesive residue with cleaner.

b. Install a new emblem.

i. Using a heat light, heat the radiator grille and a new emblem.

ii. Remove the peeling paper from the face of the emblem.

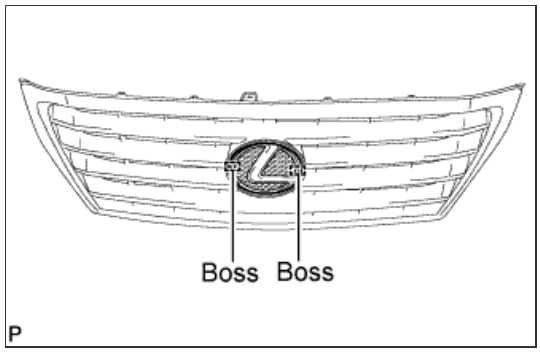
HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Align the boss positions and install the emblem.

HINT:

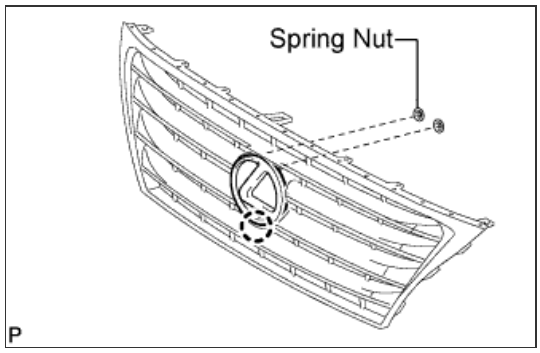
Press the emblem firmly to install it.



4. INSTALL RADIATOR GRILLE (OR FRONT PANEL) EMBLEM (w/ Dynamic Radar Cruise Control System)

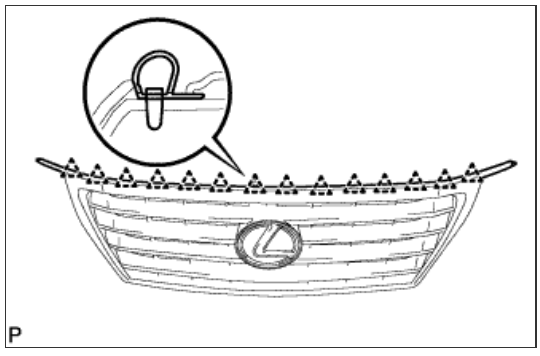
a. Attach the claw to install the garnish.

b. Install 2 new spring nuts.



5. INSTALL UPPER RADIATOR SEAL

a. Attach the 14 clips to install the radiator seal.



for Preparation Click here

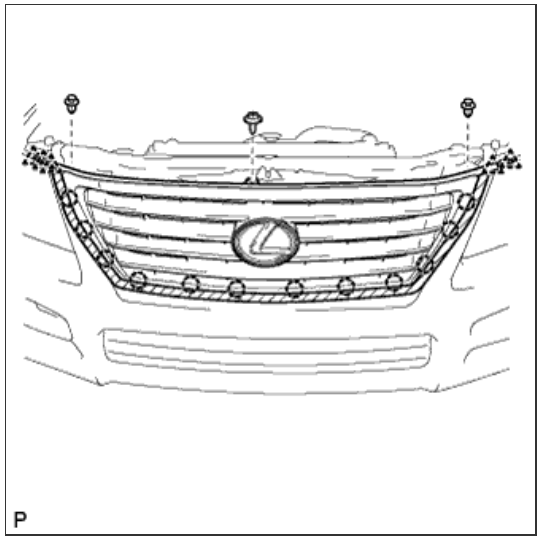
1. INSTALL RADIATOR GRILLE ASSEMBLY

a. w/ Wide View Front Monitor System:
Connect the connector.

b. Attach the 12 claws to install the radiator grille.

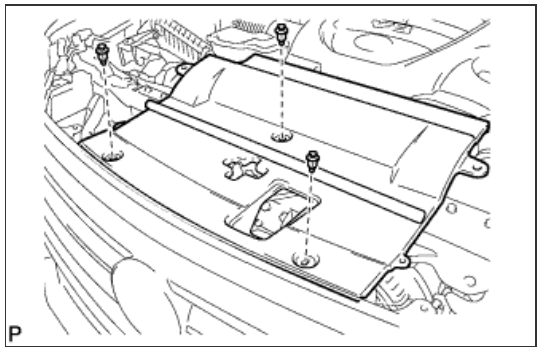
c. Attach the 5 clips to install the detached part of the upper radiator seal.

d. Install the screw and 2 clips.



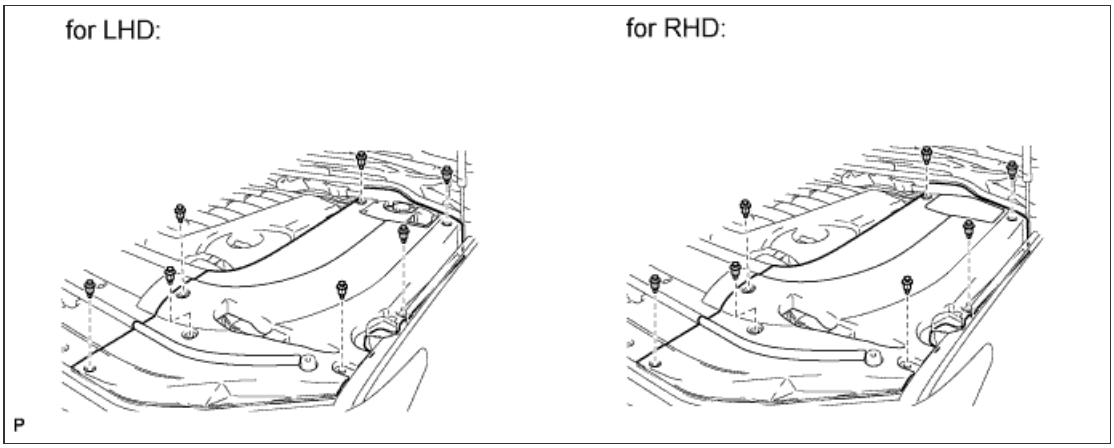
2. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the upper radiator support seal with the 3 clips.



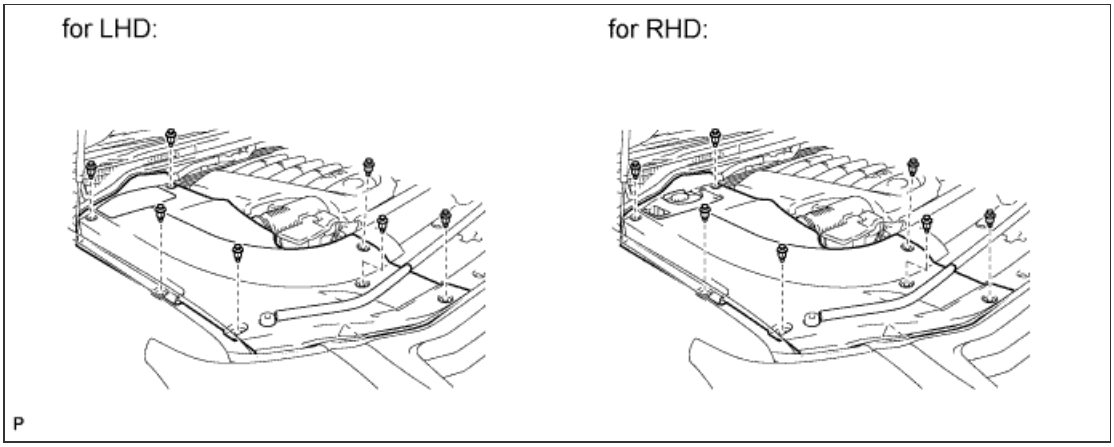
3. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

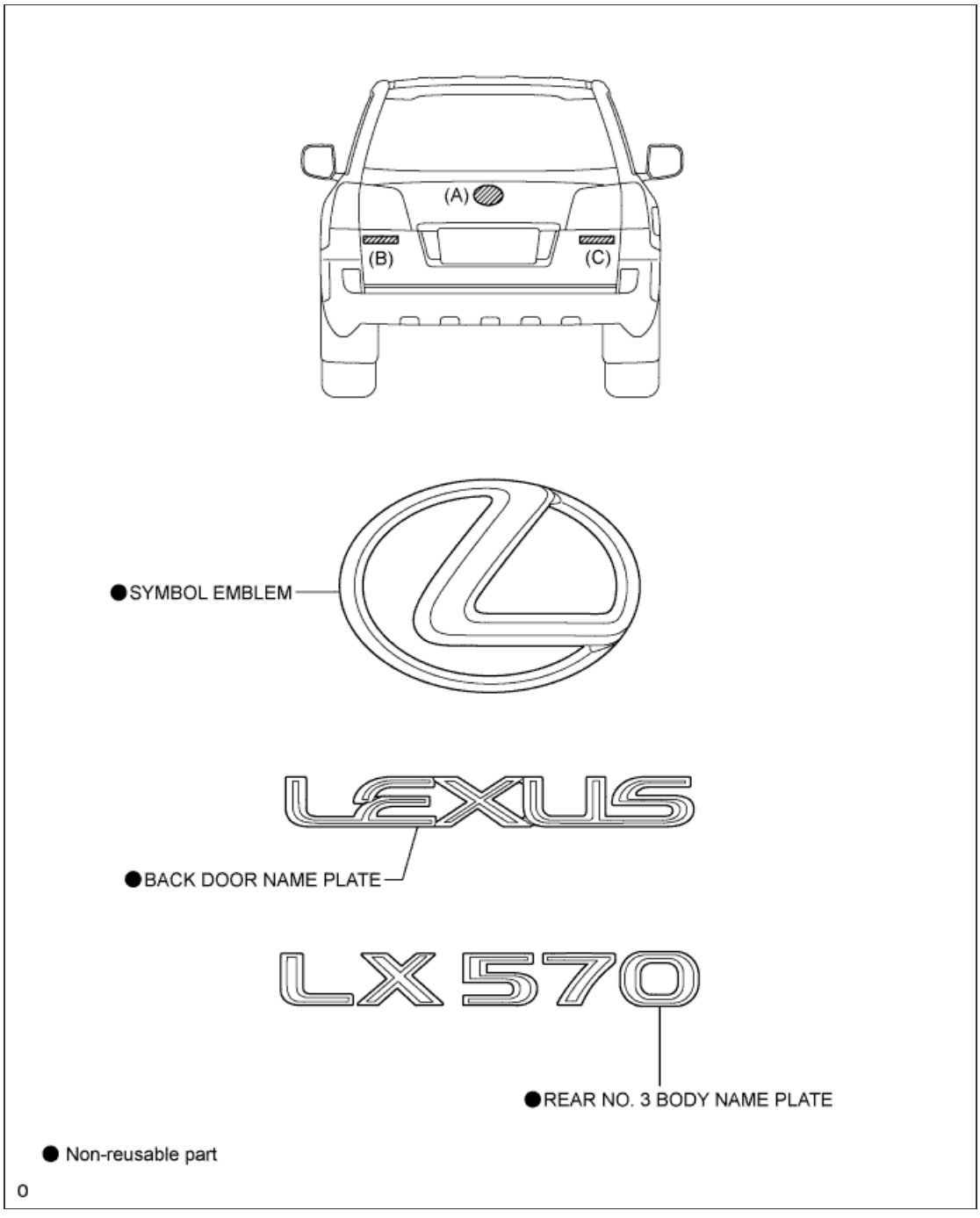


4. INSTALL ENGINE ROOM SIDE COVER RH

a. Install the engine room side cover with the 7 clips.



for Preparation Click here



for Preparation Click here

HINT:

When removing the emblem, rear body name plate and back door name plate, heat the vehicle body, emblem, rear body name plate and back door name plate using a heat light.

Standard:

Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Emblem	20 to 30°C (68 to 86°F)
Back Door Name Plate	20 to 30°C (68 to 86°F)
Rear Body Name Plate	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body, emblem, rear body name plate and back door name plate excessively.

1. REMOVE SYMBOL EMBLEM

a. Put protective tape around the emblem.

b. Insert a piano wire between the vehicle body and emblem.

HINT:

Be careful of the boss positions.

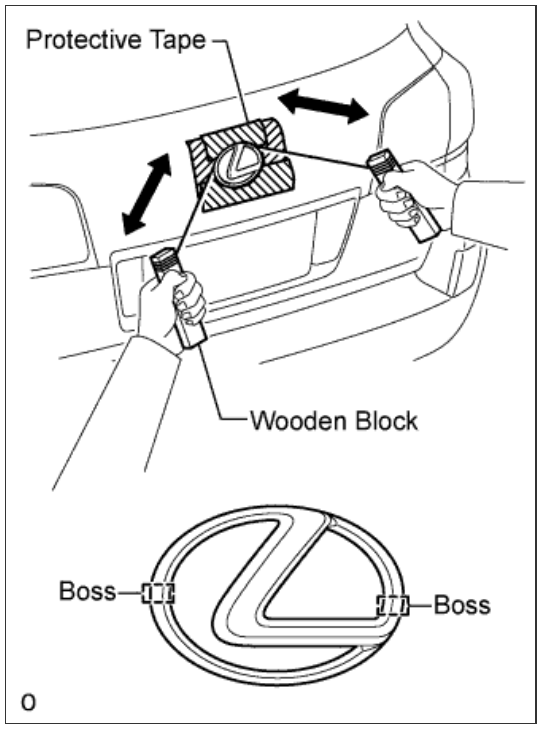
c. Tie objects that can serve as handles (for example, wooden blocks) to both wire ends.

d. Pull the piano wire and scrape off the double-sided tape that holds the emblem to the vehicle body.

NOTICE:

Be careful not to damage the vehicle body.

e. Remove the emblem.



2. REMOVE BACK DOOR NAME PLATE

a. Put protective tape around the back door name plate.

b. Insert a piano wire between the vehicle body and back door name plate.

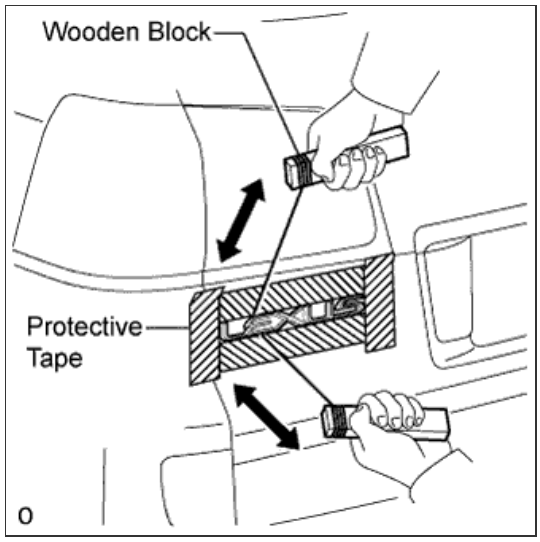
c. Tie objects that can serve as handles (for example, wooden blocks) to both wire ends.

d. Pull the piano wire and scrape off the double-sided tape that holds the back door name plate to the vehicle body.

NOTICE:

Be careful not to damage the vehicle body.

e. Remove the back door name plate.



3. REMOVE REAR NO. 3 BODY NAME PLATE

a. Put protective tape around the rear body name plate.

b. Insert a piano wire between the vehicle body and rear body name plate.

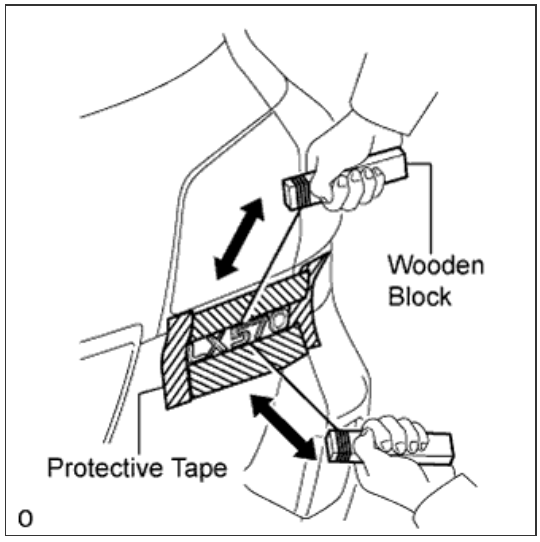
c. Tie objects that can serve as handles (for example, wooden blocks) to both wire ends.

d. Pull the piano wire and scrape off the double-sided tape that holds the rear body name plate to the vehicle body.

NOTICE:

Be careful not to damage the vehicle body.

e. Remove the rear body name plate.



for Preparation Click here

HINT:

When installing the emblem, rear body name plate and back door name plate, heat the vehicle body, emblem, rear body name plate and back door name plate using a heat light.

Standard:

Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Emblem	20 to 30°C (68 to 86°F)
Back Door Name Plate	20 to 30°C (68 to 86°F)
Rear Body Name Plate	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body, emblem, rear body name plate and back door name plate excessively.

1. INSTALL SYMBOL EMBLEM

a. Clean the vehicle body 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 emblem.

i. Using a heat light, heat the vehicle body and a new emblem.

ii. Remove the peeling paper from the face of the emblem.

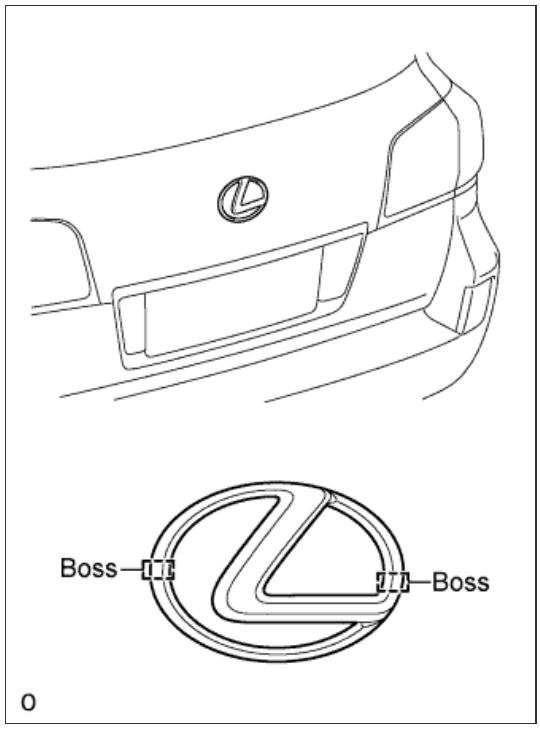
HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Align the boss positions and install the emblem.

HINT:

Press the emblem firmly to install it.



2. INSTALL BACK DOOR NAME PLATE

a. Clean the vehicle body 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 back door name plate.

i. Using a heat light, heat the vehicle body and a new back door name plate.

ii. Remove the peeling paper from the face of the back door name plate.

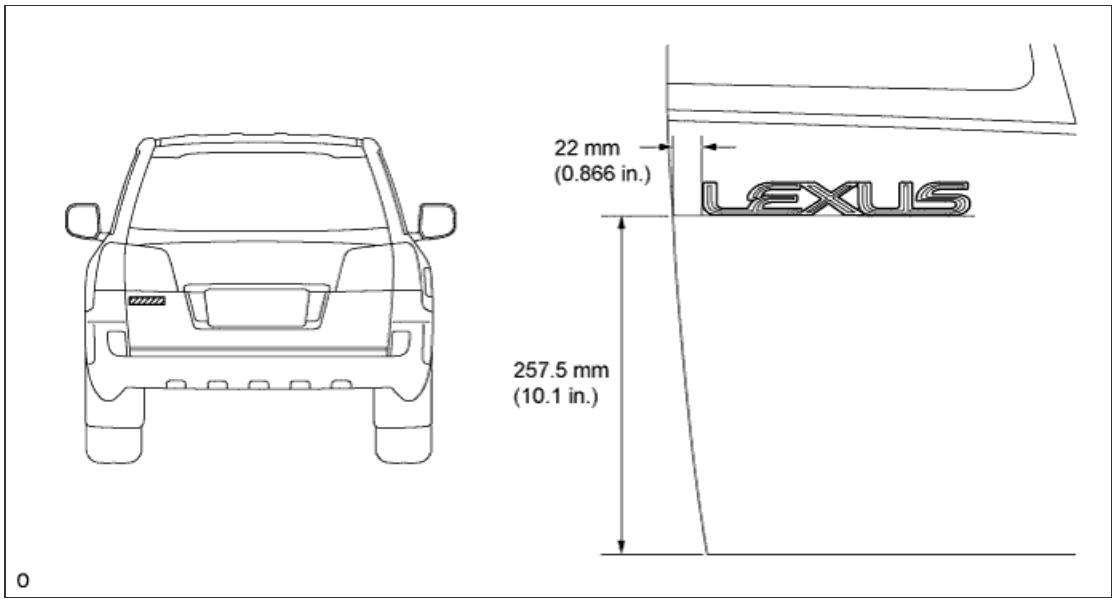
HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Install the back door name plate in the position shown in the illustration.

HINT:

Press the back door name plate firmly to install it.



3. INSTALL REAR NO. 3 BODY NAME PLATE

a. Clean the vehicle body 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 rear body name plate.

i. Using a heat light, heat the vehicle body and a new rear body name plate.

ii. Remove the peeling paper from the face of the rear body name plate.

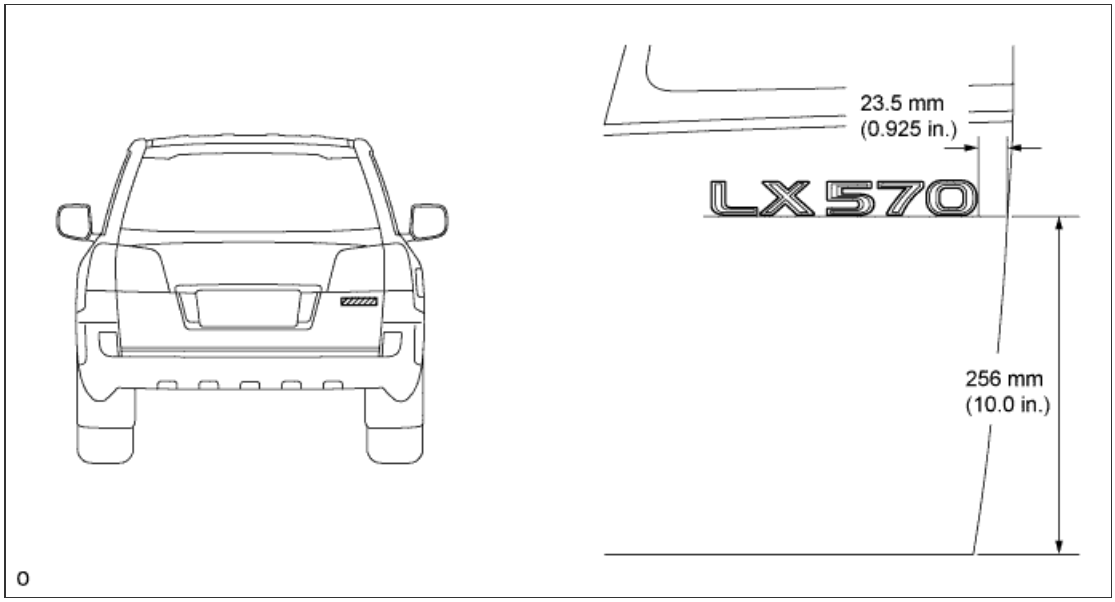
HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Install the rear body name plate in the position shown in the illustration.

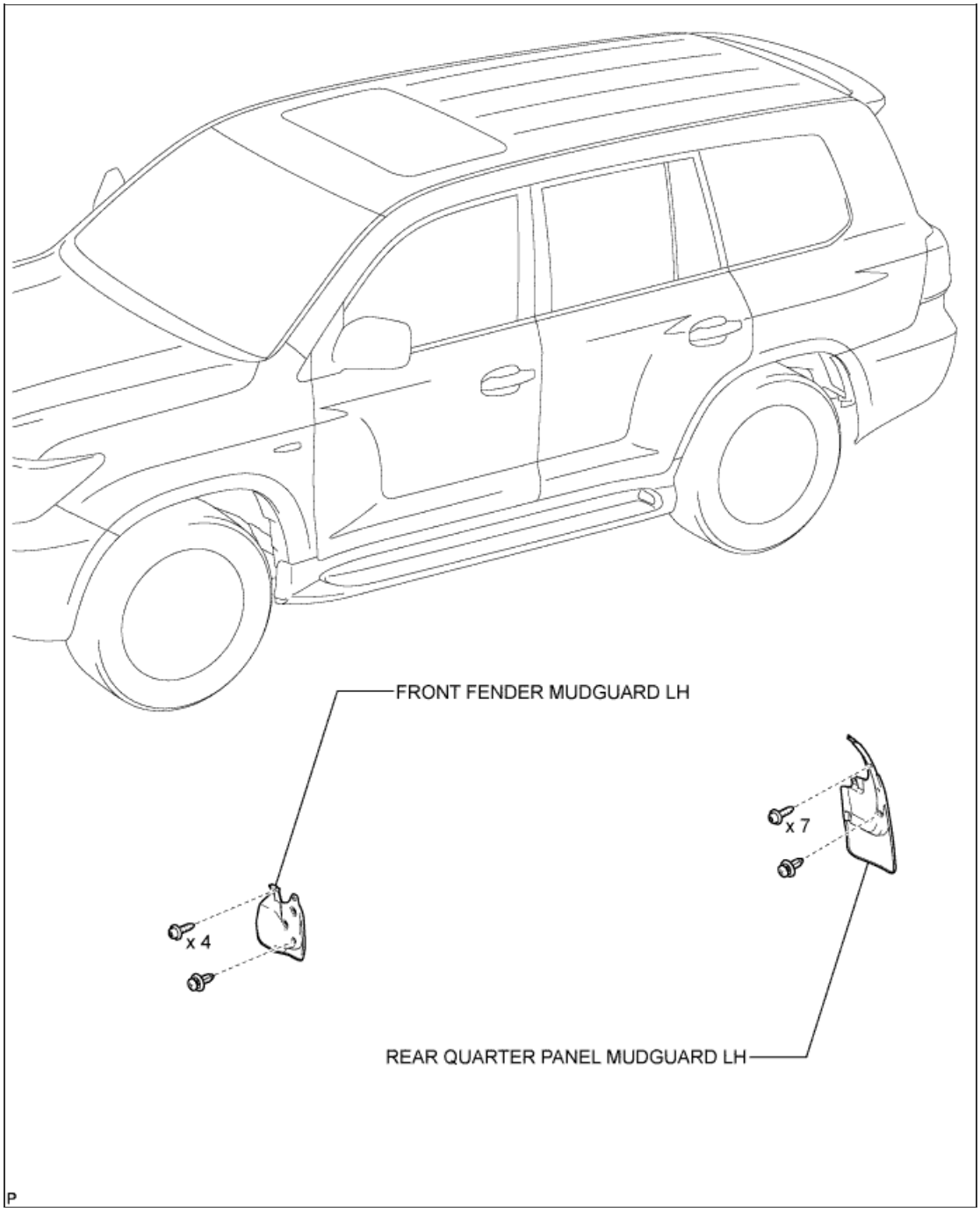
HINT:

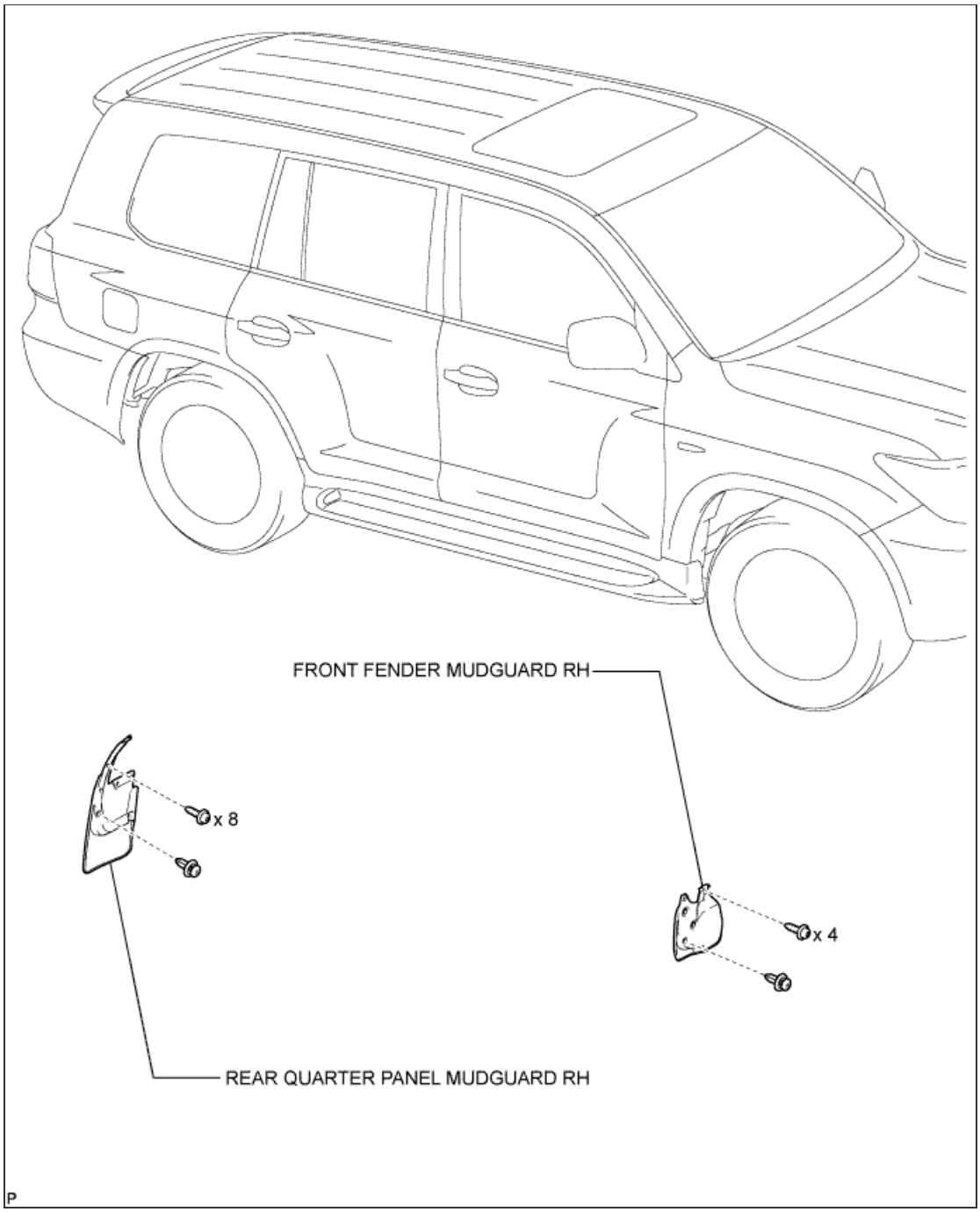
Press the rear body name plate firmly to install it.



o

for Preparation [Click here]



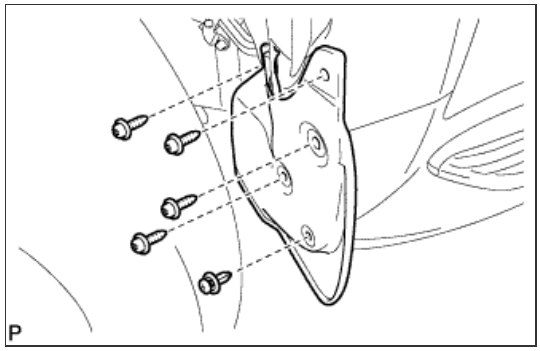

FRONT FENDER MUDGUARD RH
x 8
x 4
REAR QUARTER PANEL MUDGUARD RH
P

for Preparation Click here

1. REMOVE FRONT FENDER MUDGUARD LH

a. Remove the clip.

b. Using a T30 "TORX" socket, remove the 4 screws and mudguard.



2. REMOVE FRONT FENDER MUDGUARD RH

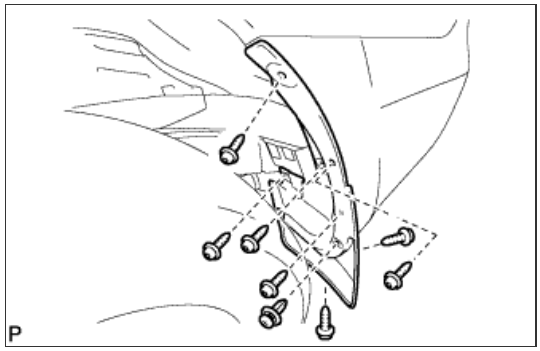
HINT:

Use the same procedures described for the LH side.

3. REMOVE REAR QUARTER PANEL MUDGUARD LH

a. Remove the clip.

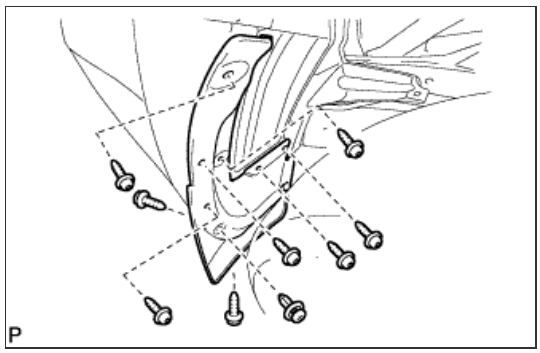
b. Using a T30 "TORX" socket, remove the 7 screws and mudguard.



4. REMOVE REAR QUARTER PANEL MUDGUARD RH

a. Remove the clip.

b. Using a T30 "TORX" socket, remove the 8 screws and mudguard.

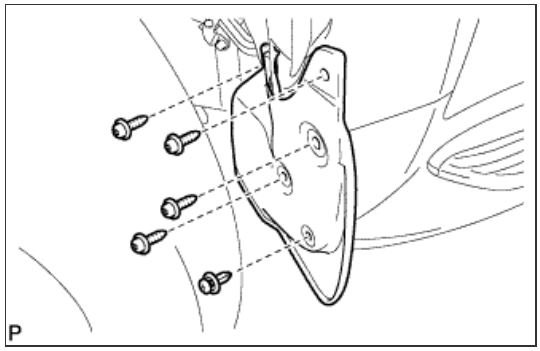


for Preparation Click here

1. INSTALL FRONT FENDER MUDGUARD LH

a. Install the mudguard with the clip.

b. Using a T30 "TORX" socket, install the 4 screws.



2. INSTALL FRONT FENDER MUDGUARD RH

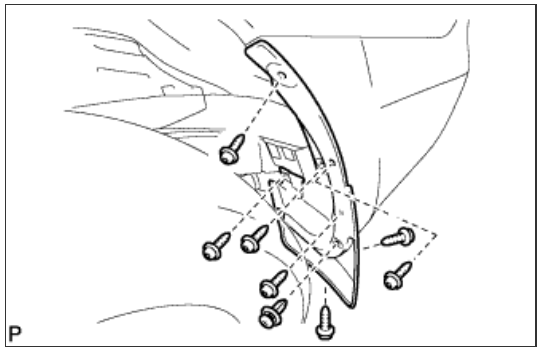
HINT:

Use the same procedures described for the LH side.

3. INSTALL REAR QUARTER PANEL MUDGUARD LH

a. Install the mudguard with the clip.

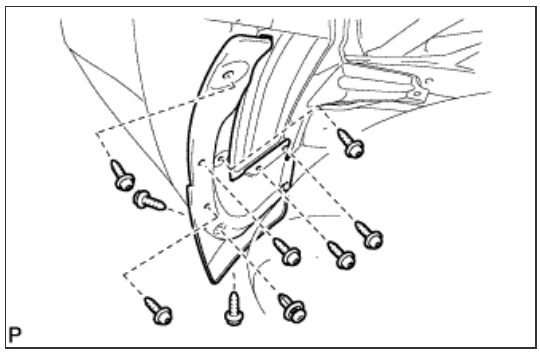
b. Using a T30 "TORX" socket, install the 7 screws.



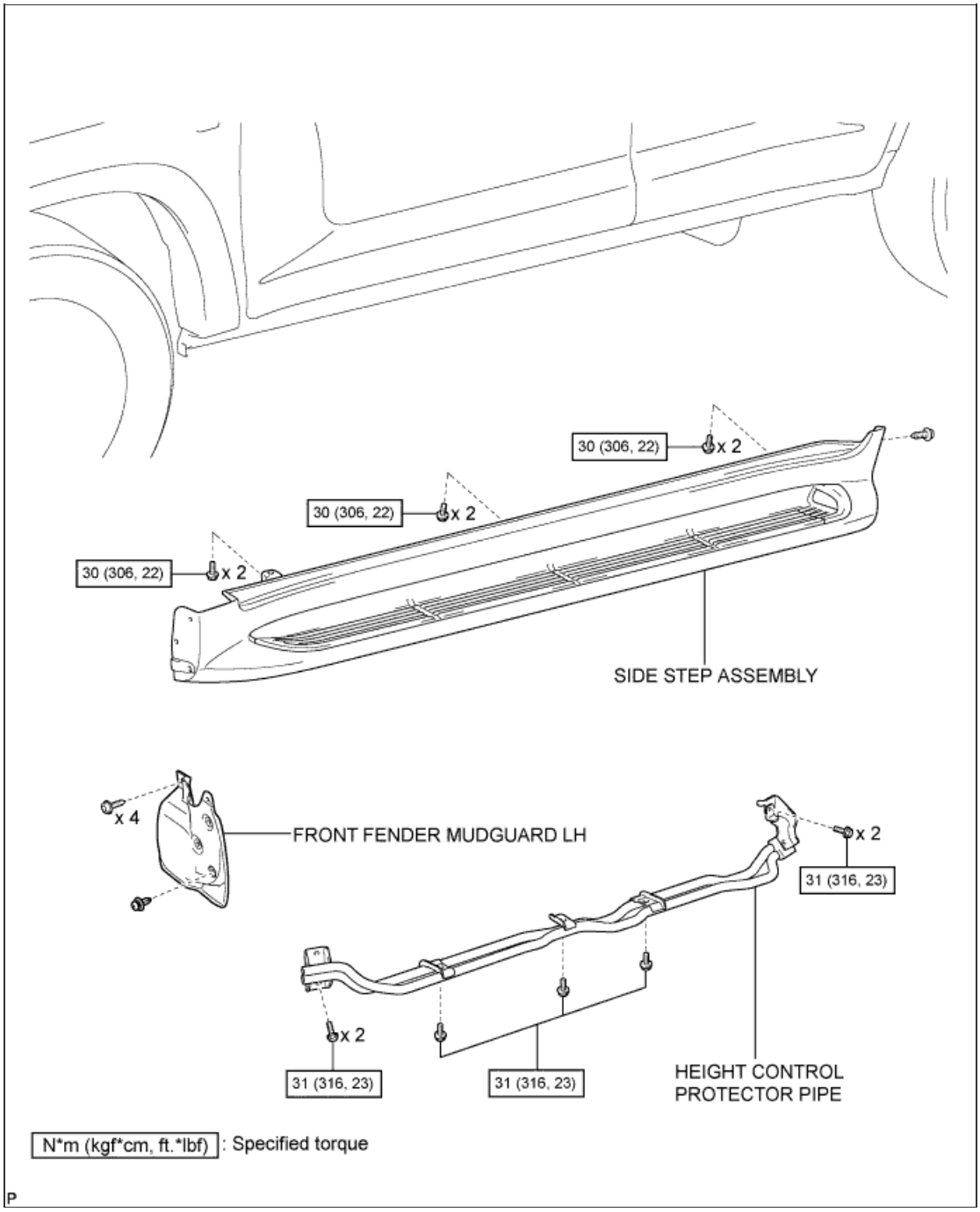
4. INSTALL REAR QUARTER PANEL MUDGUARD RH

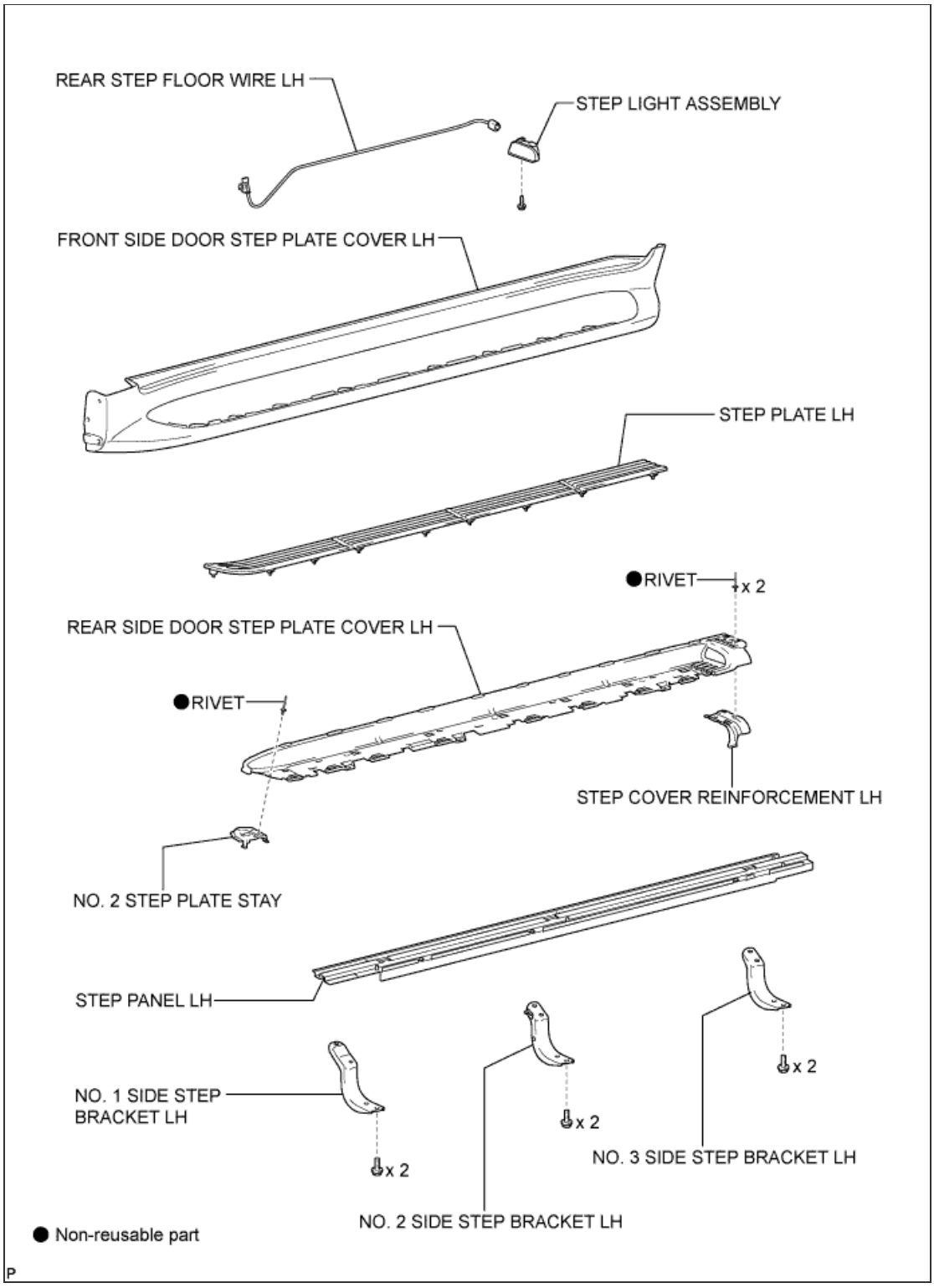
a. Install the mudguard with the clip.

b. Using a T30 "TORX" socket, install the 8 screws.



for Preparation Click here




REAR STEP FLOOR WIRE LH
STEP LIGHT ASSEMBLY
FRONT SIDE DOOR STEP PLATE COVER LH
STEP PLATE LH
●RIVET
x 2
REAR SIDE DOOR STEP PLATE COVER LH
●RIVET
STEP COVER REINFORCEMENT LH
NO. 2 STEP PLATE STAY
STEP PANEL LH
NO. 1 SIDE STEP BRACKET LH
x 2
x 2
x 2
NO. 3 SIDE STEP BRACKET LH
NO. 2 SIDE STEP BRACKET LH
● Non-reusable part
P

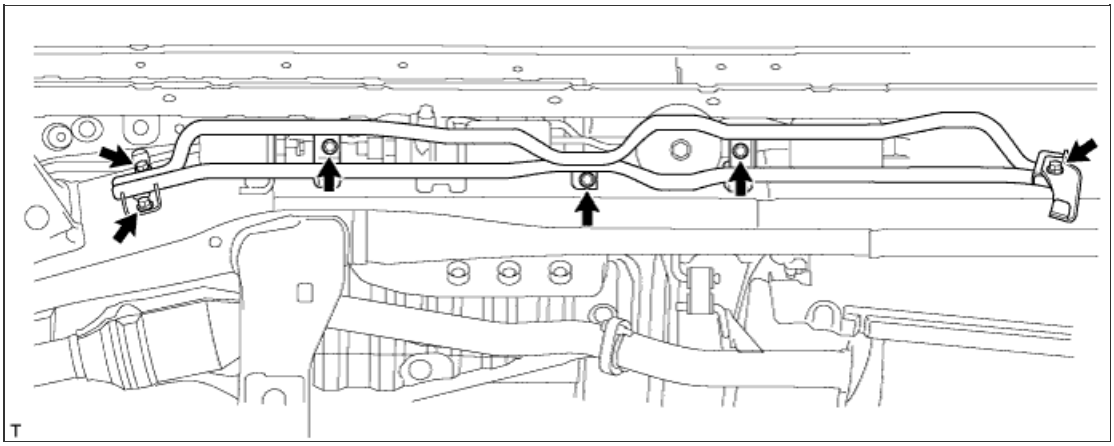
for Preparation Click here

HINT:

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

1. REMOVE HEIGHT CONTROL PROTECTOR PIPE

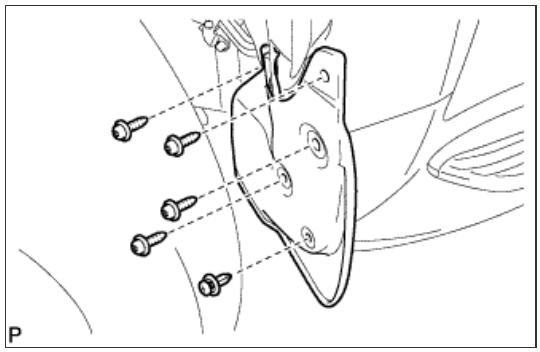
a. Remove the 6 bolts and protector pipe.



2. REMOVE FRONT FENDER MUDGUARD LH

a. Remove the clip.

b. Using a T30 "TORX" socket, remove the 4 screws and mudguard.

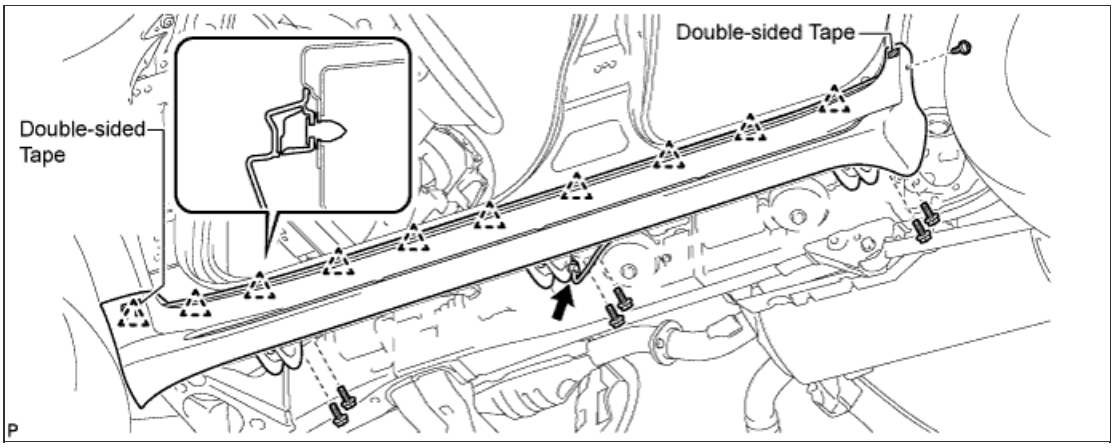


3. REMOVE SIDE STEP ASSEMBLY

a. Remove the screw and 6 bolts.

b. Disconnect the connector.

c. Detach the 10 clips and remove the double-sided tape to remove the side step.


Double-sided Tape
Double-sided Tape
P

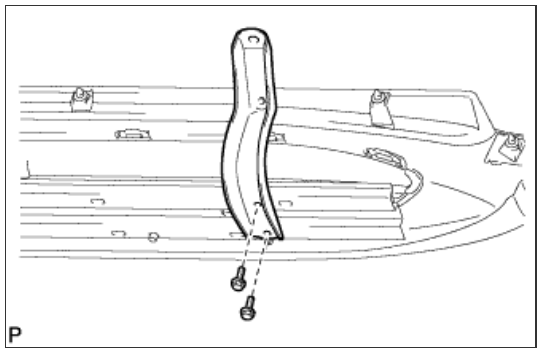
for Preparation Click here

HINT:

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

1. REMOVE NO. 1 SIDE STEP BRACKET LH

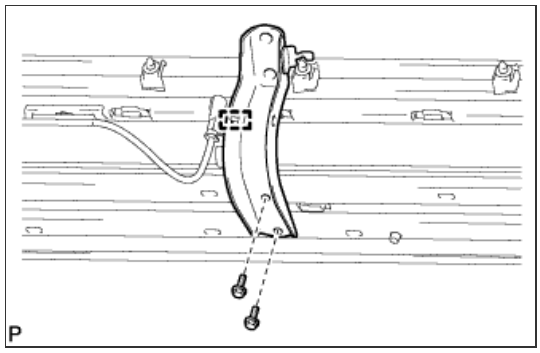
a. Remove the 2 bolts and side step bracket.



2. REMOVE NO. 2 SIDE STEP BRACKET LH

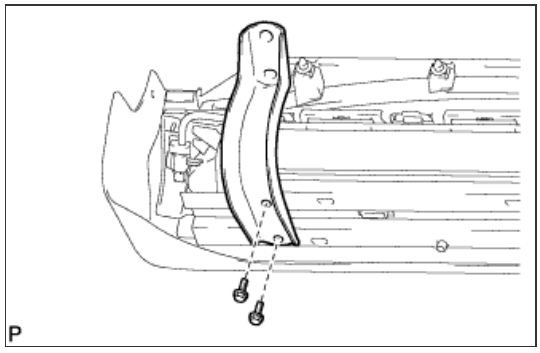
a. Detach the clamp.

b. Remove the 2 bolts and side step bracket.



3. REMOVE NO. 3 SIDE STEP BRACKET LH

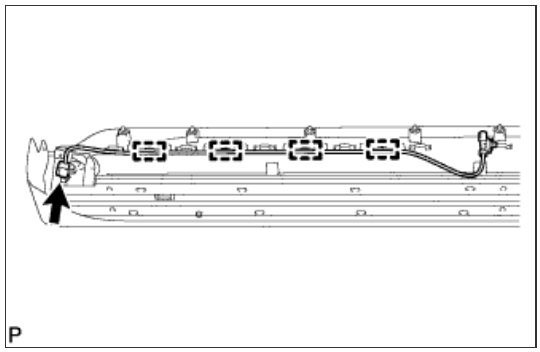
a. Remove the 2 bolts and side step bracket.



4. REMOVE REAR STEP FLOOR WIRE LH

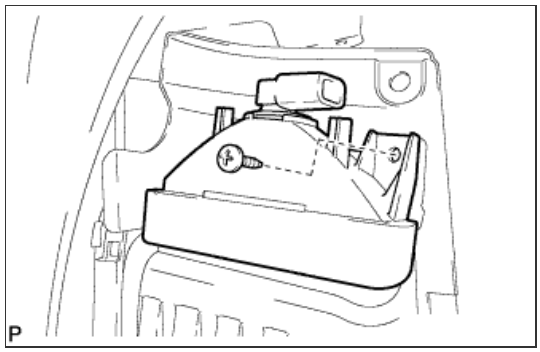
a. Disconnect the connector.

b. Detach the 4 clamps and remove the rear step floor wire.



5. REMOVE STEP LIGHT ASSEMBLY

a. Remove the screw and step light.

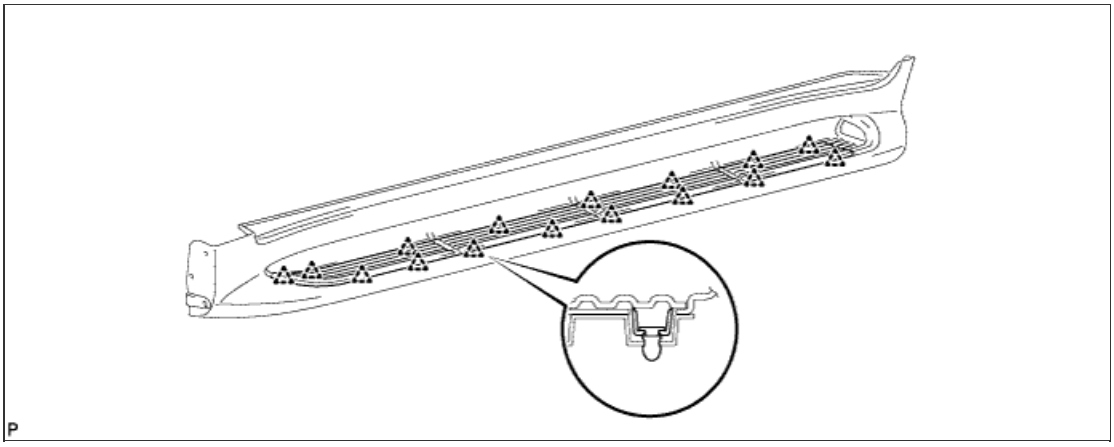


6. REMOVE STEP PLATE LH

a. Detach the 16 clips and remove the step plate.

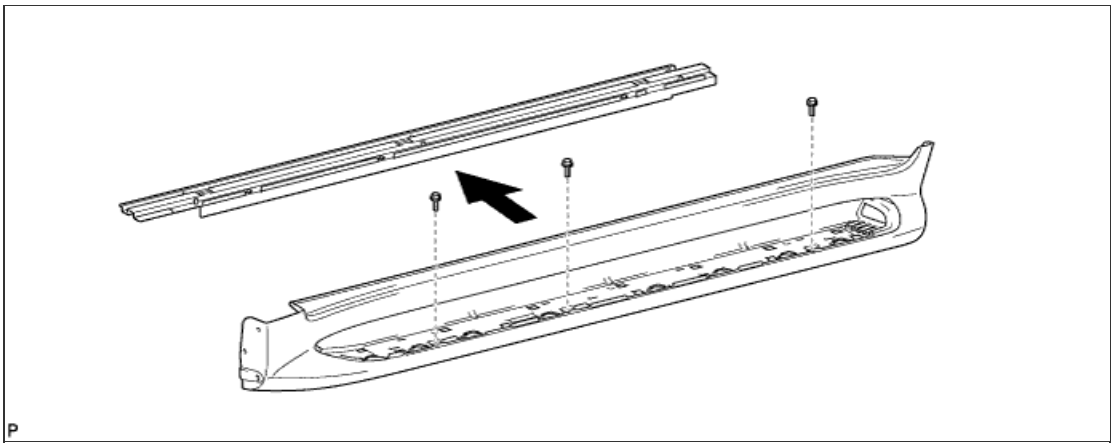
HINT:

Detach the clips from the backside of the step plate.

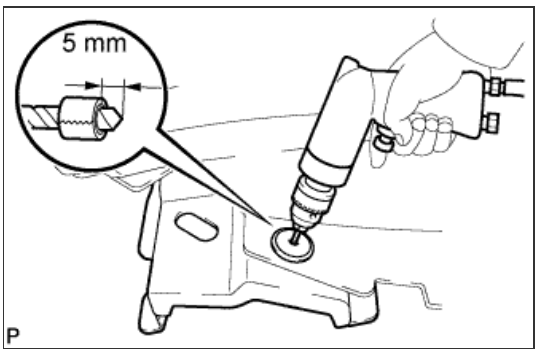


7. REMOVE STEP PANEL LH

a. Remove the 3 bolts and step panel.



8. REMOVE NO. 2 STEP PLATE STAY



a. Put a 4 mm (0.157 in.) drill bit into a drill.

b. Wind tape around the drill bit approximately 5 mm (0.197 in.) from the tip of the drill, as shown in the illustration.

HINT:

Tape the 4 mm (0.157 in.) drill bit to prevent the drill bit from going too deep.

c. Lightly press the drill against the rivet, drill off the flanges of the rivet, and remove the step plate stay.

NOTICE:

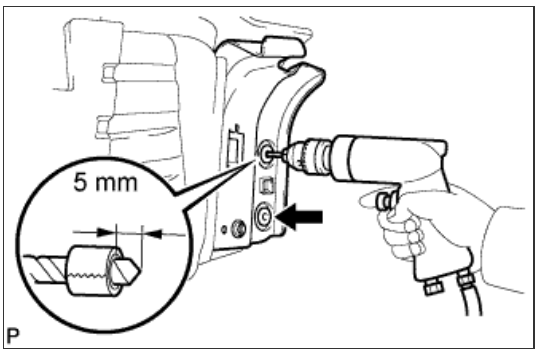
- **Pressing the drill too firmly will cause the rivet to turn and result in the rivet not being drilled through.**
- **Do not pry the rivet with the drill, because this may cause damage to the installation holes of the rivet or the drill bit.**

CAUTION:

Be careful of the drilled rivet as it may become hot.

d. Using a vacuum cleaner, remove the rivet fragments and shavings from the drilled area.

9. REMOVE STEP COVER REINFORCEMENT LH



a. Put a 4 mm (0.157 in.) drill bit into a drill.

b. Wind tape around the drill bit approximately 5 mm (0.197 in.) from the tip of the drill, as shown in the illustration.

HINT:

Tape the 4 mm (0.157 in.) drill bit to prevent the drill bit from going too deep.

c. Lightly press the drill against the 2 rivets, drill off the flanges of the 2 rivets, and remove the step cover reinforcement.

NOTICE:

- **Pressing the drill too firmly will cause the rivet to turn and result in the rivet not being drilled through.**
- **Do not pry the rivet with the drill, because this may cause damage to the installation holes of the rivet or the drill bit.**

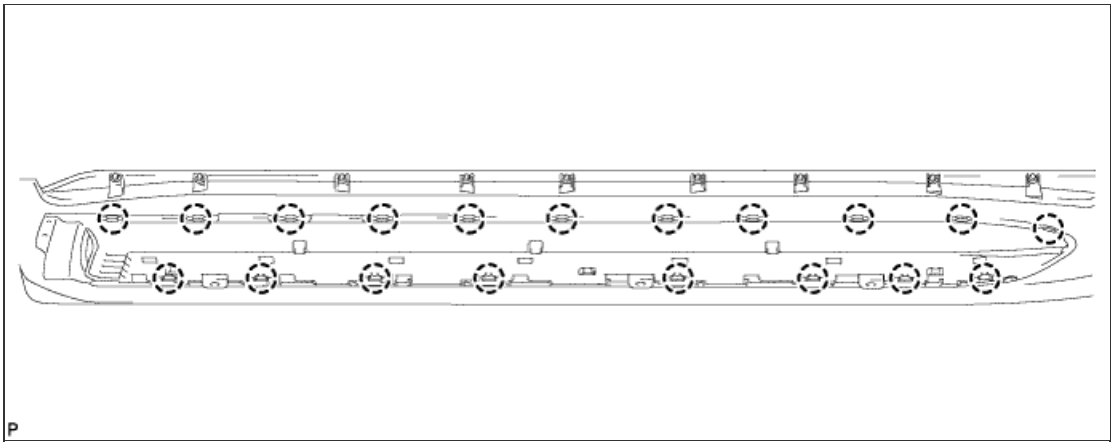
CAUTION:

Be careful of the drilled rivet as it may become hot.

d. Using a vacuum cleaner, remove the rivet fragments and shavings from the drilled area.

10. REMOVE REAR SIDE DOOR STEP PLATE COVER LH

a. Detach the 19 claws and remove the rear side door step plate cover.



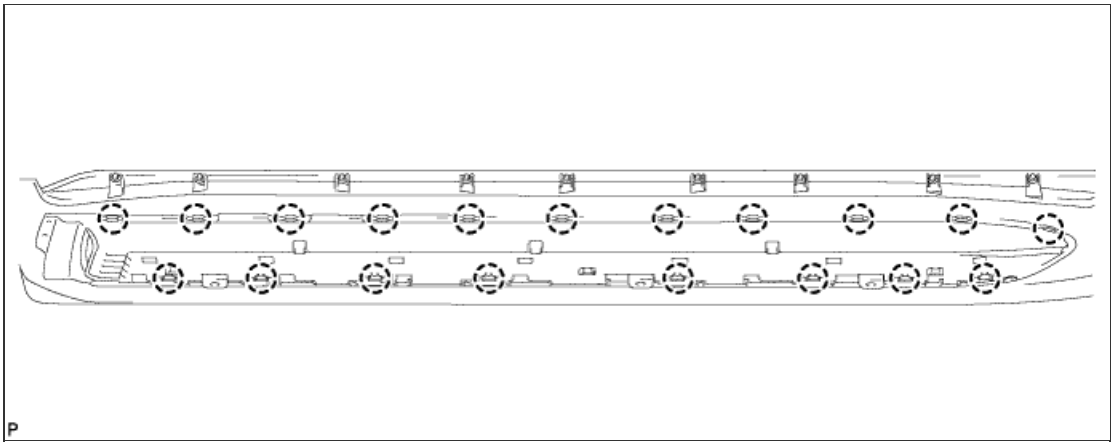
for Preparation Click here

HINT:

- **Use the same procedures for the RH side and LH side.**
- **The procedures listed below are for the LH side.**
- **A bolt without a torque specification is shown in the standard bolt chart (Click here).**

1. INSTALL REAR SIDE DOOR STEP PLATE COVER LH

a. Attach the 19 claws to install the rear side door step plate cover.

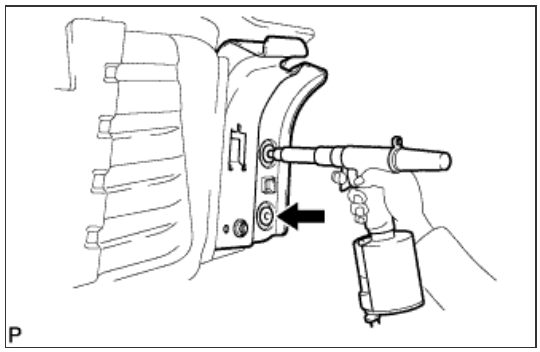


2. INSTALL STEP COVER REINFORCEMENT LH

a. Install a nose piece to an air riveter or hand riveter.

b. Insert the mandrel part of a new rivet into the nose piece.

c. Using the riveter, install the step cover reinforcement as shown in the illustration.

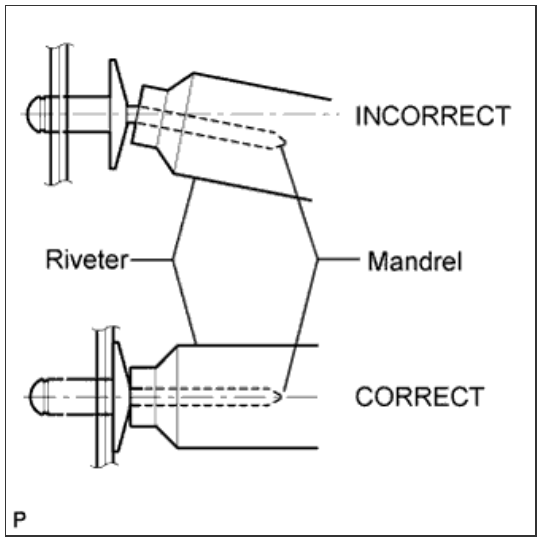


HINT:

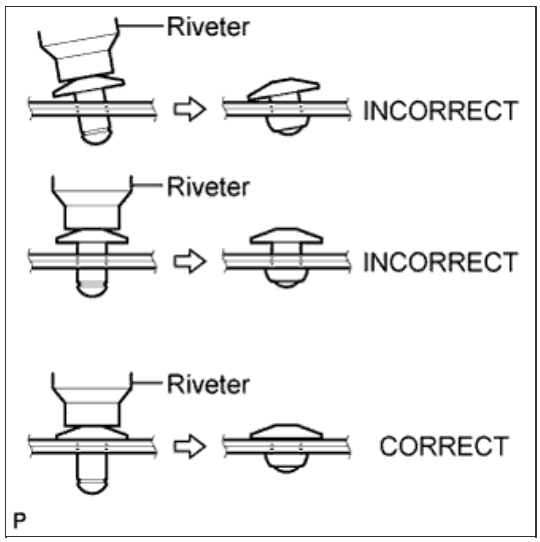
If the rivet cannot be cut, pull it once and cut it.

NOTICE:

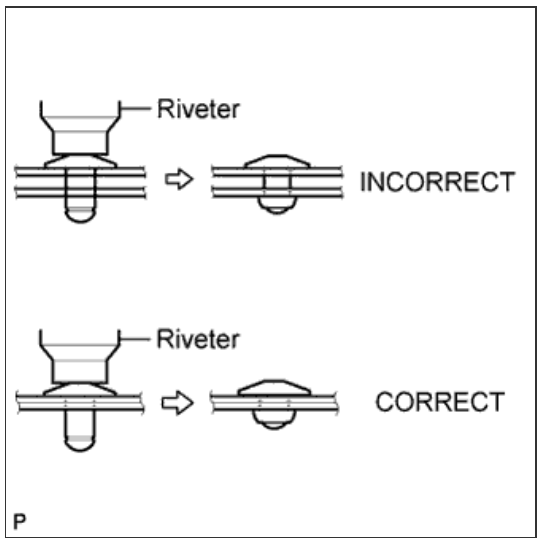
- **Do not pry the rivet with the riveter, as this will cause damage to the riveter and mandrel.**



- **Confirm that the rivets are seated properly against the step cover reinforcement.**
- **Do not tilt the riveter when installing the rivet to the step cover reinforcement.**
- **Do not leave any space between the rivet head and step cover reinforcement.**



- **Do not leave any space between the step cover reinforcement and rear side door step plate cover. Firmly hold together the 2 items while installing the rivet.**



3. INSTALL NO. 2 STEP PLATE STAY

a. Install a nose piece to an air riveter or hand riveter.

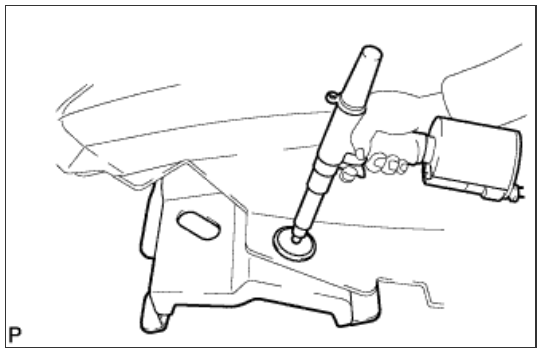
b. Insert the mandrel part of a new rivet into the nose piece.

c. Using the riveter, install the step plate stay as shown in the illustration.

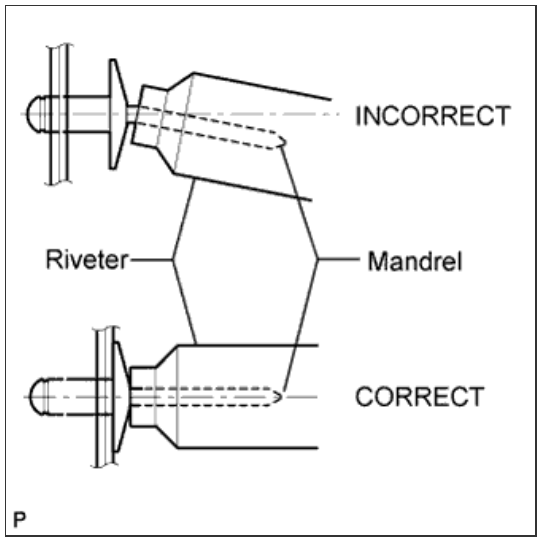
HINT:

If the rivet cannot be cut, pull it once and cut it.

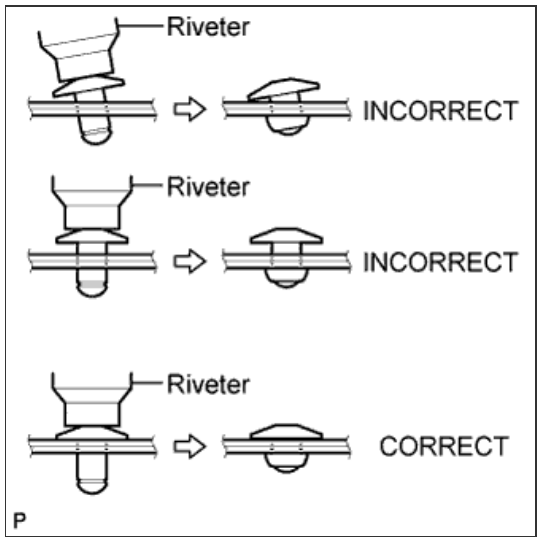
NOTICE:



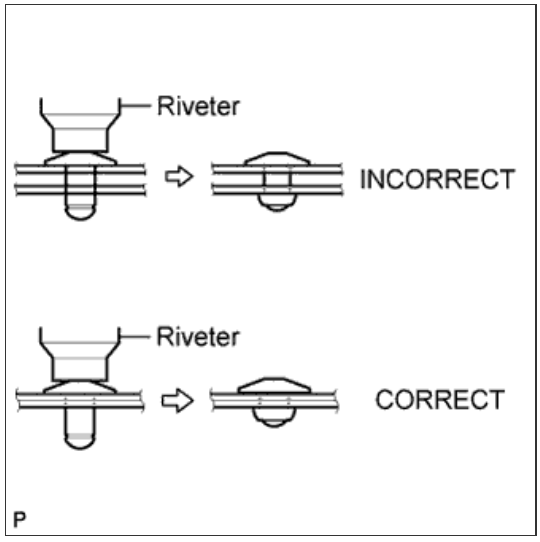
- **Do not pry the rivet with the riveter, as this will cause damage to the riveter and mandrel.**



- **Confirm that the rivet is seated properly against the No. 2 step plate stay.**
- **Do not tilt the riveter when installing the rivet to the No. 2 step plate stay.**
- **Do not leave any space between the rivet head and No. 2 step plate stay.**

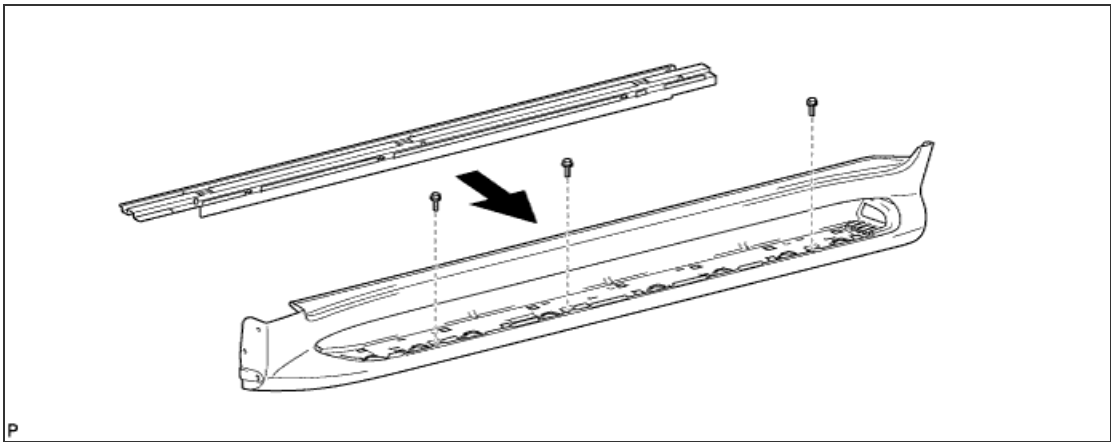


- **Do not leave any space between the No. 2 step plate stay and rear side step plate cover. Firmly hold together the 2 items while installing the rivet.**



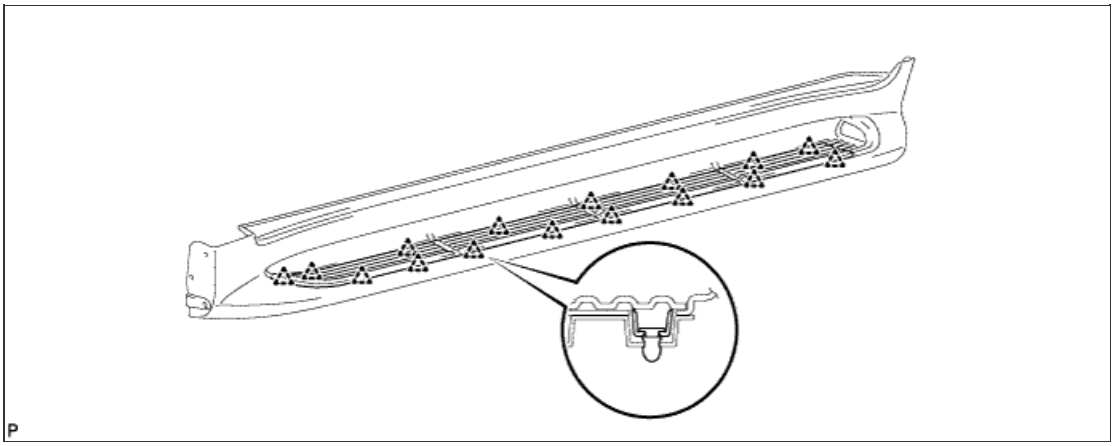
4. INSTALL STEP PANEL LH

a. Install the step panel with the 3 bolts.



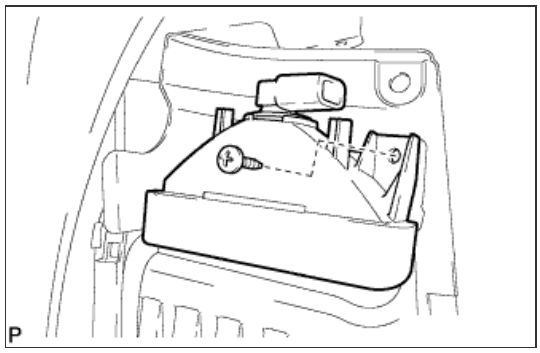
5. INSTALL STEP PLATE LH

a. Attach the 16 clips to install the step plate.



6. INSTALL STEP LIGHT ASSEMBLY

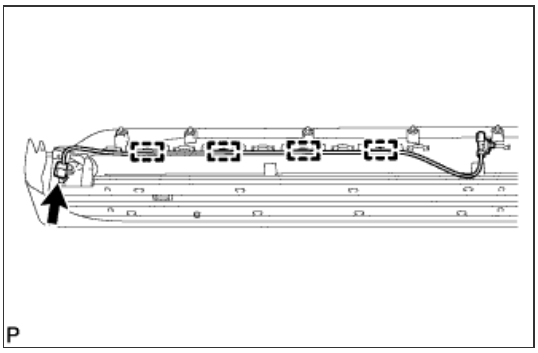
a. Install the step light with the screw.



7. INSTALL REAR STEP FLOOR WIRE LH

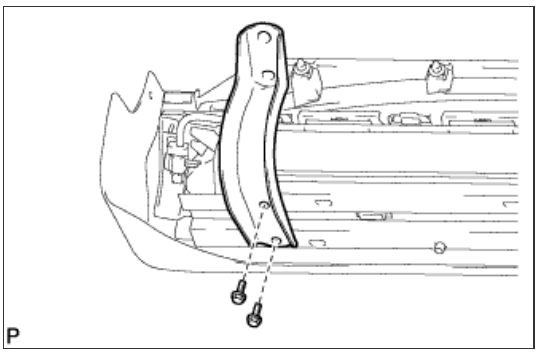
a. Attach the 4 clamps to install the rear step floor wire.

b. Connect the connector.



8. INSTALL NO. 3 SIDE STEP BRACKET LH

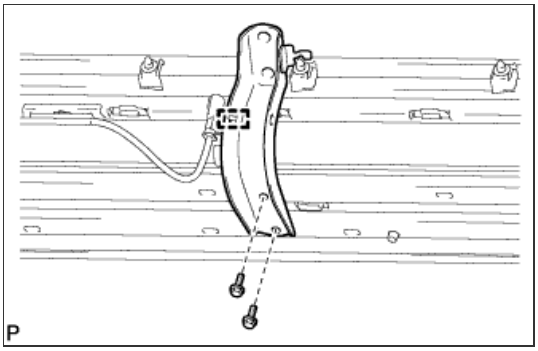
a. Install the bracket with the 2 bolts.



9. INSTALL NO. 2 SIDE STEP BRACKET LH

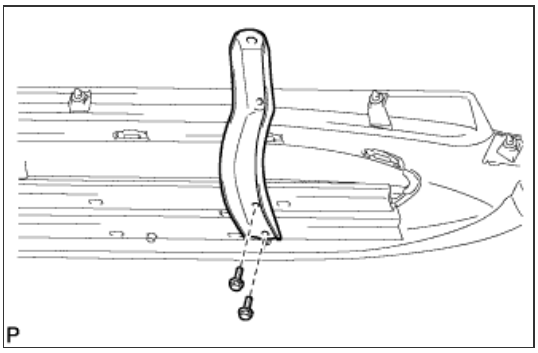
a. Install the bracket with the 2 bolts.

b. Attach the clamp.



10. INSTALL NO. 1 SIDE STEP BRACKET LH

a. Install the bracket with the 2 bolts.



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.**
- **When installing the side step, heat the vehicle body and side step using a heat light.**

Standard:

Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Side Step	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body and side step excessively.

1. INSTALL SIDE STEP ASSEMBLY

a. Clean the vehicle body 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.

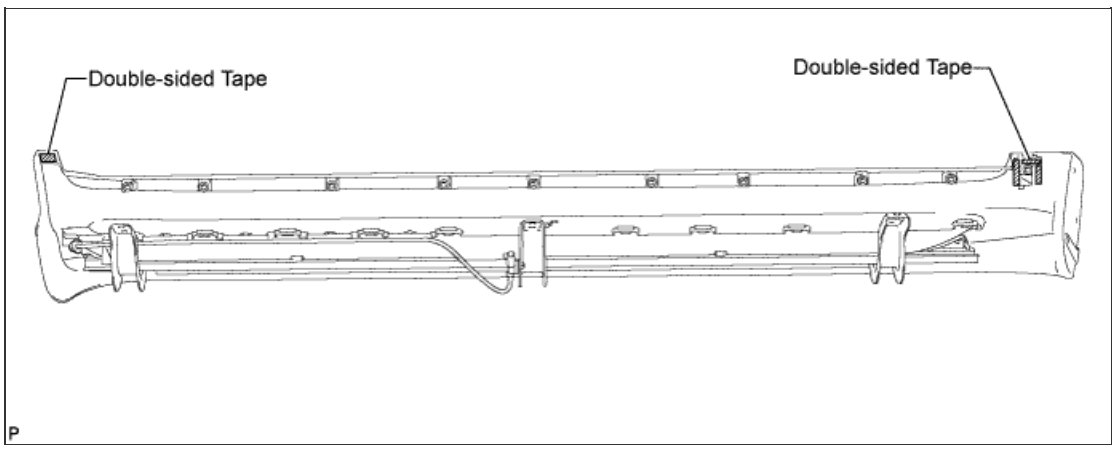
b. If reusing the side step:
Clean the side step.

i. Using a heat light, heat the side step.

ii. Remove the double-sided tape from the side step.

iii. Wipe off any tape adhesive residue with cleaner.

iv. Apply new double-sided tape to the side step, as shown in the illustration.



c. Install the side step.

i. Using a heat light, heat the vehicle body and side step.

ii. Remove the peeling paper from the face of the side step.

HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

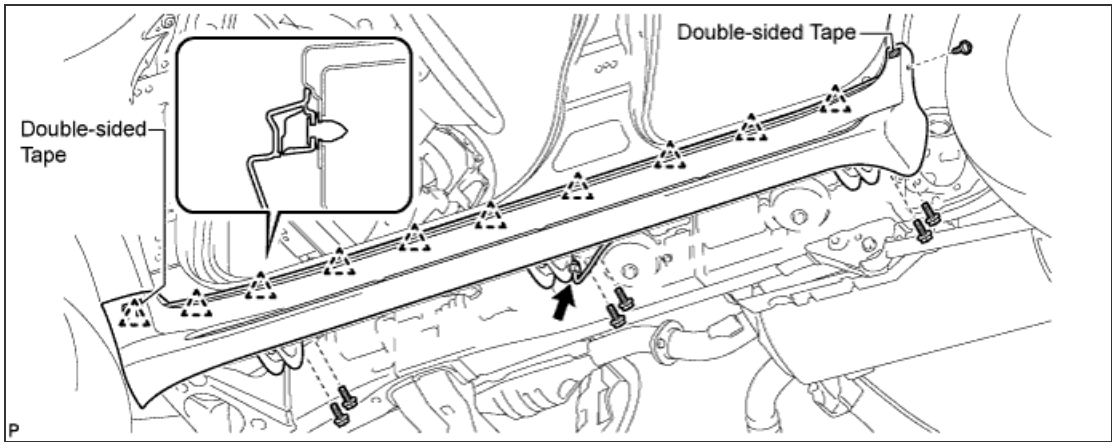
iii. Attach the 10 clips to install the side step.

iv. Install the 6 bolts.

Torque:
30 N*m{ 306 kgf*cm , 22 ft.*lbf }

v. Install the screw.

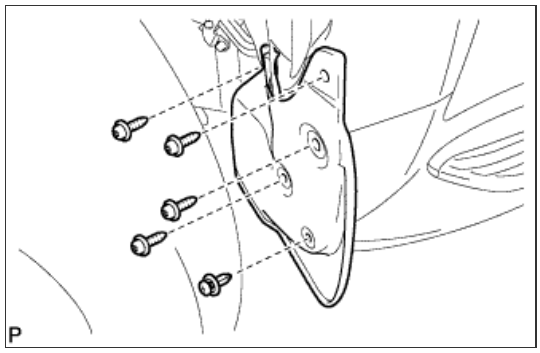
vi. Connect the connector.



2. INSTALL FRONT FENDER MUDGUARD LH

a. Install the mudguard with the clip.

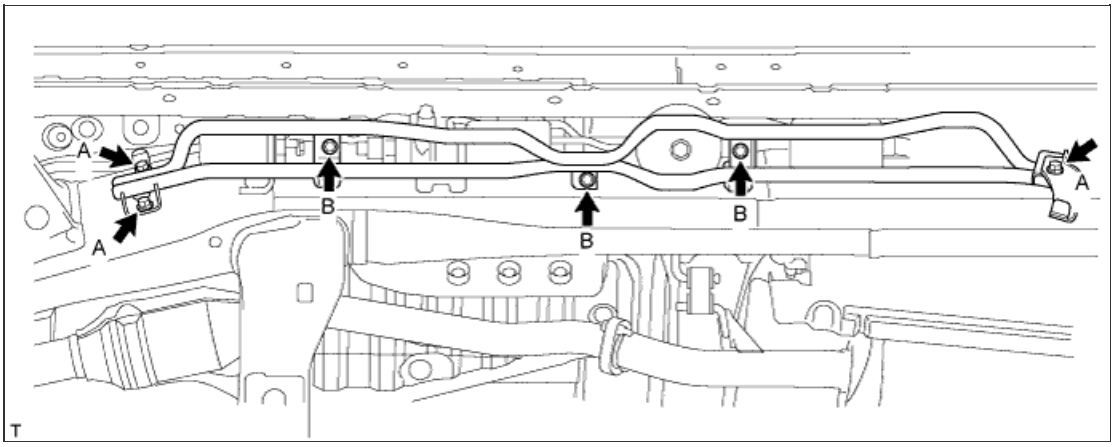
b. Using a T30 "TORX" socket, install the 4 screws.



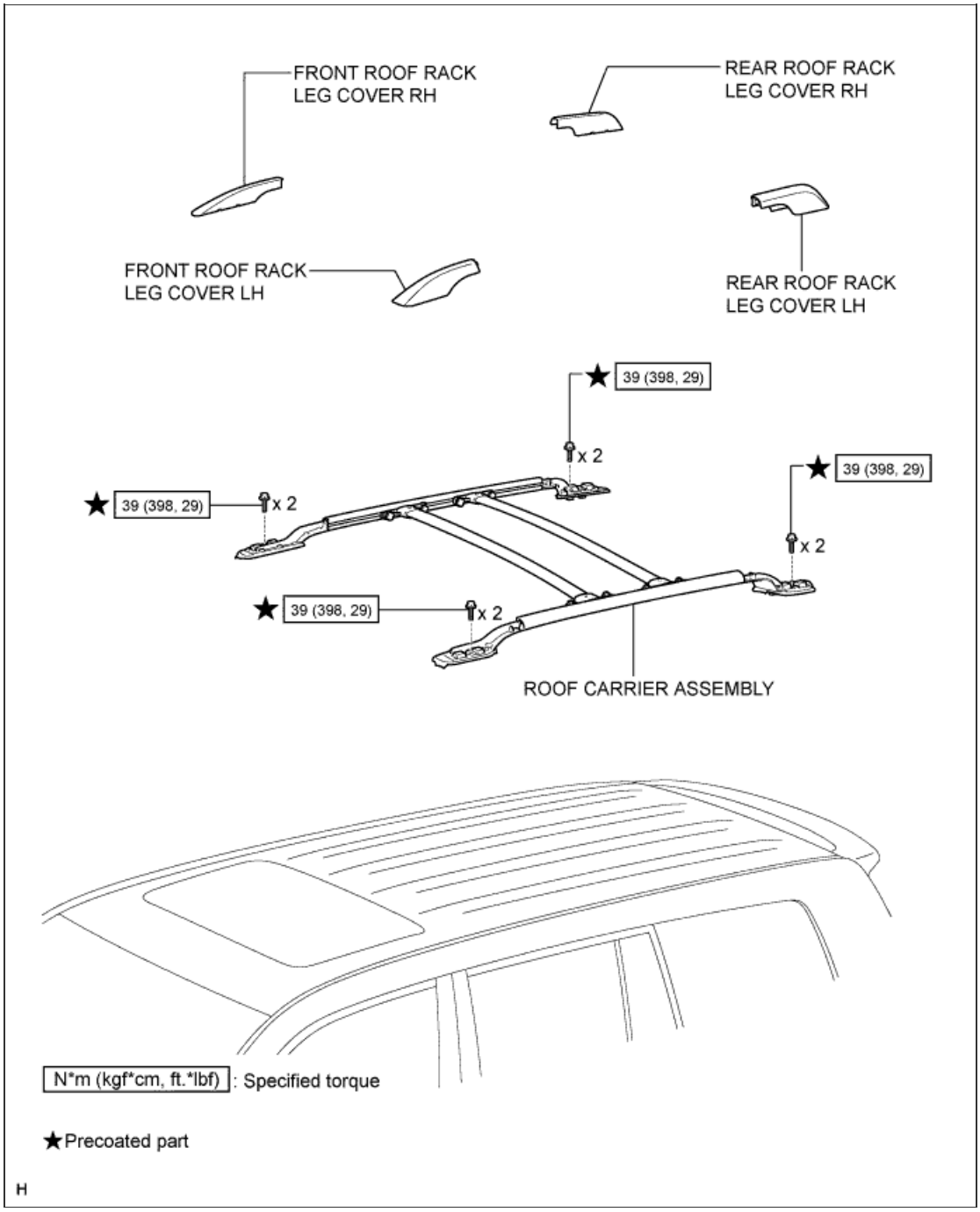
3. INSTALL HEIGHT CONTROL PROTECTOR PIPE

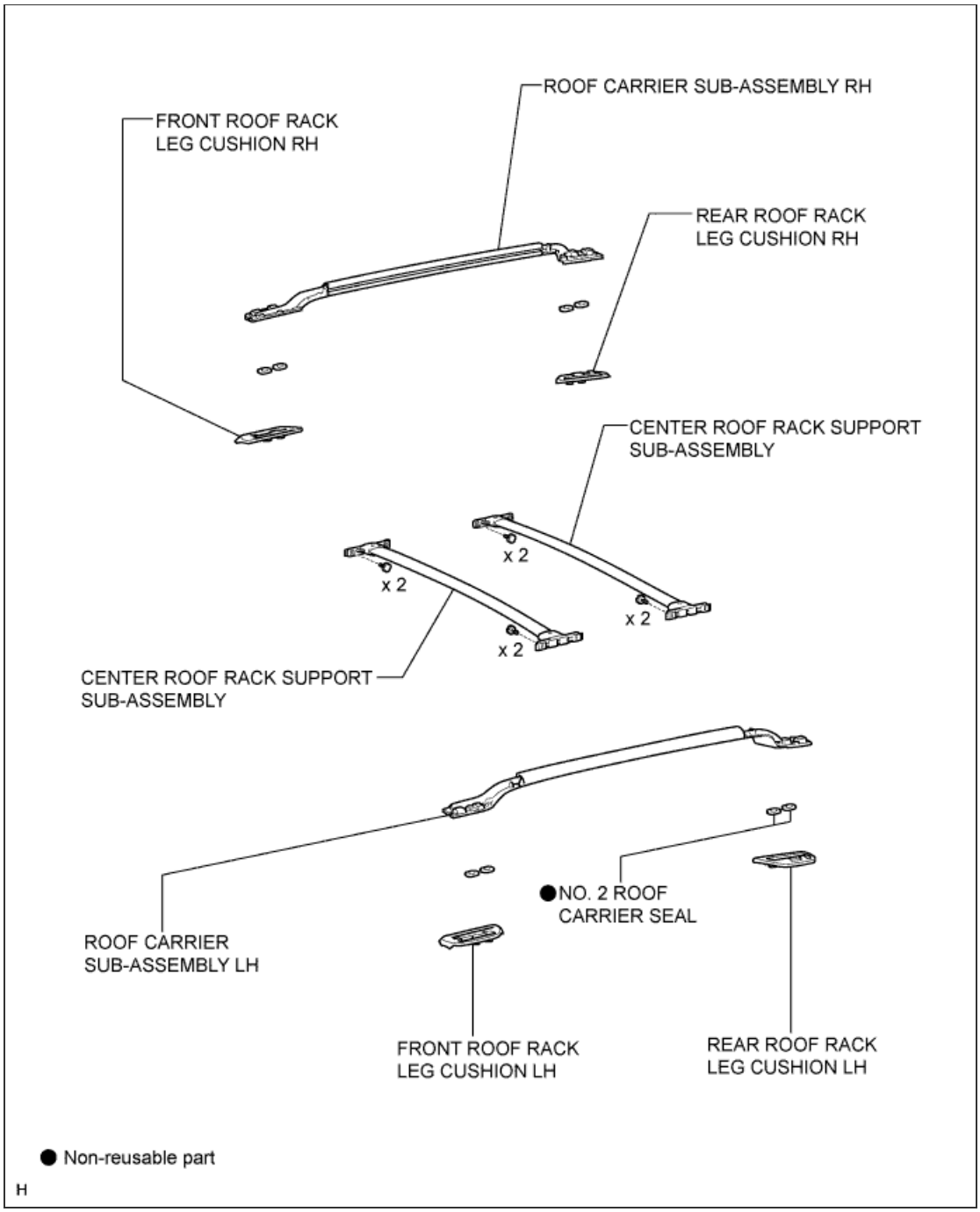
a. Install the protector pipe with the 6 bolts.

Torque:
for bolt A:
31 N*m{ 316 kgf*cm , 23 ft.*lbf }
for bolt B:
16 N*m{ 163 kgf*cm , 12 ft.*lbf }


A
A
B
B
B
A
T

for Preparation Click here

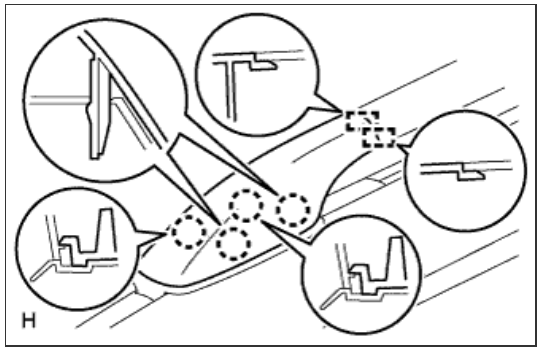



ROOF CARRIER SUB-ASSEMBLY RH
FRONT ROOF RACK
LEG CUSHION RH
REAR ROOF RACK
LEG CUSHION RH
CENTER ROOF RACK SUPPORT
SUB-ASSEMBLY
x 2
x 2
x 2
x 2
CENTER ROOF RACK SUPPORT
SUB-ASSEMBLY
NO. 2 ROOF
CARRIER SEAL
ROOF CARRIER
SUB-ASSEMBLY LH
FRONT ROOF RACK
LEG CUSHION LH
REAR ROOF RACK
LEG CUSHION LH
Non-reusable part
H

for Preparation Click here

1. REMOVE FRONT ROOF RACK LEG COVER LH

a. Detach the 4 claws and 2 guides, and remove the cover.



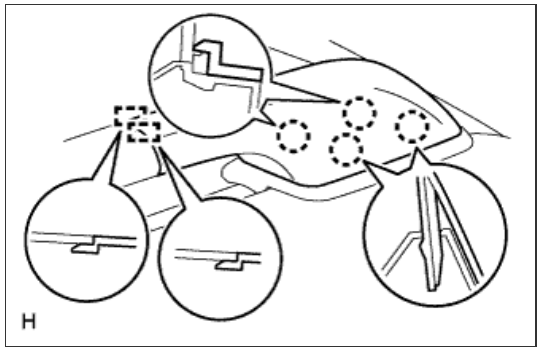
2. REMOVE FRONT ROOF RACK LEG COVER RH

HINT:

Use the same procedures described for the LH side.

3. REMOVE REAR ROOF RACK LEG COVER LH

a. Detach the 4 claws and 2 guides, and remove the cover.



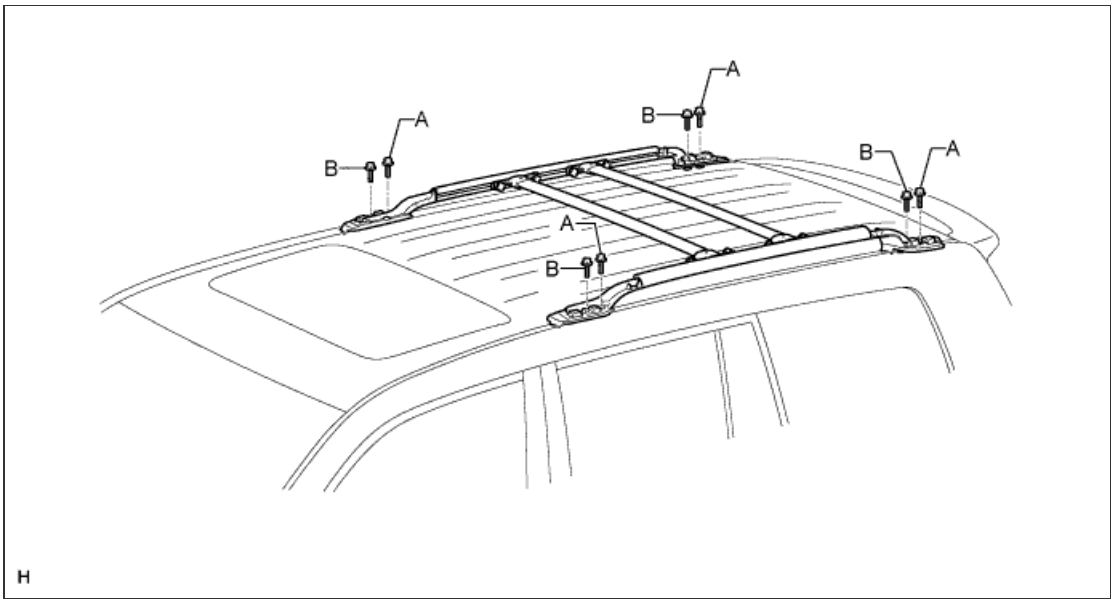
4. REMOVE REAR ROOF RACK LEG COVER RH

HINT:

Use the same procedures described for the LH side.

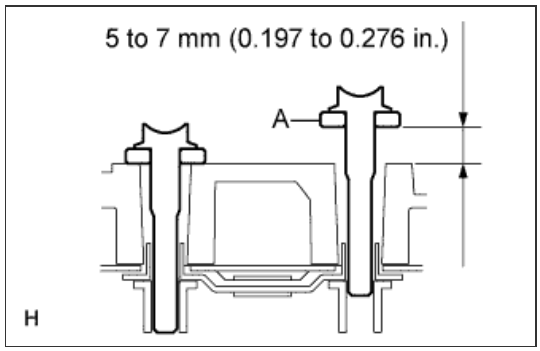
5. REMOVE ROOF CARRIER ASSEMBLY

a. Remove the 8 bolts and roof carrier.

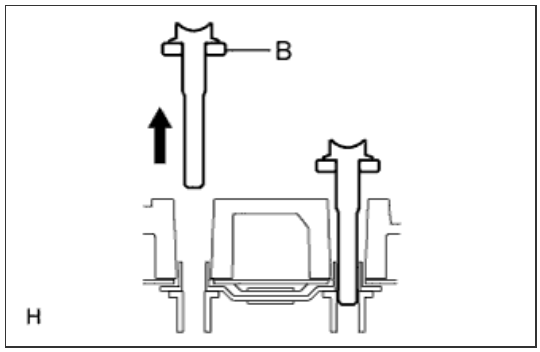


NOTICE:

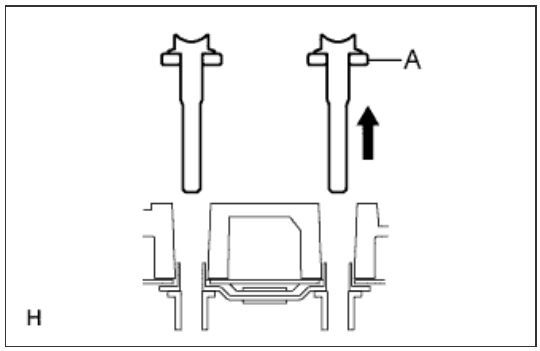
- **Loosen bolt A so that it protrudes a distance of 5 to 7 mm (0.197 to 0.276 in.) as shown in the illustration.**



- **Remove bolt B.**



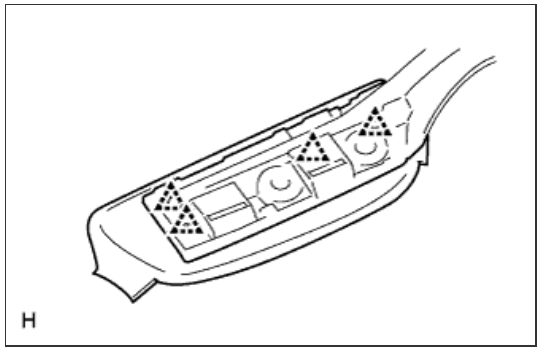
- **Remove bolt A.**



for Preparation Click here

1. REMOVE FRONT ROOF RACK LEG CUSHION LH

a. Detach the 4 clips and remove the cushion.



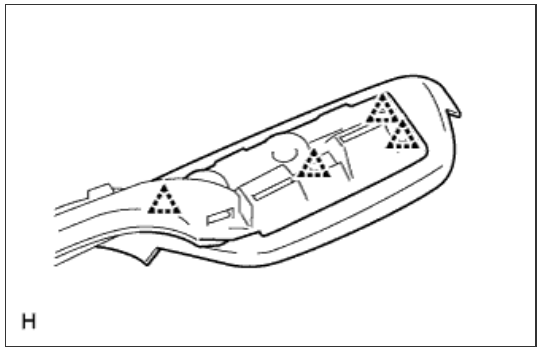
2. REMOVE FRONT ROOF RACK LEG CUSHION RH

HINT:

Use the same procedures described for the LH side.

3. REMOVE REAR ROOF RACK LEG CUSHION LH

a. Detach the 4 clips and remove the cushion.



4. REMOVE REAR ROOF RACK LEG CUSHION RH

HINT:

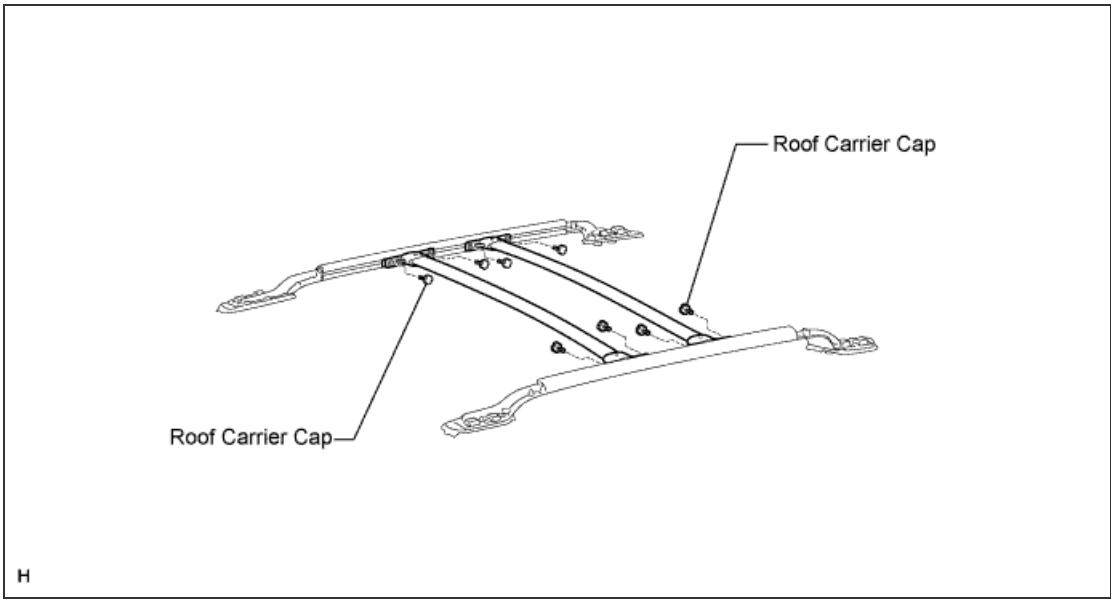
Use the same procedures described for the LH side.

5. REMOVE NO. 2 ROOF CARRIER SEAL

a. Remove the 8 No. 2 roof carrier seals.

6. REMOVE CENTER ROOF RACK SUPPORT SUB-ASSEMBLY

a. Remove the 8 roof carrier caps and 2 roof rack supports.


Roof Carrier Cap
Roof Carrier Cap
H

for Preparation Click here

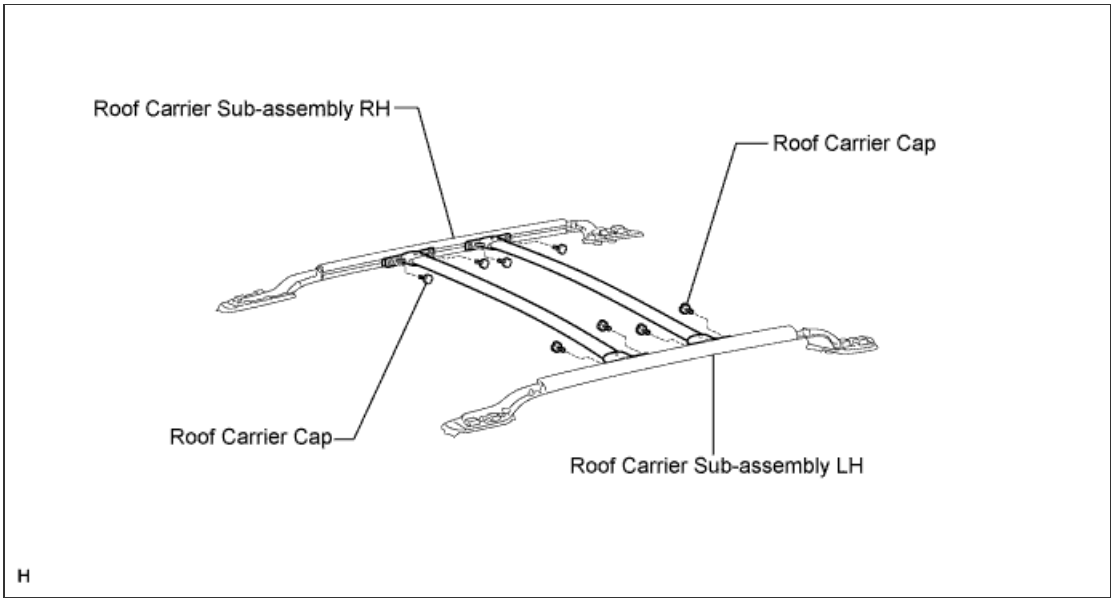
1. INSTALL CENTER ROOF RACK SUPPORT SUB-ASSEMBLY

a. Install the 2 roof rack supports to the roof carrier sub-assembly LH and RH.

b. Install the 8 roof carrier caps.

HINT:

Loosely install the roof carrier caps so that the roof rack support position can be adjusted after the roof carrier assembly is installed.

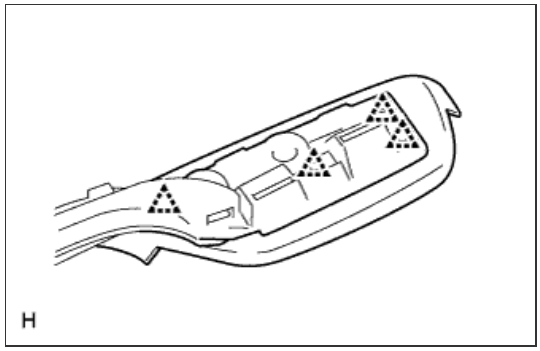


2. INSTALL NO. 2 ROOF CARRIER SEAL

a. Install 8 new No. 2 roof carrier seals.

3. INSTALL REAR ROOF RACK LEG CUSHION LH

a. Attach the 4 clips to install the cushion.



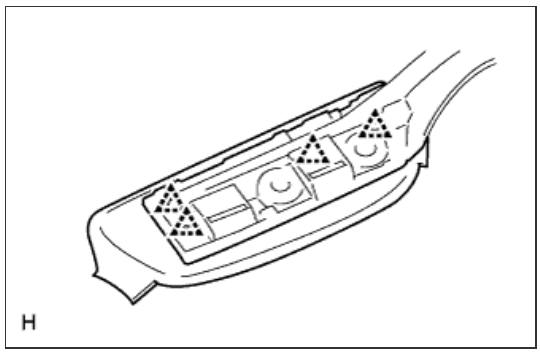
4. INSTALL REAR ROOF RACK LEG CUSHION RH

HINT:

Use the same procedures described for the LH side.

5. INSTALL FRONT ROOF RACK LEG CUSHION LH

a. Attach the 4 clips to install the cushion.



6. INSTALL FRONT ROOF RACK LEG CUSHION RH

HINT:

Use the same procedures described for the LH side.

for Preparation Click here

1. INSTALL ROOF CARRIER ASSEMBLY

a. Clean the threaded surface on the vehicle body with a non-residue solvent.

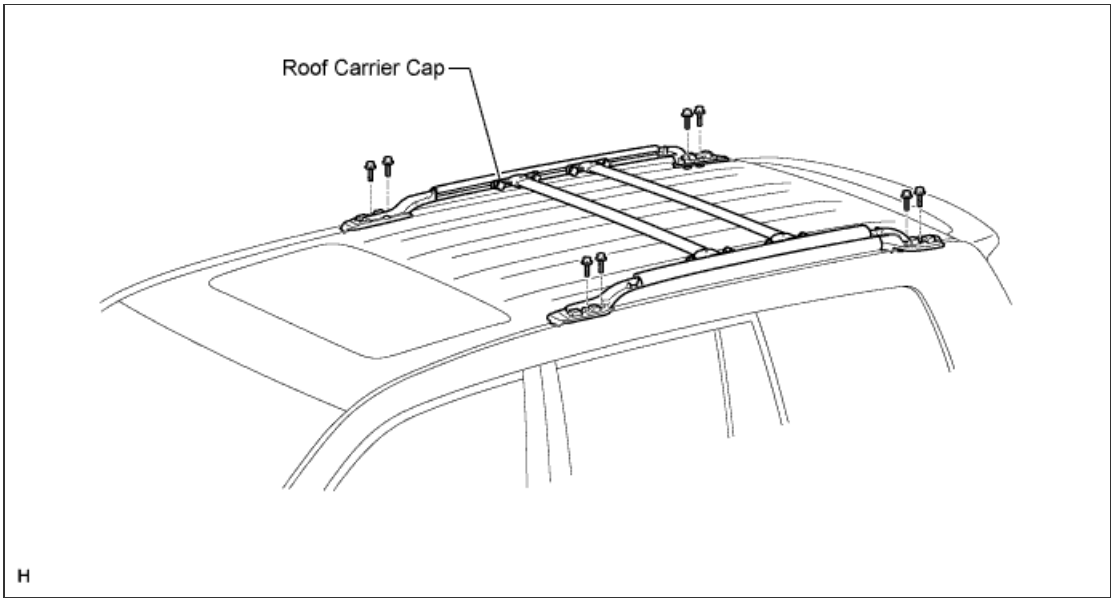
b. Apply adhesive to the threads of the 8 bolts.

Adhesive:
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

c. Install the roof carrier with the 8 bolts.

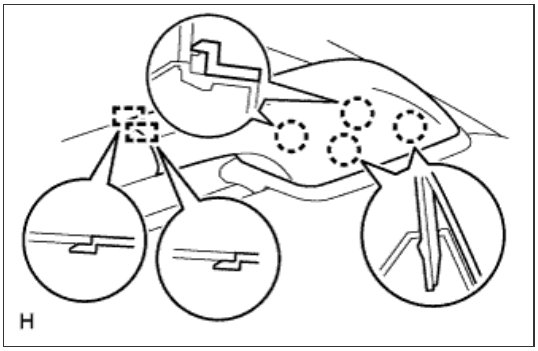
Torque:
39 N*m{ 398 kgf*cm , 29 ft.*lbf }

d. Adjust the roof rack support positions and tighten the roof carrier caps.



2. INSTALL REAR ROOF RACK LEG COVER LH

a. Attach the 2 guides and 4 claws to install the cover.



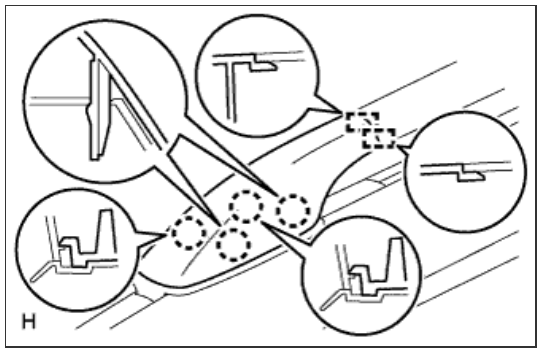
3. INSTALL REAR ROOF RACK LEG COVER RH

HINT:

Use the same procedures described for the LH side.

4. INSTALL FRONT ROOF RACK LEG COVER LH

a. Attach the 2 guides and 4 claws to install the cover.

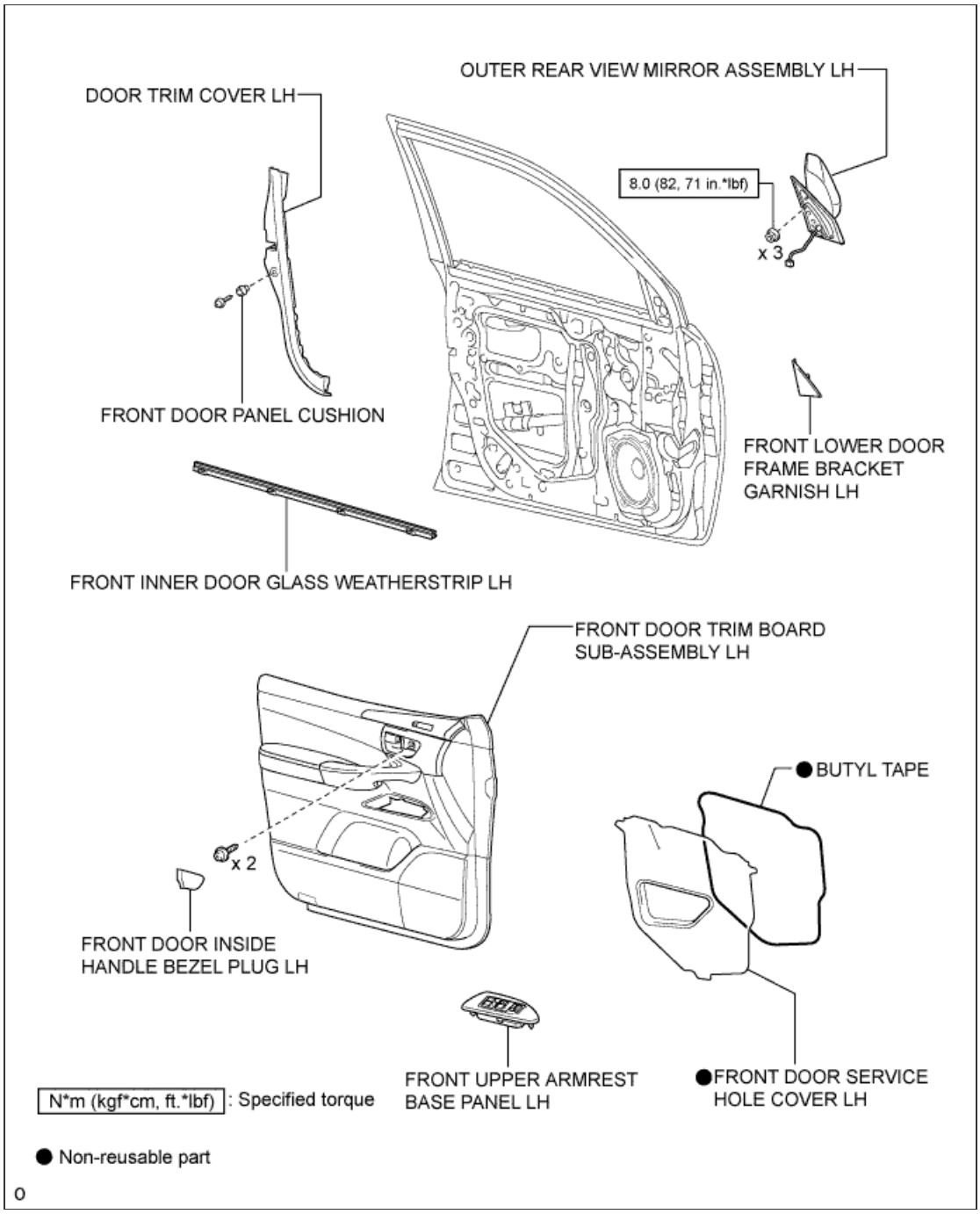


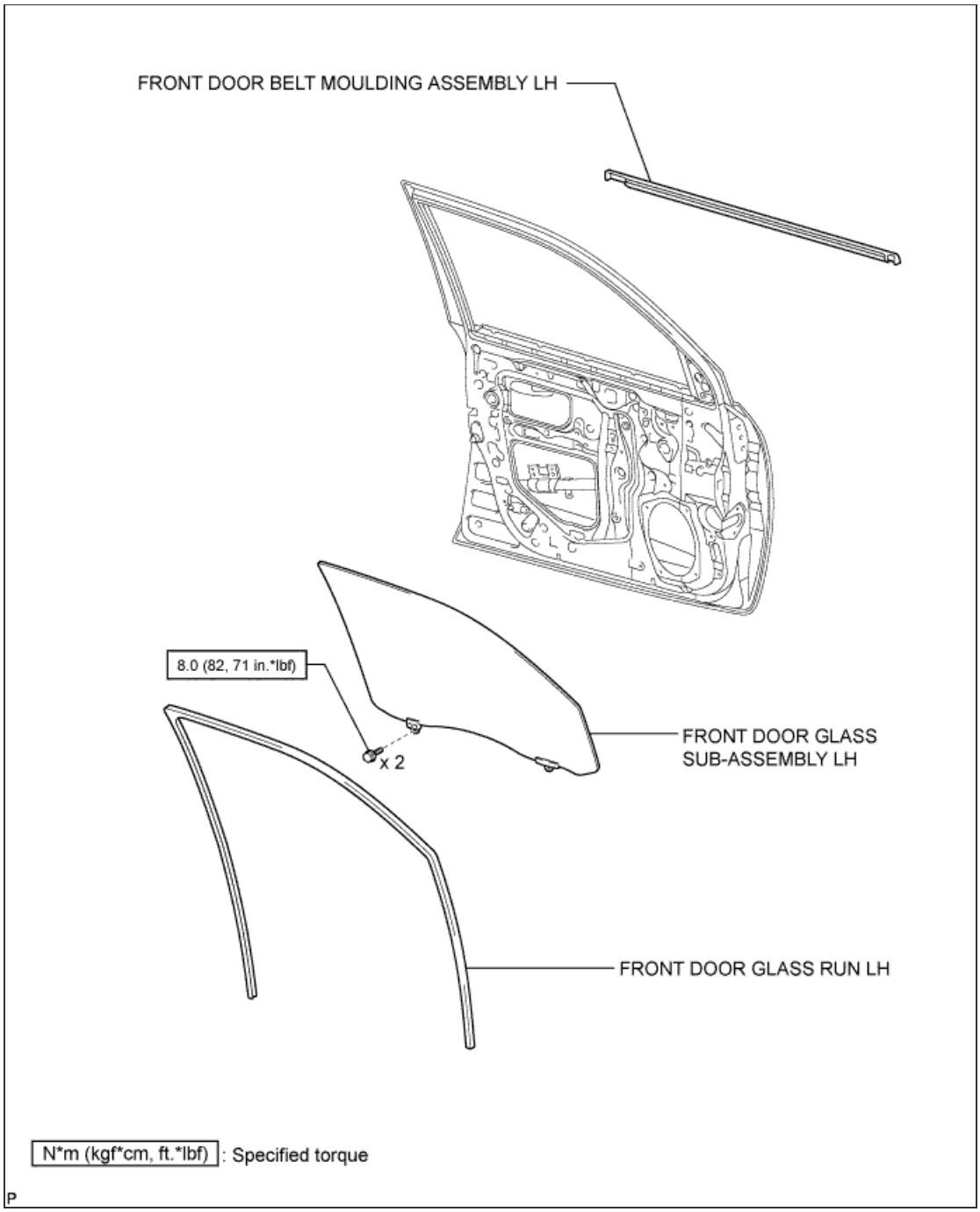
5. INSTALL FRONT ROOF RACK LEG COVER RH

HINT:

Use the same procedures described for the LH side.

for Preparation Click here




FRONT DOOR BELT MOULDING ASSEMBLY LH
8.0 (82, 71 in.*lbf)
x 2
FRONT DOOR GLASS SUB-ASSEMBLY LH
FRONT DOOR GLASS RUN LH
N*m (kgf*cm, ft.*lbf) : Specified torque
P

FRONT DOOR BELT MOULDING > REMOVAL

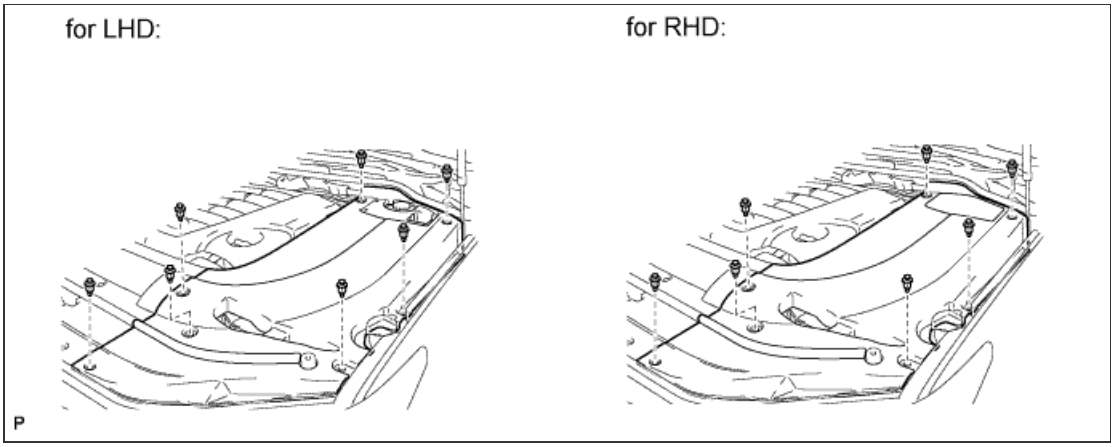
for Preparation Click here

HINT:

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

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



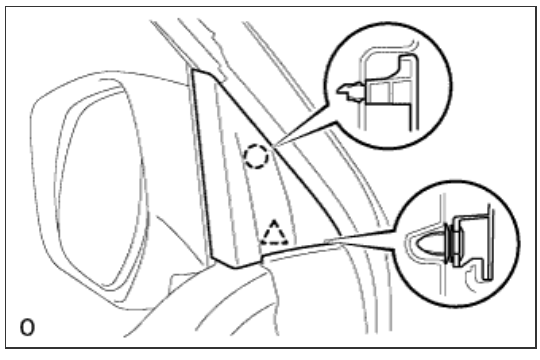
2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

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

3. REMOVE FRONT LOWER DOOR FRAME BRACKET GARNISH LH

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

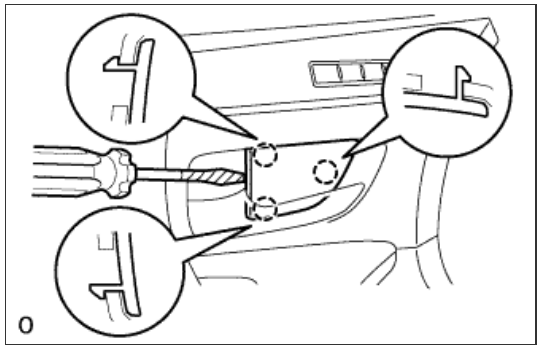


4. REMOVE FRONT DOOR INSIDE HANDLE BEZEL PLUG LH

a. Using a screwdriver, detach the 3 claws and remove the inside handle bezel plug.

HINT:

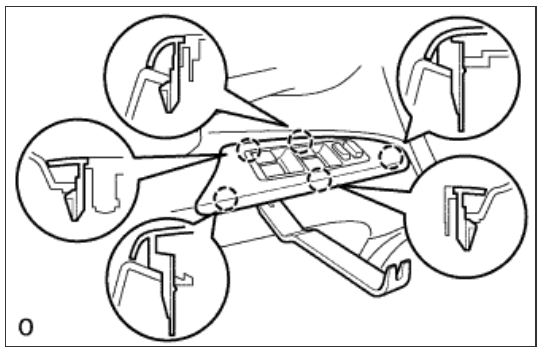
Tape the screwdriver tip before use.



5. REMOVE FRONT UPPER ARMREST BASE PANEL LH

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

b. Disconnect the connector and remove the front upper armrest base panel and multiplex network master switch.

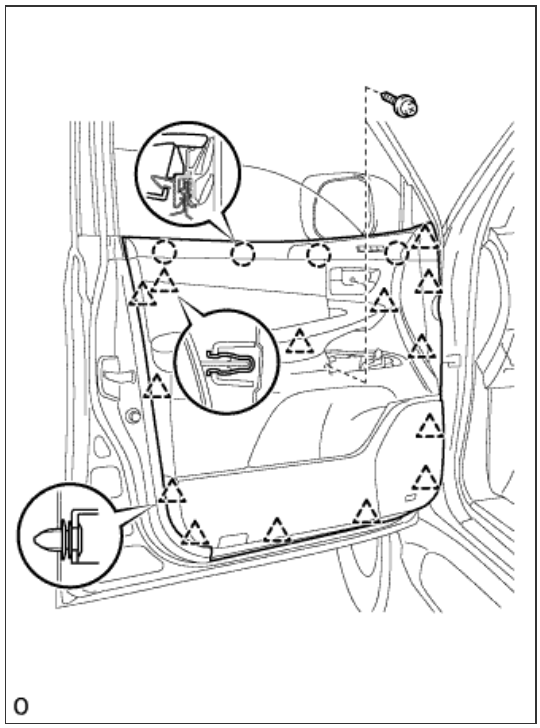


6. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

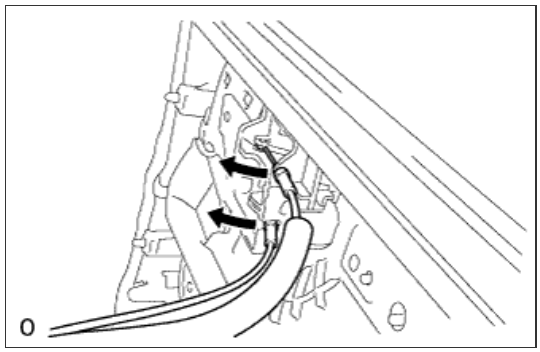
a. Remove the 2 screws.

b. Detach the 14 clips and 4 claws.

c. Disconnect the connector and remove the trim board.

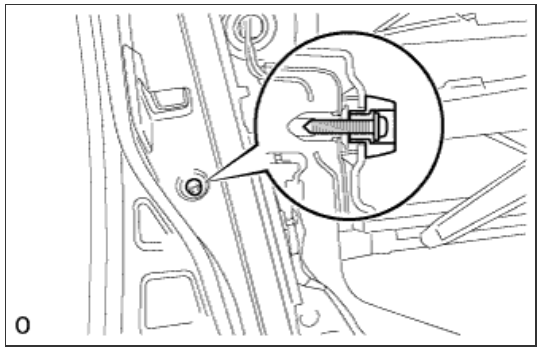


d. Disconnect the 2 cables from the inside handle.



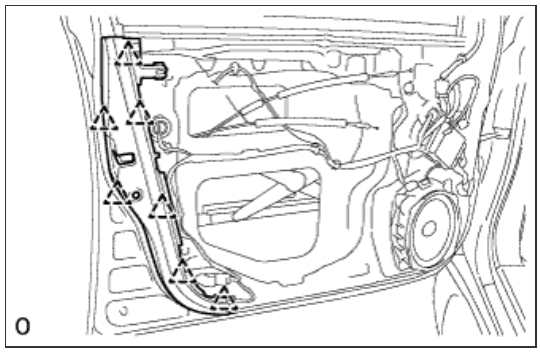
7. REMOVE FRONT DOOR PANEL CUSHION

a. Remove the screw and front door panel cushion.



8. REMOVE DOOR TRIM COVER LH

a. Using a clip remover, detach the 7 clips and remove the door trim cover.



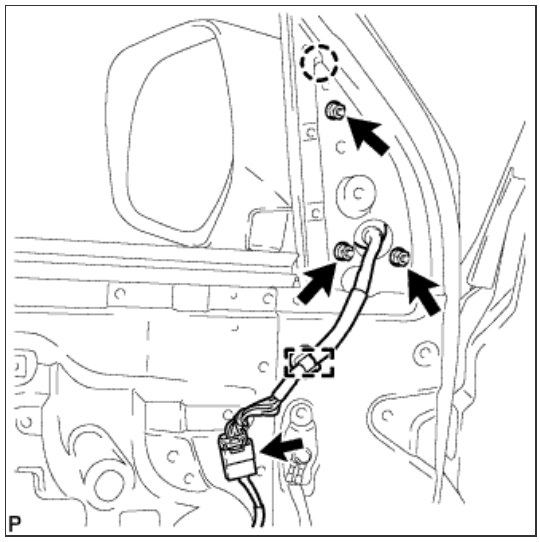
9. REMOVE OUTER REAR VIEW MIRROR ASSEMBLY LH

a. Disconnect the connector.

b. Detach the clamp.

c. Remove the 3 nuts.

d. Detach the claw and remove the mirror.



10. REMOVE FRONT DOOR SERVICE HOLE COVER LH

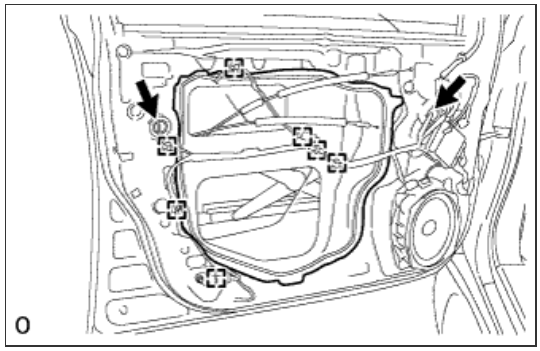
a. Using a clip remover, detach the 7 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the service hole cover.

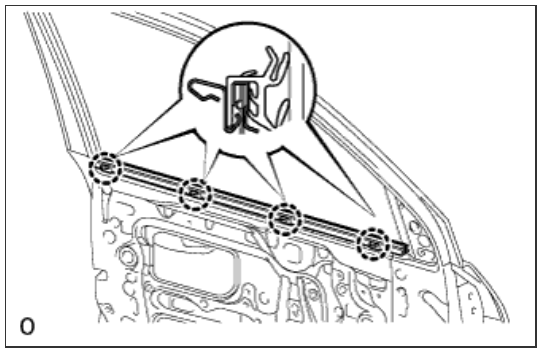
HINT:

Remove the remaining tape on the door.



11. REMOVE FRONT INNER DOOR GLASS WEATHERSTRIP LH

a. Detach the 4 claws by pulling the weatherstrip upward to remove the weatherstrip.



12. REMOVE FRONT DOOR GLASS SUB-ASSEMBLY LH

a. for Driver Side:
Temporarily install the multiplex network master switch.

b. for Passenger Side:
Temporarily install the power window regulator switch assembly.

c. Connect the cable to the negative (-) battery terminal.

d. Move the door glass until the bolts appear in the service holes.

e. Disconnect the cable from the negative (-) battery terminal.

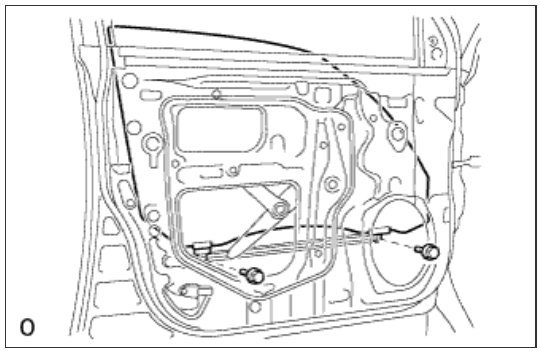
NOTICE:

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

f. Remove the 2 bolts.

NOTICE:

Be careful when removing the bolts as the glass may fall and become damaged.



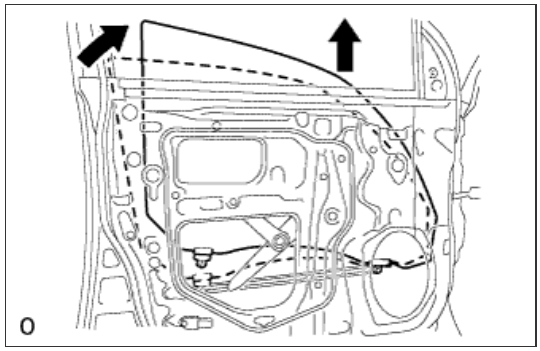
g. Remove the door glass in the direction indicated by the arrows in the illustration.

HINT:

Remove the glass upward.

NOTICE:

Be careful not to damage the glass.

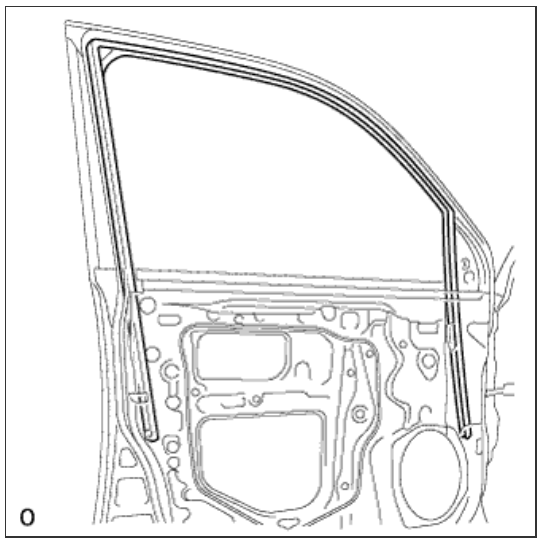


h. for Driver Side:
Remove the multiplex network master switch.

i. for Passenger Side:
Remove the power window regulator switch assembly.

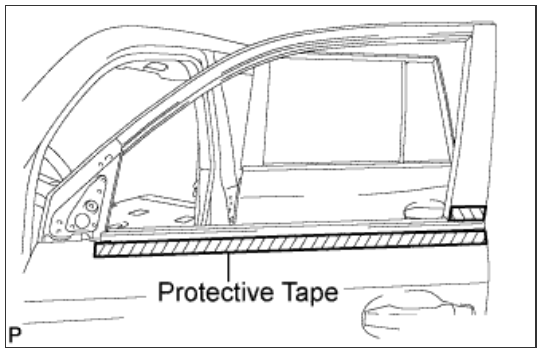
13. REMOVE FRONT DOOR GLASS RUN LH

a. Remove the front door glass run.

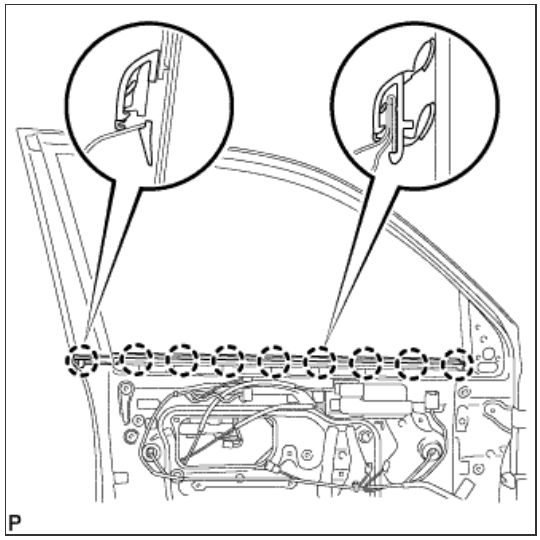


14. REMOVE FRONT DOOR BELT MOULDING ASSEMBLY LH

a. Put protective tape around the belt moulding.



b. Detach the claw and remove the belt moulding.



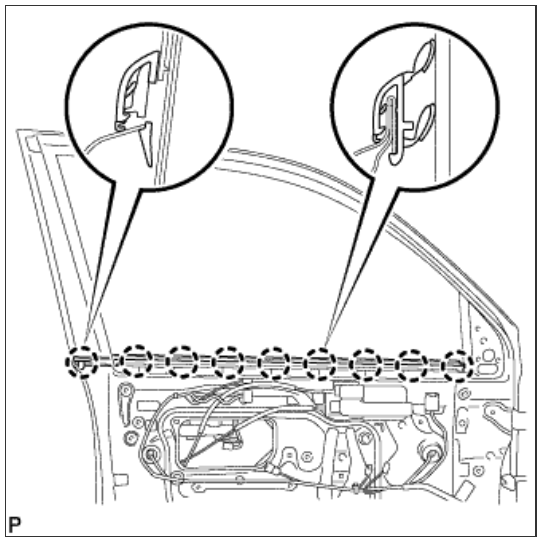
for Preparation Click here

HINT:

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

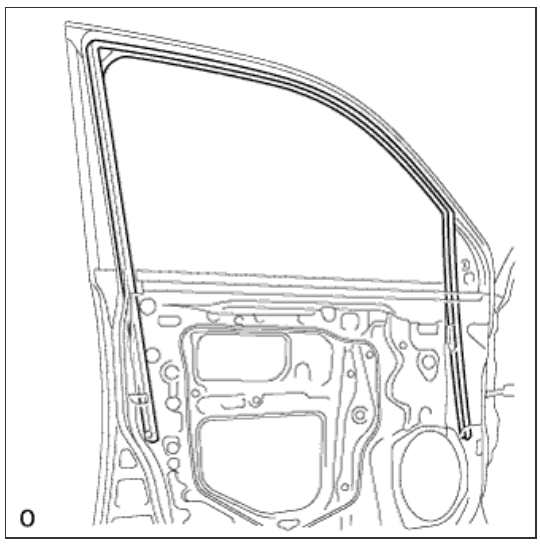
1. INSTALL FRONT DOOR BELT MOULDING ASSEMBLY LH

a. Attach the claw to install the belt moulding.



2. INSTALL FRONT DOOR GLASS RUN LH

a. Install the front door glass run.

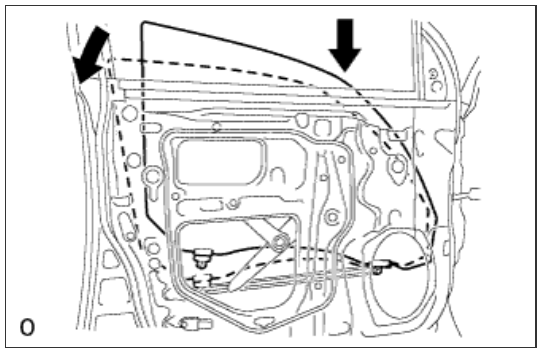


3. INSTALL FRONT DOOR GLASS SUB-ASSEMBLY LH

a. Insert the door glass into the door panel along the glass run as indicated by the arrows in the illustration.

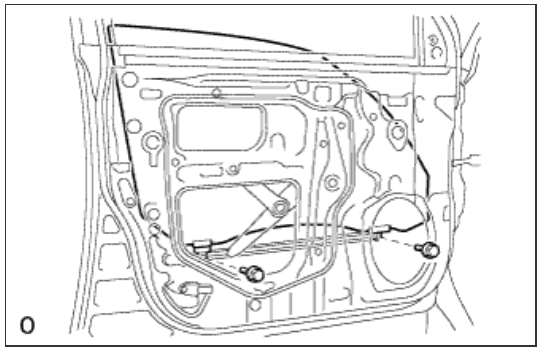
NOTICE:

Be careful not to damage the glass.



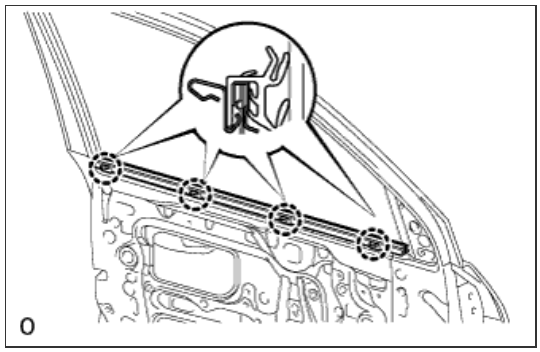
b. Install the door glass to the window regulator with the 2 bolts.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }



4. INSTALL FRONT INNER DOOR GLASS WEATHERSTRIP LH

a. Attach the 4 claws to install the front inner door glass weatherstrip LH.



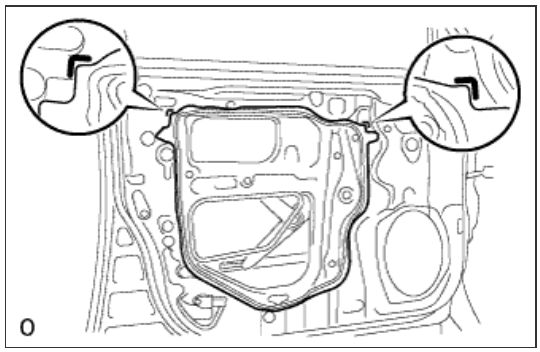
5. INSTALL FRONT DOOR SERVICE HOLE COVER LH

a. Apply butyl tape to the door.

b. Pass the front door lock remote control cable and front door inside locking cable through a new front door service hole cover.

NOTICE:

- **When installing the service hole cover, pull the links and connectors through the service hole cover.**
- **There should be no wrinkles or folds after installing the service hole cover.**
- **After installing the service hole cover, check the sealing quality.**



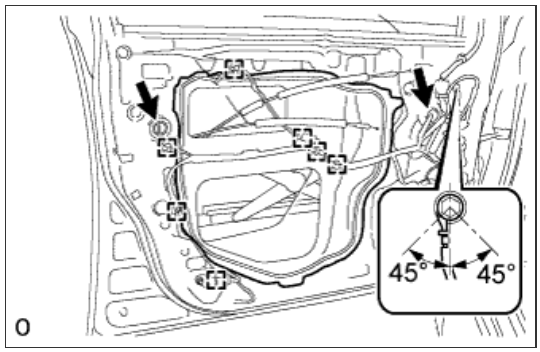
c. Connect the 2 connectors.

d. Attach the 7 clamps.

e. Install the bolt as shown in the illustration.

Torque:

8.4 N*m{ 86 kgf*cm , 74 in.*lbf }



6. INSTALL OUTER REAR VIEW MIRROR ASSEMBLY LH

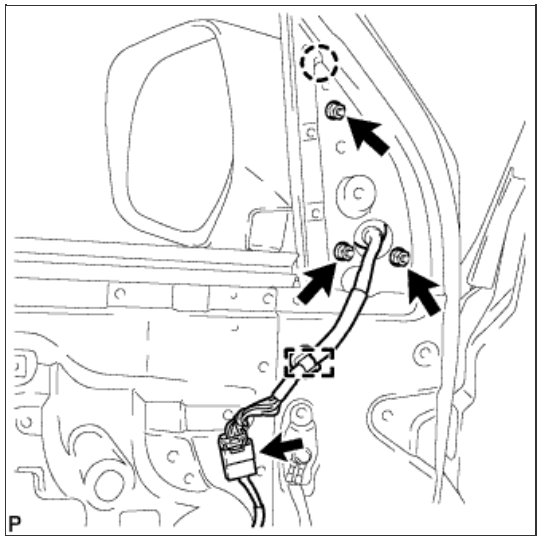
a. Attach the claw to install the mirror.

b. Install the 3 nuts.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }

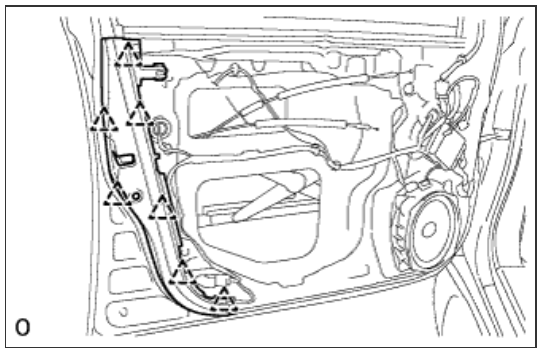
c. Attach the clamp.

d. Connect the connector.



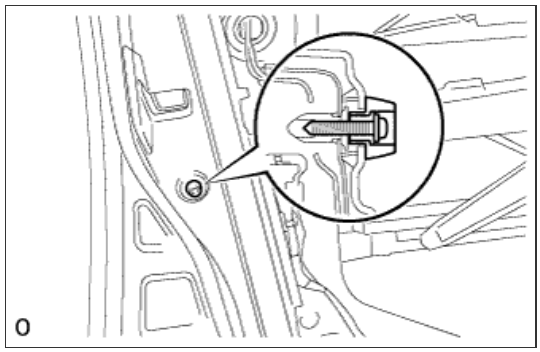
7. INSTALL DOOR TRIM COVER LH

a. Attach the 7 clips to install the door trim cover.



8. INSTALL FRONT DOOR PANEL CUSHION

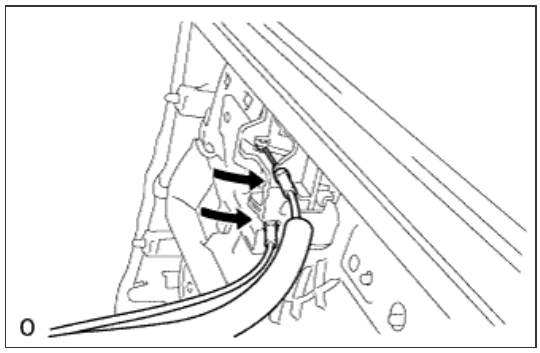
a. Install the front door panel cushion with the screw.



9. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

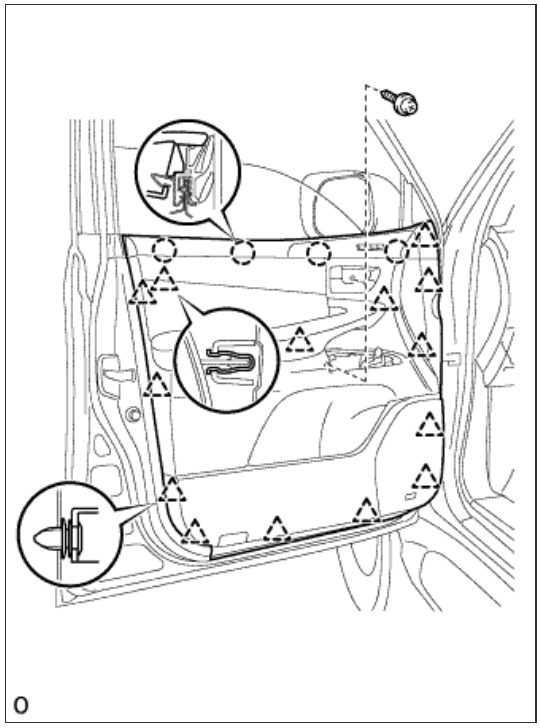
a. Connect the connector.

b. Connect the front door lock remote control cable and front door inside locking cable to the front door inside handle sub-assembly.



c. Attach the 4 claws and 14 clips to install the trim board.

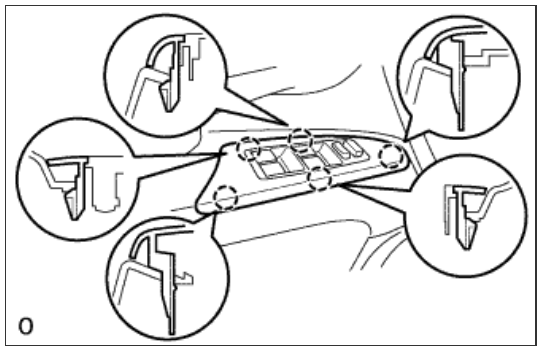
d. Install the 2 screws.



10. INSTALL FRONT UPPER ARMREST BASE PANEL LH

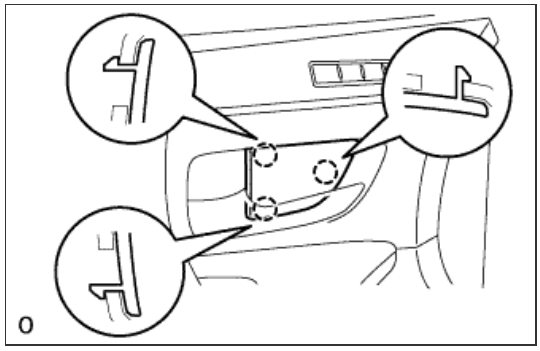
a. Connect the connector.

b. Attach the 5 claws to install the front upper armrest base panel.



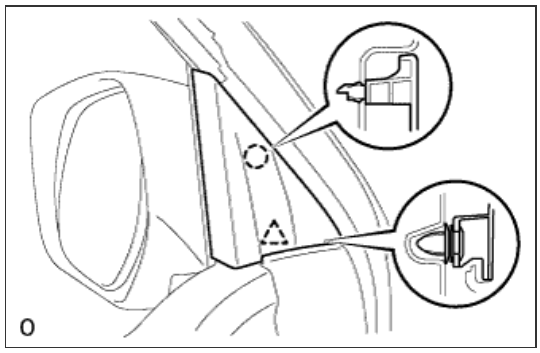
11. INSTALL FRONT DOOR INSIDE HANDLE BEZEL PLUG LH

a. Attach the 3 claws to install the inside handle bezel plug.



12. INSTALL FRONT LOWER DOOR FRAME BRACKET GARNISH LH

a. Attach the clip and claw to install the front door lower frame bracket garnish.



13. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

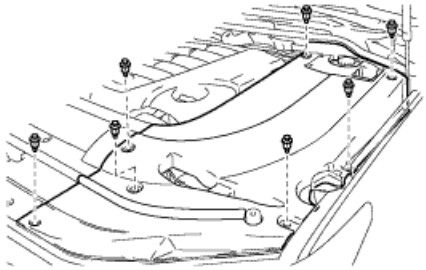
NOTICE:

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

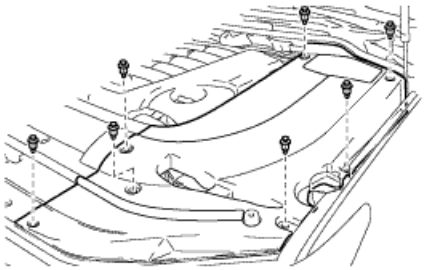
14. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

for LHD:

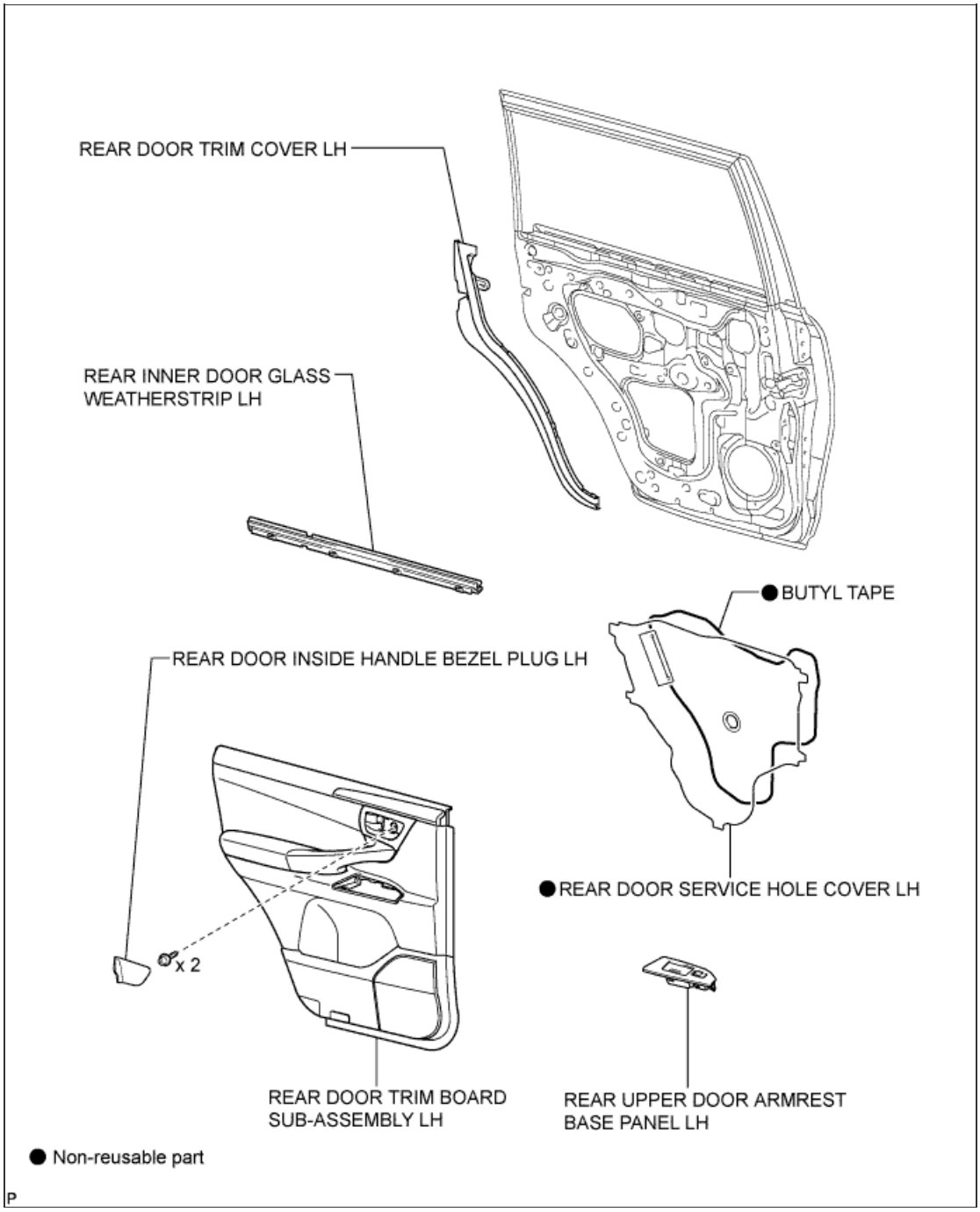


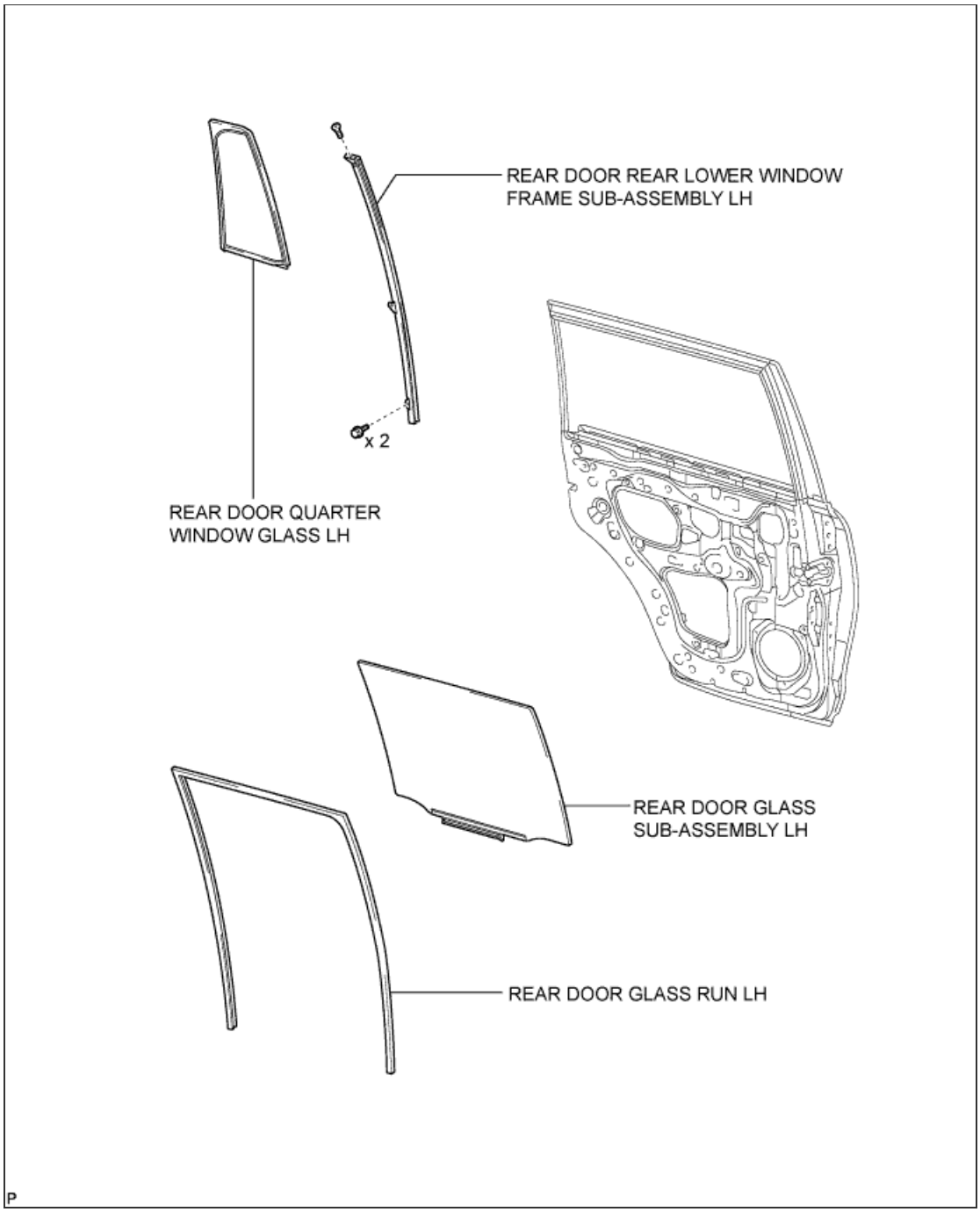
for RHD:

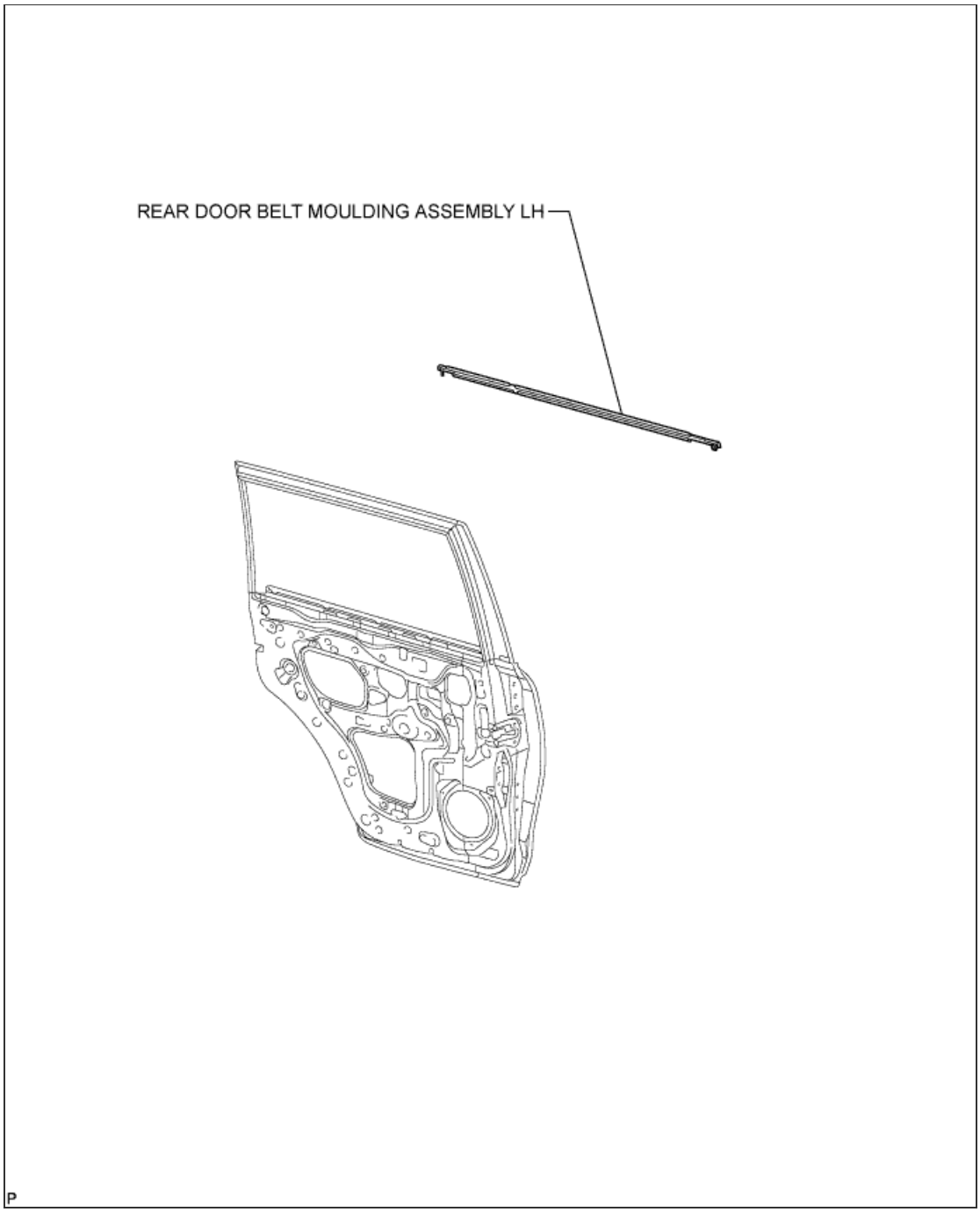


P

for Preparation Click here




REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY LH
x 2
REAR DOOR QUARTER WINDOW GLASS LH
REAR DOOR GLASS SUB-ASSEMBLY LH
REAR DOOR GLASS RUN LH
P


REAR DOOR BELT MOULDING ASSEMBLY LH
P

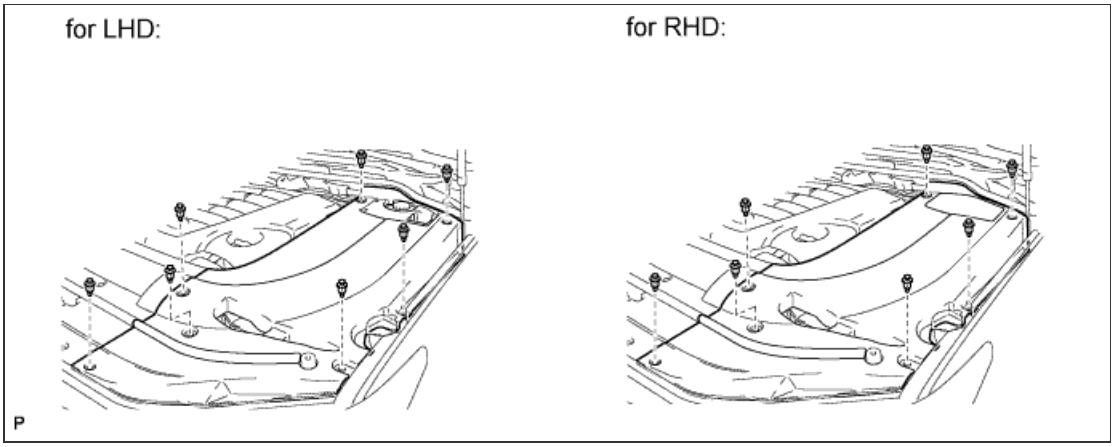
for Preparation Click here

HINT:

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

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

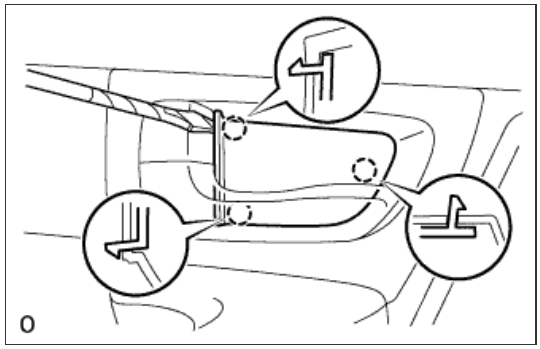
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

3. REMOVE REAR DOOR INSIDE HANDLE BEZEL PLUG LH

a. Using a screwdriver, detach the 3 claws and remove the inside handle bezel plug.

HINT:

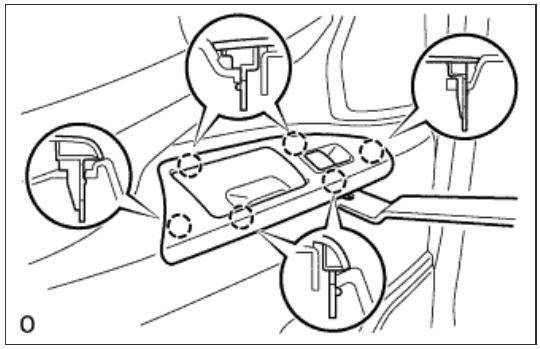
Tape the screwdriver tip before use.



4. REMOVE REAR UPPER DOOR ARMREST BASE PANEL LH

a. Using a moulding remover, detach the 6 claws.

b. Disconnect the connector and remove the rear upper door armrest base panel and rear power window regulator switch assembly.

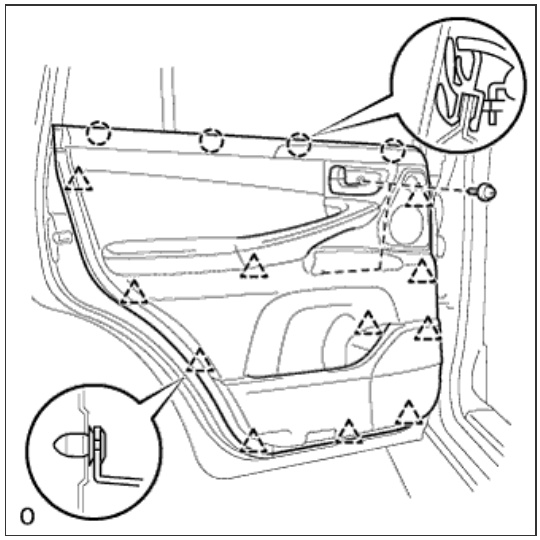


5. REMOVE REAR DOOR TRIM BOARD SUB-ASSEMBLY LH

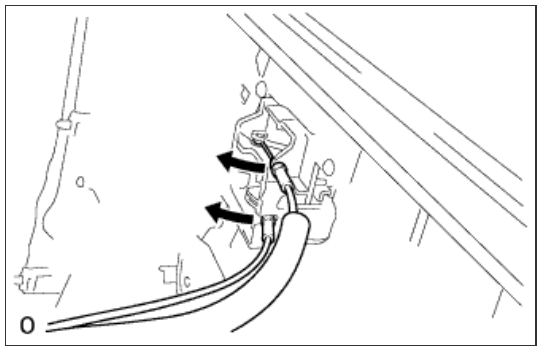
a. Remove the 2 screws.

b. Detach the 11 clips and 4 claws.

c. Disconnect the connector and remove the trim board.

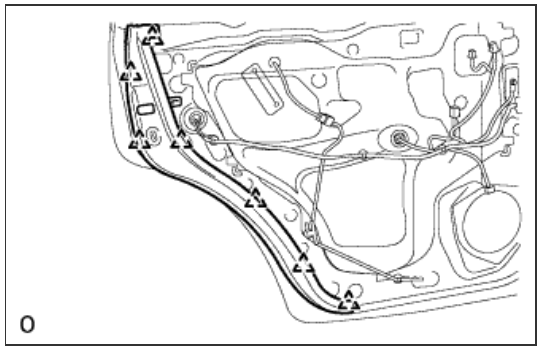


d. Disconnect the 2 cables from the inside handle.



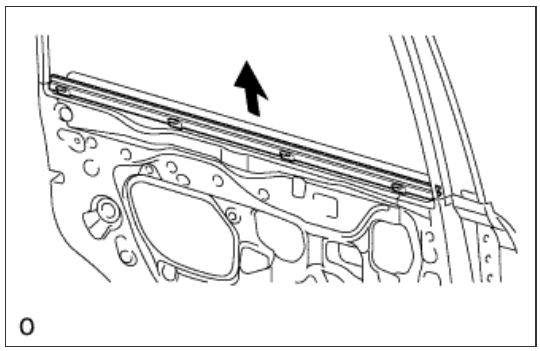
6. REMOVE REAR DOOR TRIM COVER LH

a. Detach the 7 clips and remove the door trim cover.



7. REMOVE REAR INNER DOOR GLASS WEATHERSTRIP LH

a. Remove the weatherstrip by pulling it upward in the direction indicated by the arrow in the illustration.



8. REMOVE REAR DOOR SERVICE HOLE COVER LH

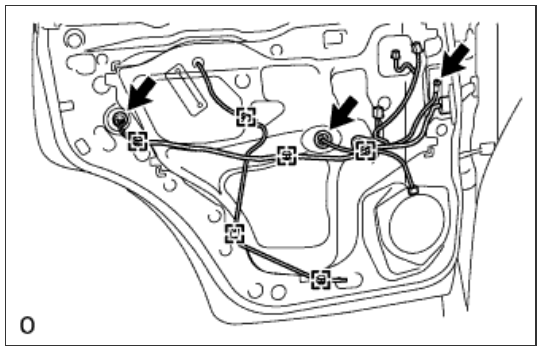
a. Using a clip remover, detach the 6 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the service hole cover.

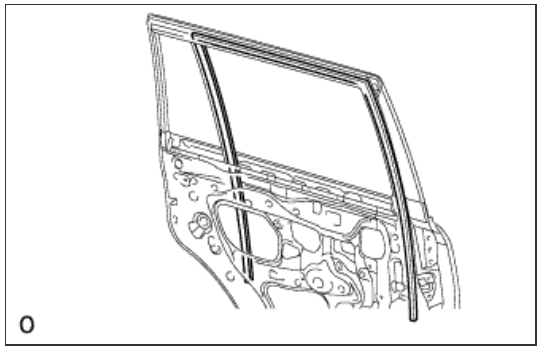
HINT:

Remove the remaining tape on the door.



9. REMOVE REAR DOOR GLASS RUN LH

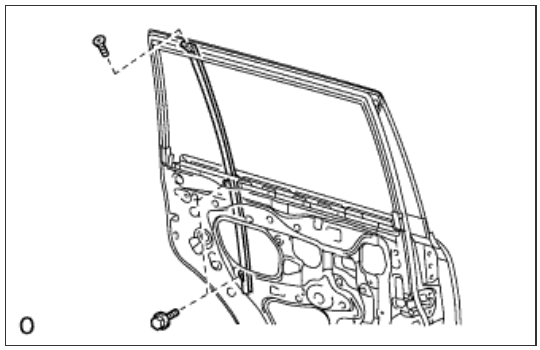
a. Remove the rear door glass run from the window frame.



10. REMOVE REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY LH

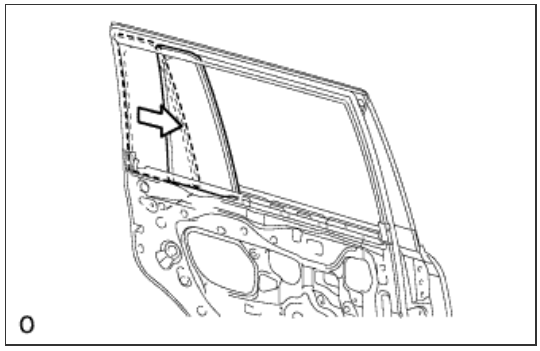
a. Remove the 2 bolts.

b. Remove the screw and window frame.



11. REMOVE REAR DOOR QUARTER WINDOW GLASS LH

a. Remove the rear door quarter window glass and rear door quarter window weatherstrip as a unit as shown in the illustration.

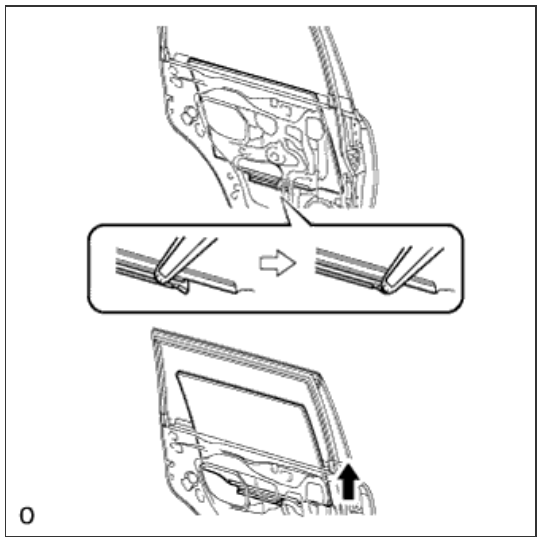


12. REMOVE REAR DOOR GLASS SUB-ASSEMBLY LH

a. Remove the rear door glass sub-assembly from the rear door window regulator sub-assembly as shown in the illustration.

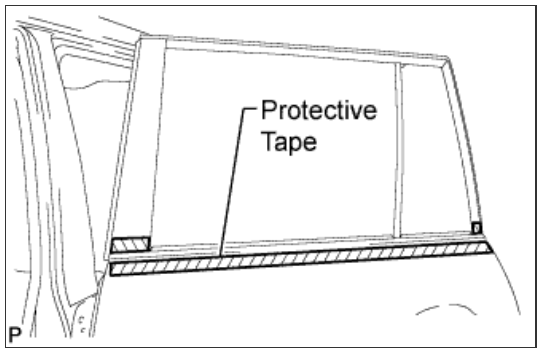
NOTICE:

Do not damage the door glass.

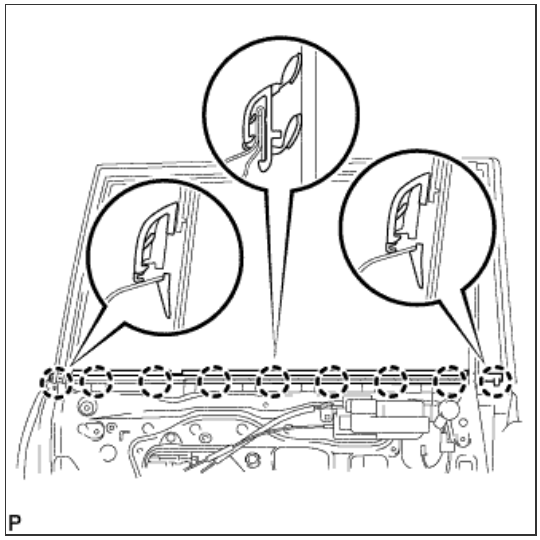


13. REMOVE REAR DOOR BELT MOULDING ASSEMBLY LH

a. Put protective tape around the belt moulding.



b. Detach the claw and remove the belt moulding.



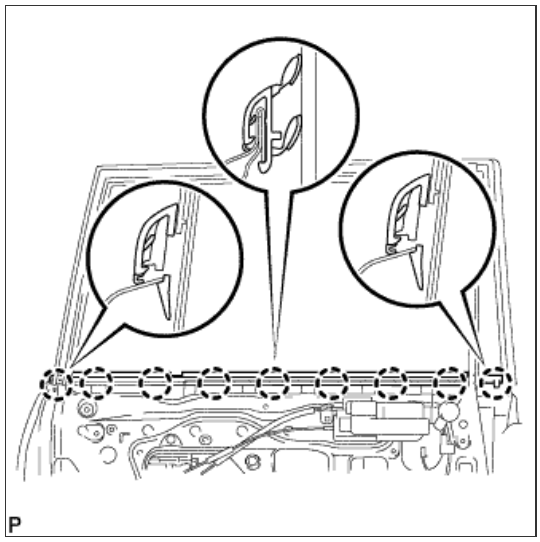
for Preparation Click here

HINT:

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

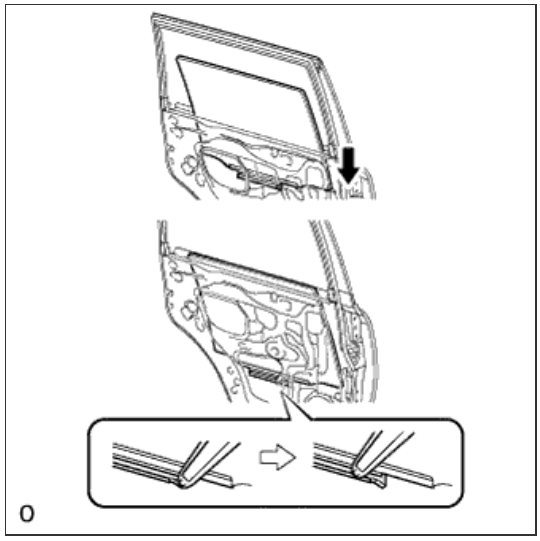
1. INSTALL REAR DOOR BELT MOULDING ASSEMBLY LH

a. Attach the claw to install the belt moulding.



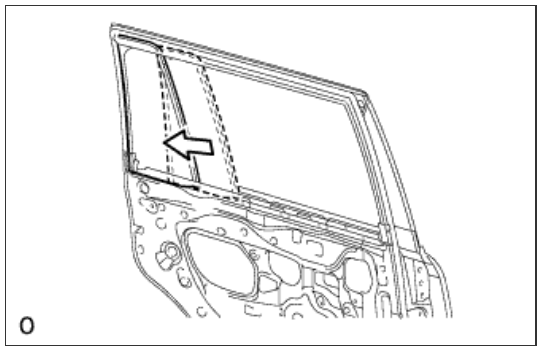
2. INSTALL REAR DOOR GLASS SUB-ASSEMBLY LH

a. Slide the rear door glass sub-assembly as shown in the illustration to install it.



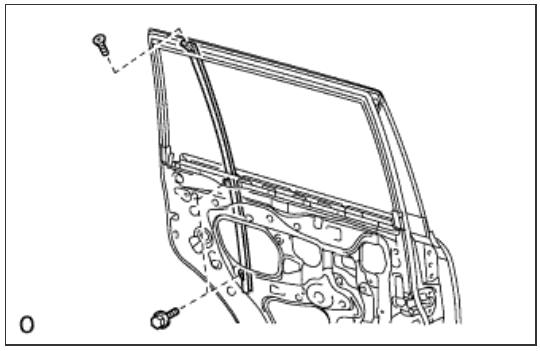
3. INSTALL REAR DOOR QUARTER WINDOW GLASS LH

a. Install the quarter glass together with the rear door quarter window weatherstrip in the direction indicated by the arrow in the illustration.



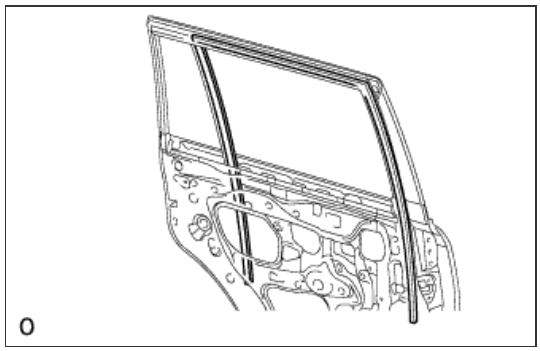
4. INSTALL REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY LH

a. Install the rear door rear lower window frame with the 2 bolts and screw.



5. INSTALL REAR DOOR GLASS RUN LH

a. Install the rear door glass run.



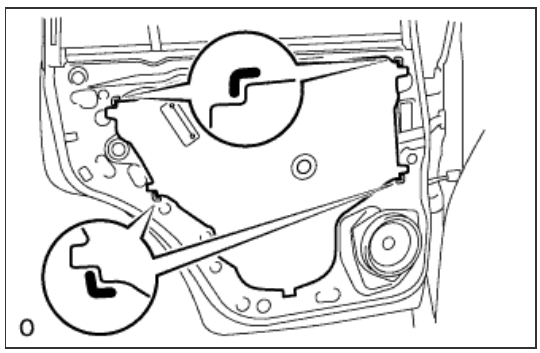
6. INSTALL REAR DOOR SERVICE HOLE COVER LH

a. Apply butyl tape to the door.

b. Pass the rear door lock remote control cable and rear door inside locking cable through a new rear door service hole cover.

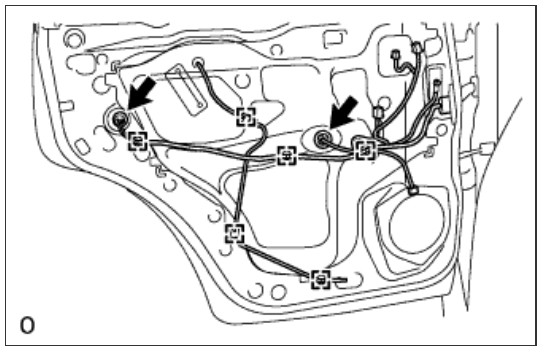
NOTICE:

- **When installing the service hole cover, pull the links and connectors through the service hole cover.**
- **There should be no wrinkles or folds after installing the service hole cover.**
- **After installing the service hole cover, check the sealing quality.**



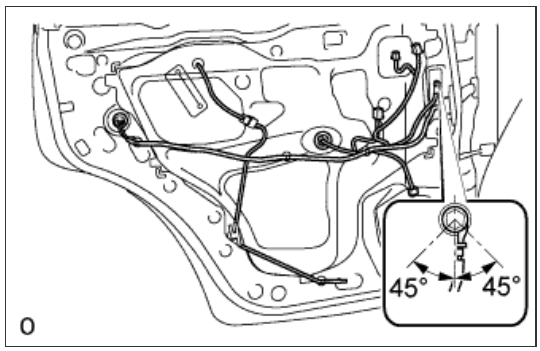
c. Connect the 2 connectors.

d. Attach the 6 clamps.



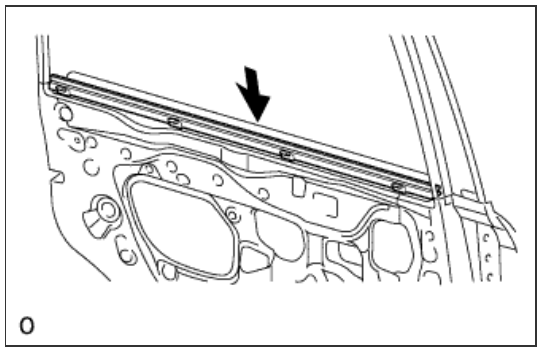
e. Install the bolt as shown in the illustration.

Torque:
8.4 N*m{ 86 kgf*cm , 74 in.*lbf }



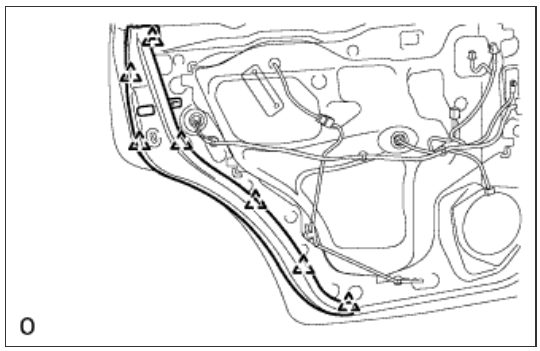
7. INSTALL REAR INNER DOOR GLASS WEATHERSTRIP LH

a. Install the rear inner door glass weatherstrip to the door panel.



8. INSTALL REAR DOOR TRIM COVER LH

a. Attach the 7 clips to install the door trim cover.

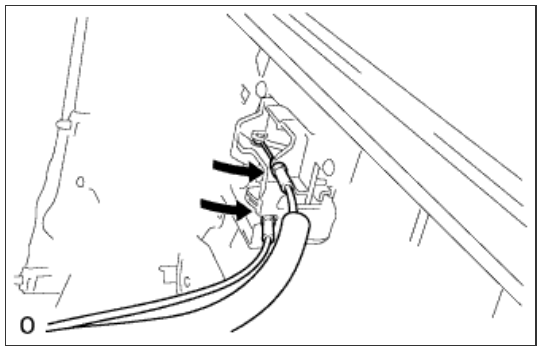


9. INSTALL REAR DOOR TRIM BOARD SUB-ASSEMBLY LH

a. Connect the connector.

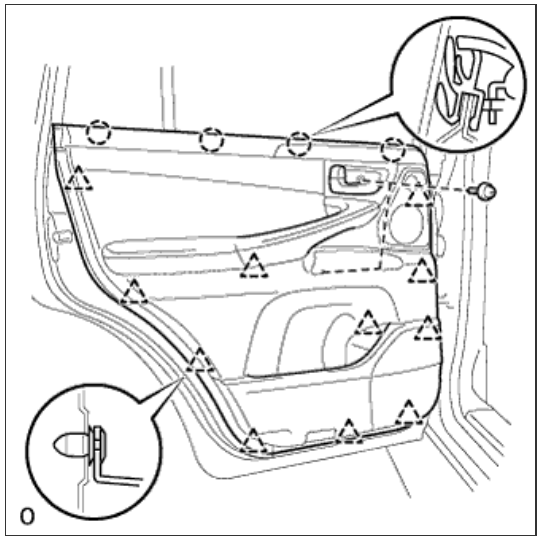
b. Connect the rear door lock remote control cable and rear door inside locking

cable to the rear door inside handle sub-assembly.



c. Attach the 4 claws and 11 clips to install the rear door trim board sub-assembly.

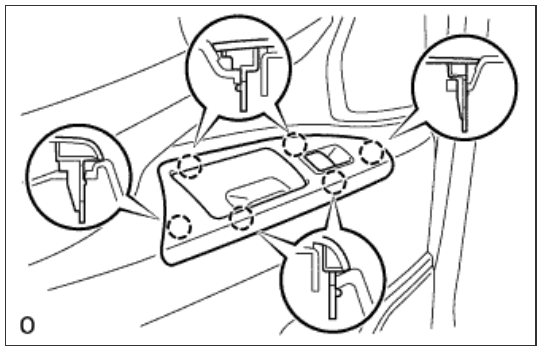
d. Install the 2 screws.



10. INSTALL REAR UPPER DOOR ARMREST BASE PANEL LH

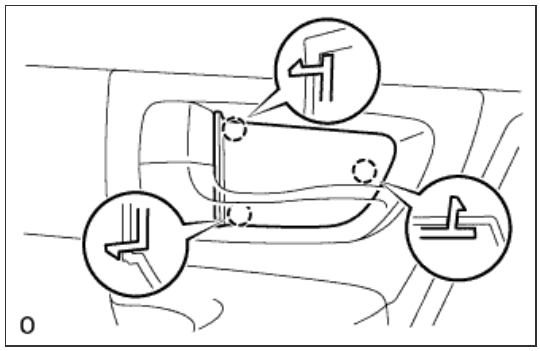
a. Connect the connector.

b. Attach the 6 claws to install the rear upper door armrest base panel.



11. INSTALL REAR DOOR INSIDE HANDLE BEZEL PLUG LH

a. Attach the 3 claws to install the bezel plug.



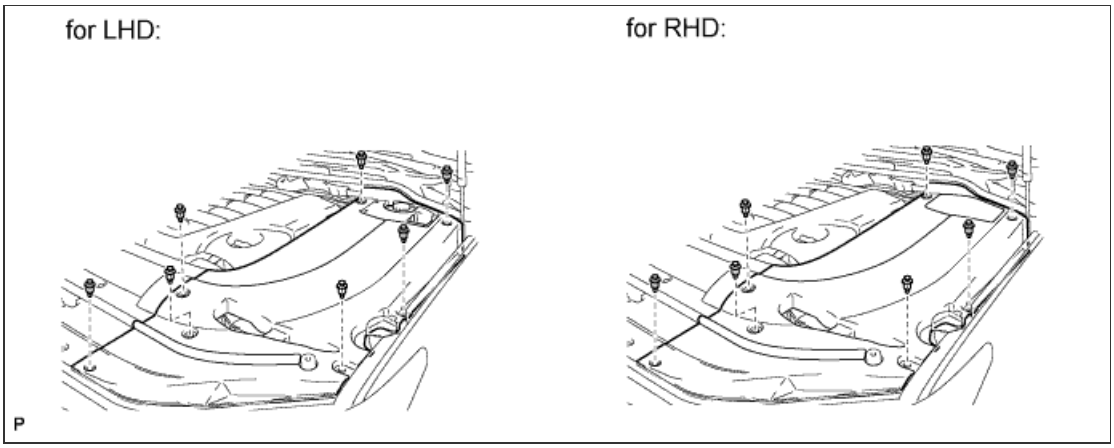
12. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

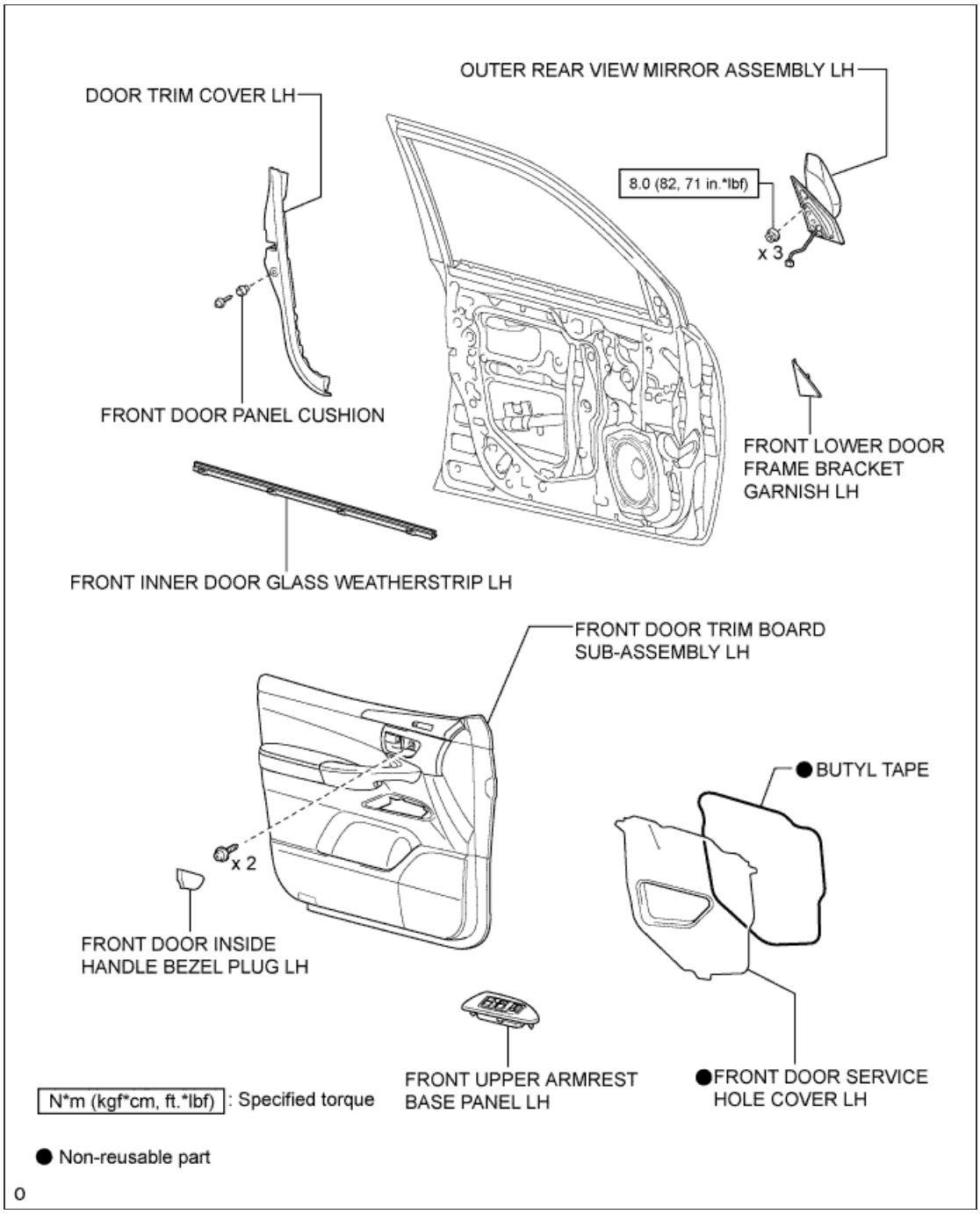
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

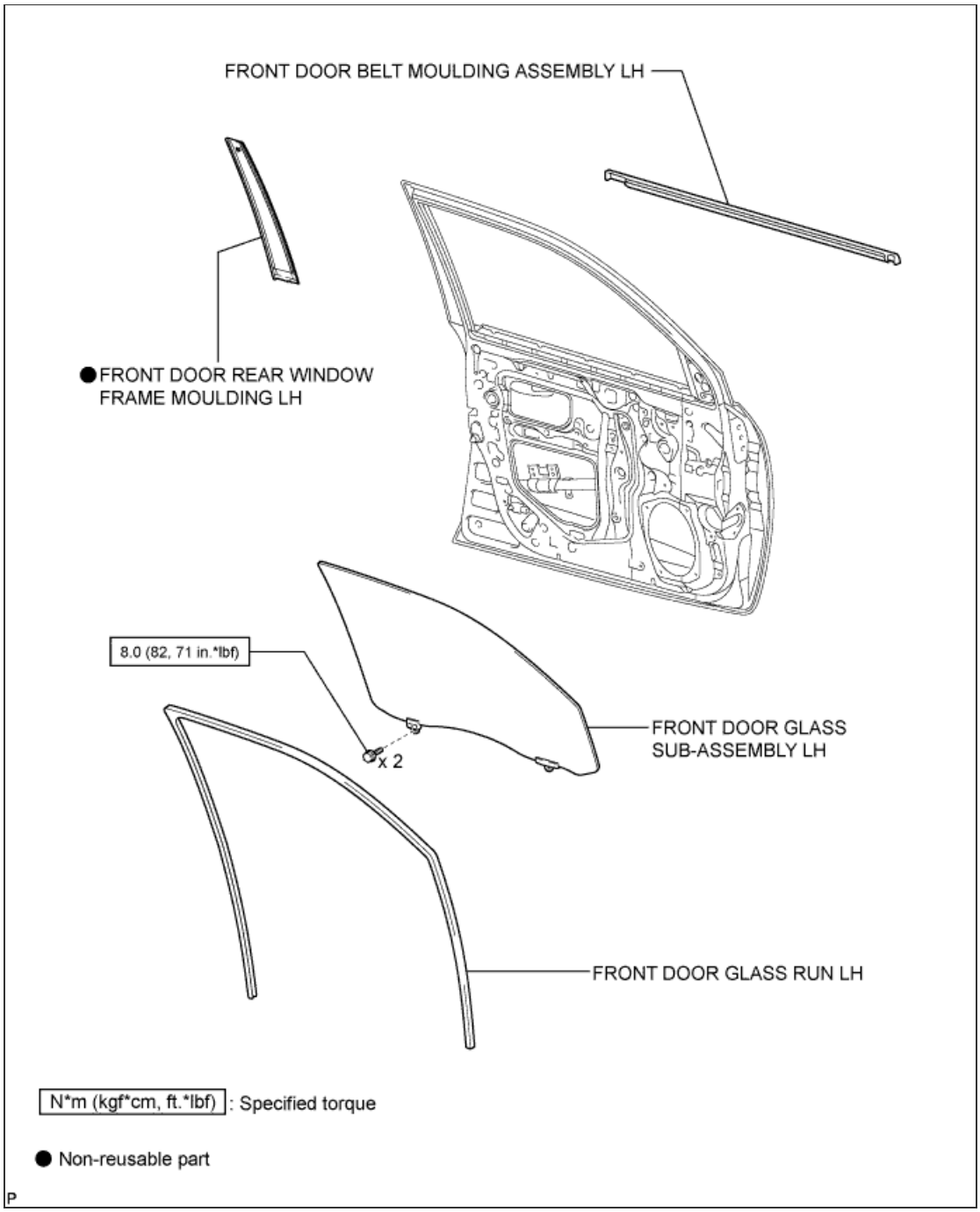
13. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



for Preparation Click here




FRONT DOOR BELT MOULDING ASSEMBLY LH
●FRONT DOOR REAR WINDOW FRAME MOULDING LH
8.0 (82, 71 in.*lbf)
x 2
FRONT DOOR GLASS SUB-ASSEMBLY LH
FRONT DOOR GLASS RUN LH
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
P

FRONT DOOR WINDOW FRAME MOULDING > REMOVAL

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.**
- **When removing window frame moulding, heat the vehicle body and window frame moulding using a heat light.**

Standard:

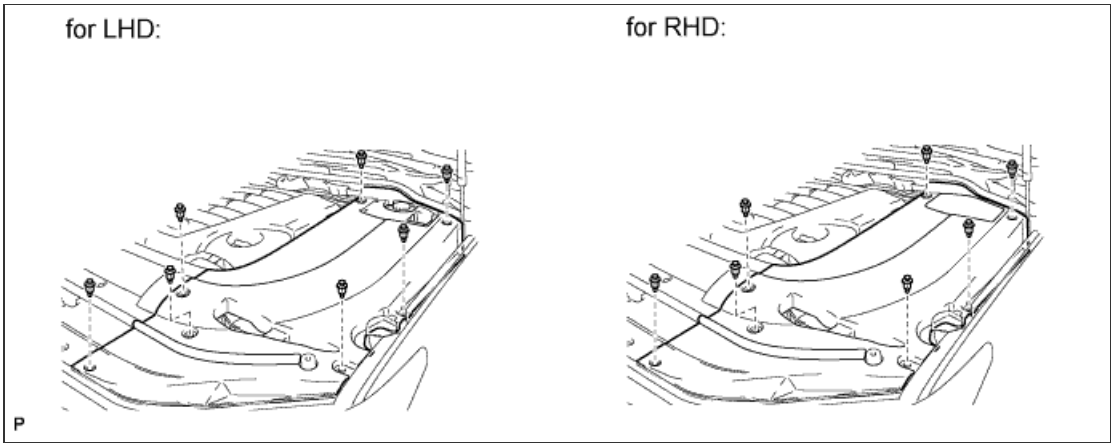
Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Window Frame Moulding	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body and window frame moulding excessively.

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



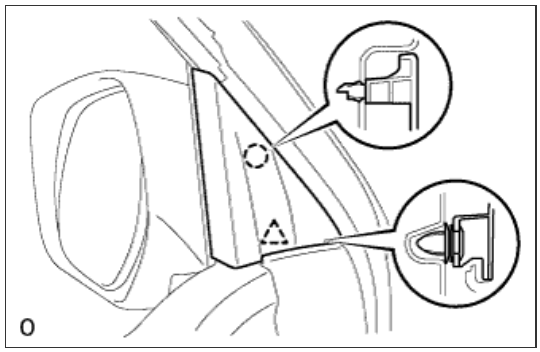
2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

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

3. REMOVE FRONT LOWER DOOR FRAME BRACKET GARNISH LH

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

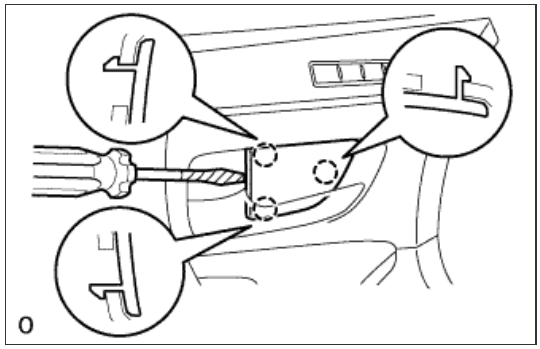


4. REMOVE FRONT DOOR INSIDE HANDLE BEZEL PLUG LH

a. Using a screwdriver, detach the 3 claws and remove the inside handle bezel plug.

HINT:

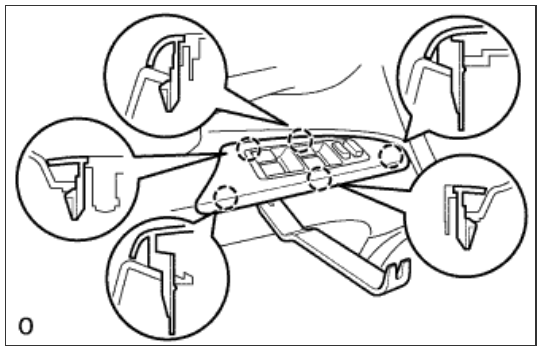
Tape the screwdriver tip before use.



5. REMOVE FRONT UPPER ARMREST BASE PANEL LH

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

b. Disconnect the connector and remove the front upper armrest base panel and multiplex network master switch.

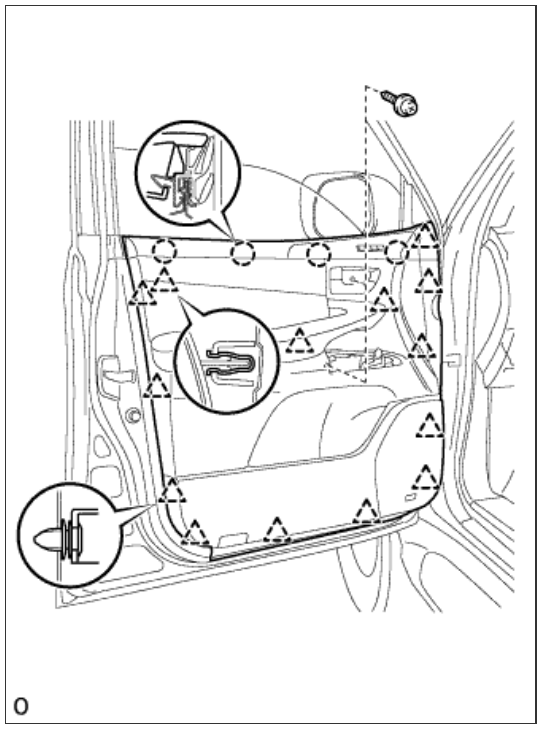


6. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

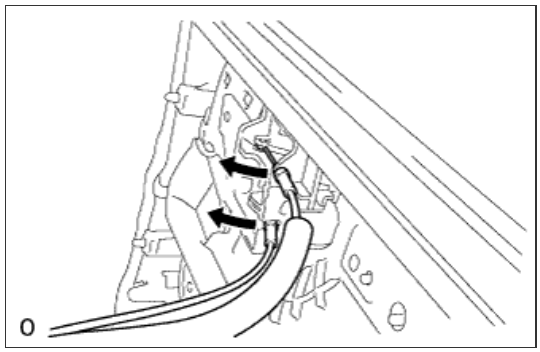
a. Remove the 2 screws.

b. Detach the 14 clips and 4 claws.

c. Disconnect the connector and remove the trim board.

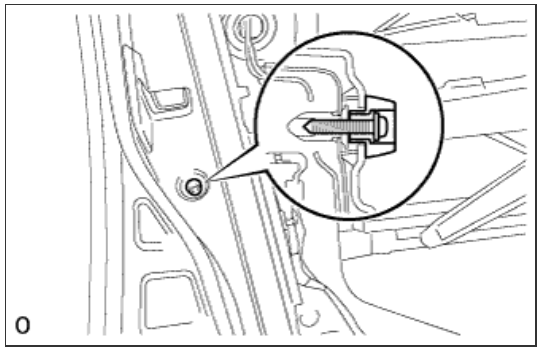


d. Disconnect the 2 cables from the inside handle.



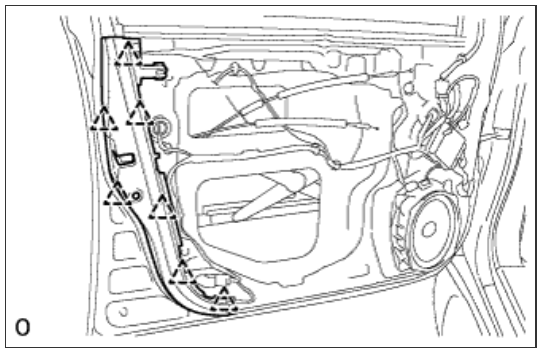
7. REMOVE FRONT DOOR PANEL CUSHION

a. Remove the screw and front door panel cushion.



8. REMOVE DOOR TRIM COVER LH

a. Using a clip remover, detach the 7 clips and remove the door trim cover.



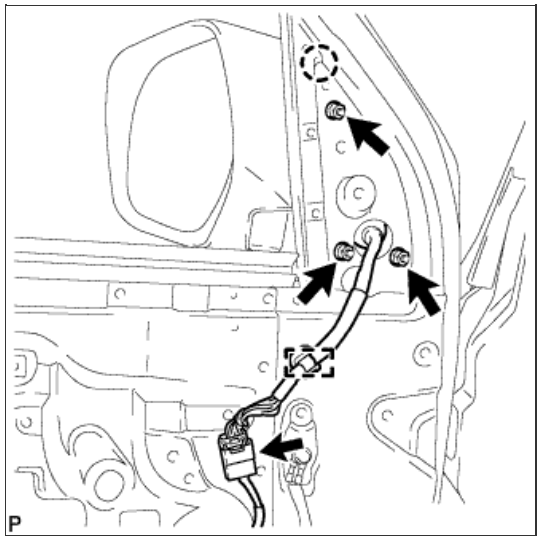
9. REMOVE OUTER REAR VIEW MIRROR ASSEMBLY LH

a. Disconnect the connector.

b. Detach the clamp.

c. Remove the 3 nuts.

d. Detach the claw and remove the mirror.



10. REMOVE FRONT DOOR SERVICE HOLE COVER LH

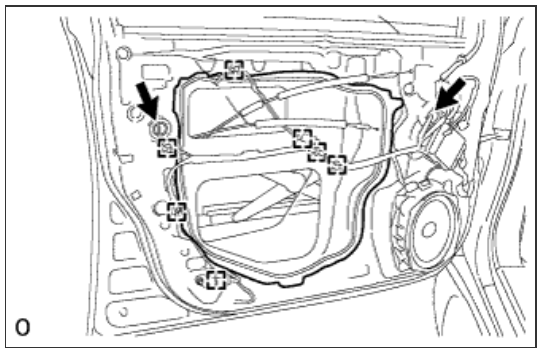
a. Using a clip remover, detach the 7 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the service hole cover.

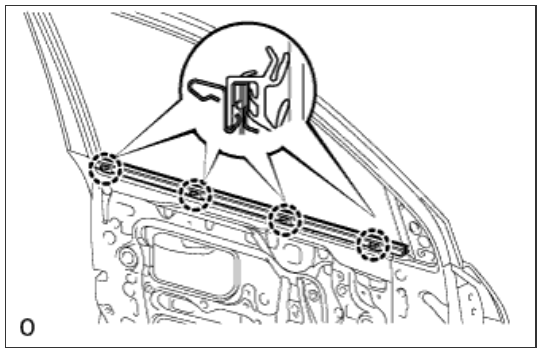
HINT:

Remove the remaining tape on the door.



11. REMOVE FRONT INNER DOOR GLASS WEATHERSTRIP LH

a. Detach the 4 claws by pulling the weatherstrip upward to remove the weatherstrip.



12. REMOVE FRONT DOOR GLASS SUB-ASSEMBLY LH

a. for Driver Side:
Temporarily install the multiplex network master switch.

b. for Passenger Side:
Temporarily install the power window regulator switch assembly.

c. Connect the cable to the negative (-) battery terminal.

d. Move the door glass until the bolts appear in the service holes.

e. Disconnect the cable from the negative (-) battery terminal.

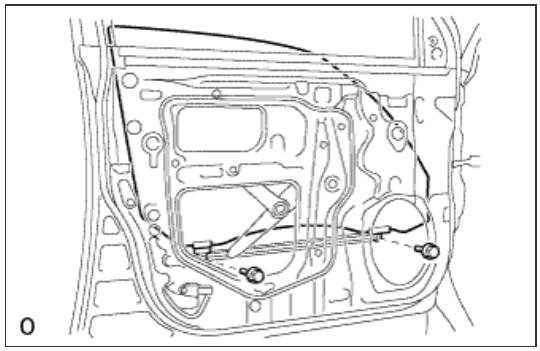
NOTICE:

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

f. Remove the 2 bolts.

NOTICE:

Be careful when removing the bolts as the glass may fall and become damaged.



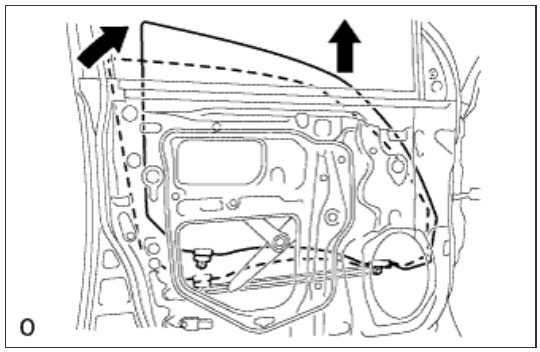
g. Remove the door glass in the direction indicated by the arrows in the illustration.

HINT:

Remove the glass upward.

NOTICE:

Be careful not to damage the glass.

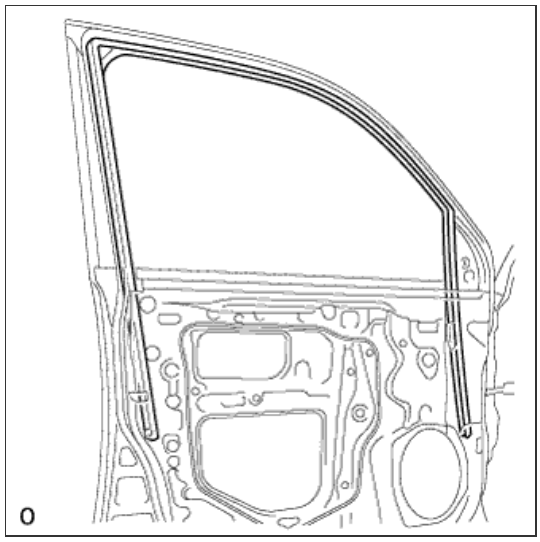


h. for Driver Side:
Remove the multiplex network master switch.

i. for Passenger Side:
Remove the power window regulator switch assembly.

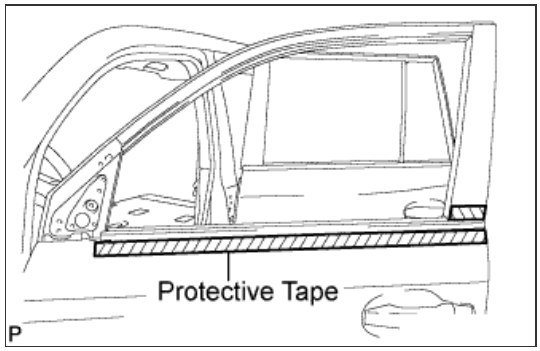
13. REMOVE FRONT DOOR GLASS RUN LH

a. Remove the front door glass run.

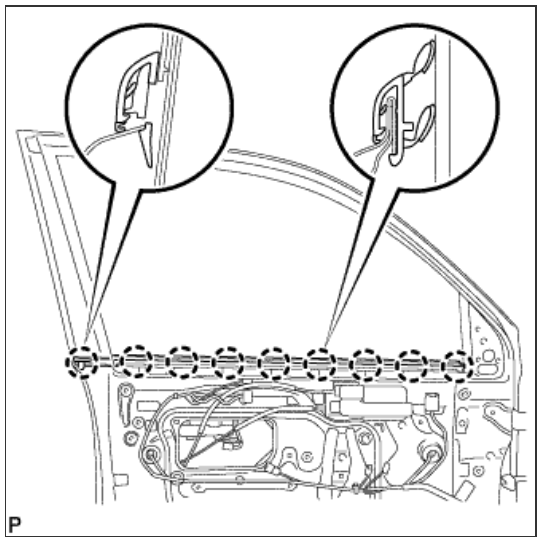


14. REMOVE FRONT DOOR BELT MOULDING ASSEMBLY LH

a. Put protective tape around the belt moulding.



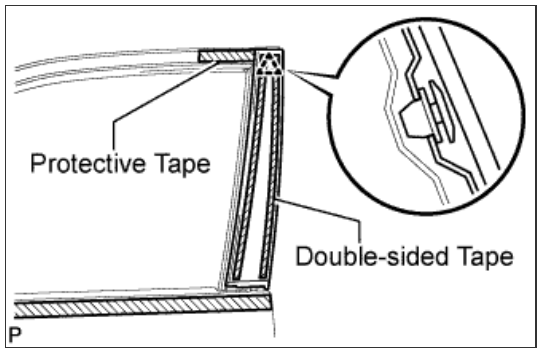
b. Detach the claw and remove the belt moulding.



15. REMOVE FRONT DOOR REAR WINDOW FRAME MOULDING LH

a. Put protective tape around the window frame moulding.

b. Detach the clip and remove the double-sided tape to remove the window frame moulding.


Protective Tape
Double-sided Tape
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.**
- **When installing the window frame moulding, heat the vehicle body and window frame moulding using a heat light.**

Standard:

Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Window Frame Moulding	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body and window frame moulding excessively.

1. INSTALL FRONT DOOR REAR WINDOW FRAME MOULDING LH

a. Clean the vehicle body surface.

i. Using a heat light, heat the vehicle body surface.

ii. Remove the double-sided tape from the vehicle body surface.

iii. Wipe off any tape adhesive residue with cleaner.

b. Install a new window frame moulding.

i. Using a heat light, heat a new window frame moulding and the vehicle body surface.

ii. Remove the peeling paper from the face of the window frame moulding.

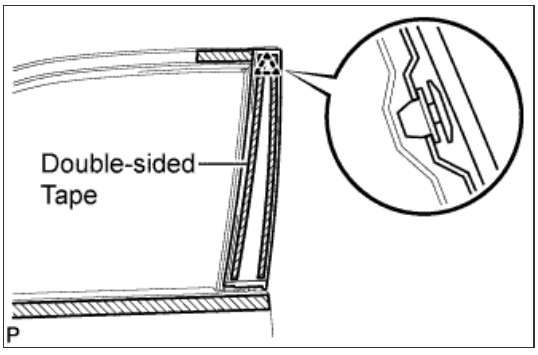
HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Attach the clip and double-sided tape to install the window frame moulding.

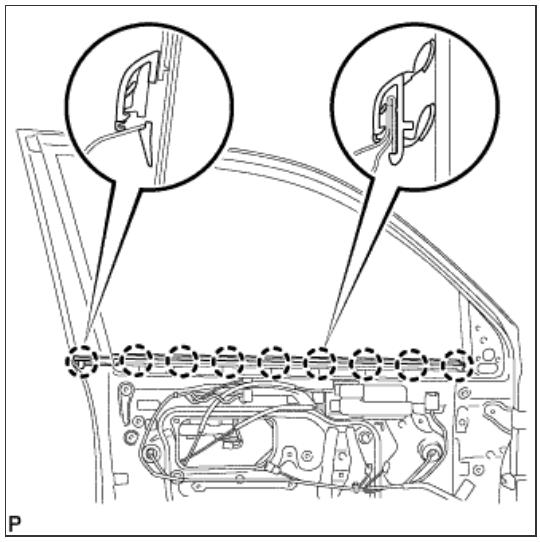
HINT:

Press the window frame moulding firmly to install it.



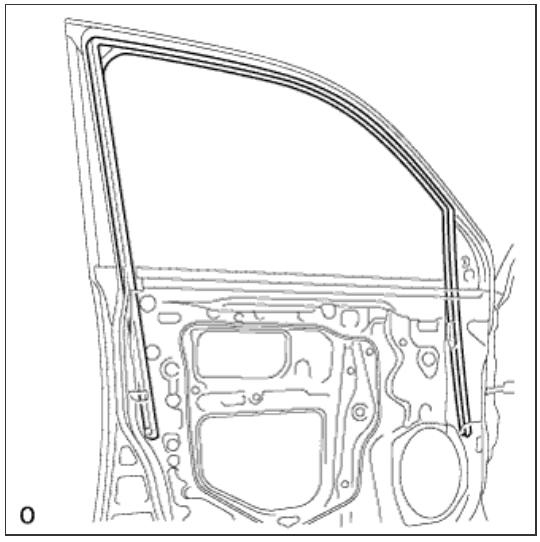
2. INSTALL FRONT DOOR BELT MOULDING ASSEMBLY LH

a. Attach the claw to install the belt moulding.



3. INSTALL FRONT DOOR GLASS RUN LH

a. Install the front door glass run.

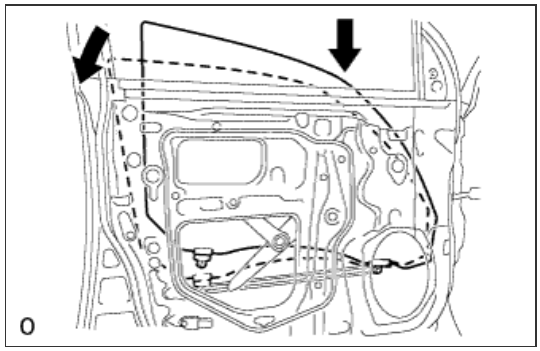


4. INSTALL FRONT DOOR GLASS SUB-ASSEMBLY LH

a. Insert the door glass into the door panel along the glass run as indicated by the arrows in the illustration.

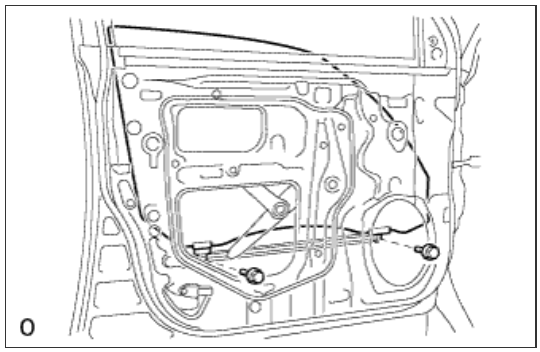
NOTICE:

Be careful not to damage the glass.



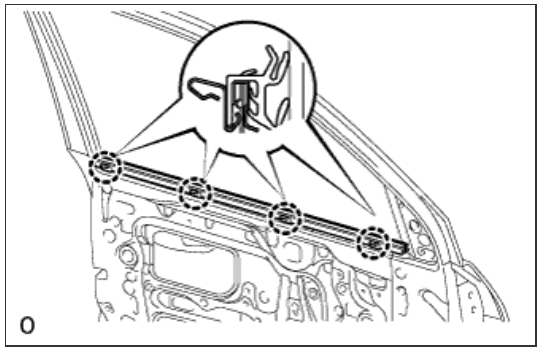
b. Install the door glass to the window regulator with the 2 bolts.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }



5. INSTALL FRONT INNER DOOR GLASS WEATHERSTRIP LH

a. Attach the 4 claws to install the front inner door glass weatherstrip LH.



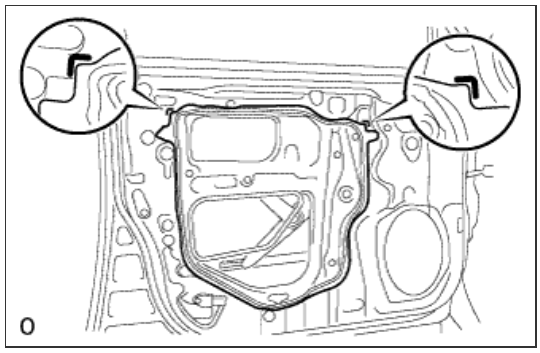
6. INSTALL FRONT DOOR SERVICE HOLE COVER LH

a. Apply butyl tape to the door.

b. Pass the front door lock remote control cable and front door inside locking cable through a new front door service hole cover.

NOTICE:

- **When installing the service hole cover, pull the links and connectors through the service hole cover.**
- **There should be no wrinkles or folds after installing the service hole cover.**
- **After installing the service hole cover, check the sealing quality.**

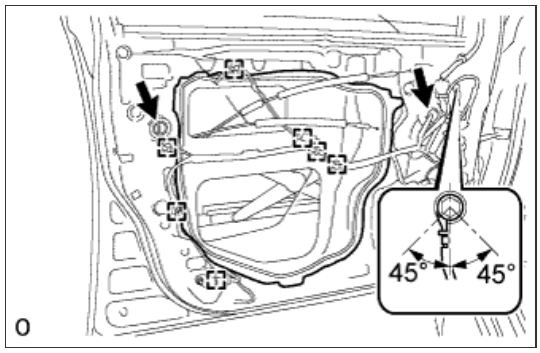


c. Connect the 2 connectors.

d. Attach the 7 clamps.

e. Install the bolt as shown in the illustration.

Torque:
8.4 N*m{ 86 kgf*cm , 74 in.*lbf }



7. INSTALL OUTER REAR VIEW MIRROR ASSEMBLY LH

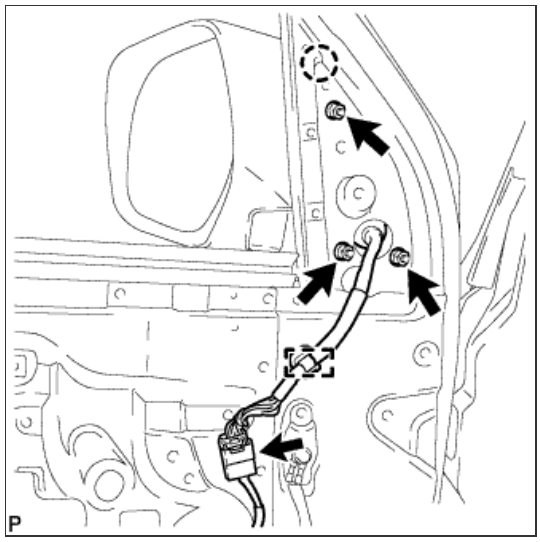
a. Attach the claw to install the mirror.

b. Install the 3 nuts.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }

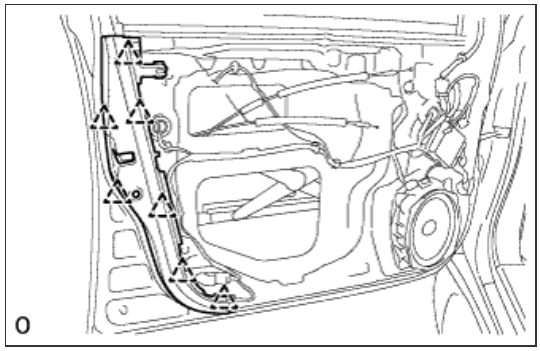
c. Attach the clamp.

d. Connect the connector.



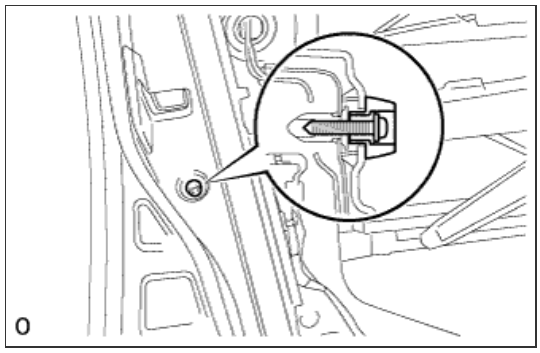
8. INSTALL DOOR TRIM COVER LH

a. Attach the 7 clips to install the door trim cover.



9. INSTALL FRONT DOOR PANEL CUSHION

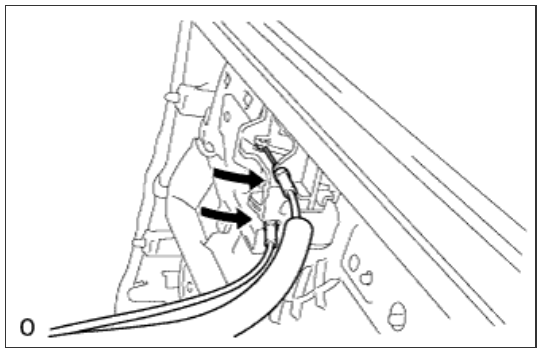
a. Install the front door panel cushion with the screw.



10. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

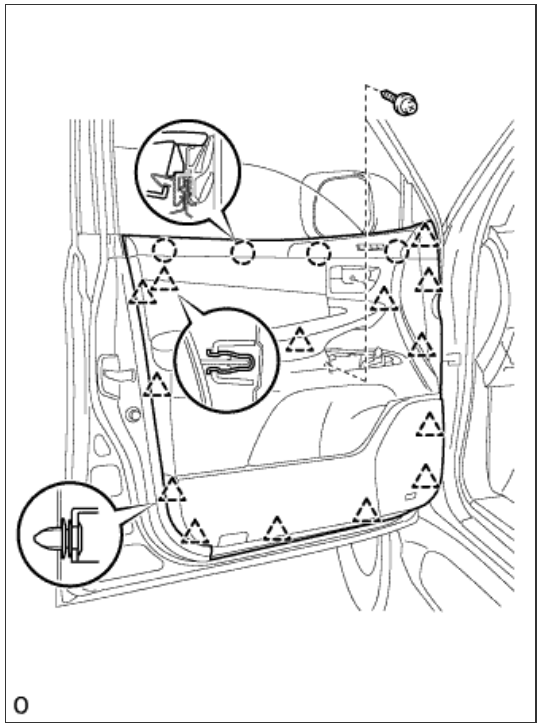
a. Connect the connector.

b. Connect the front door lock remote control cable and front door inside locking cable to the front door inside handle sub-assembly.



c. Attach the 4 claws and 14 clips to install the trim board.

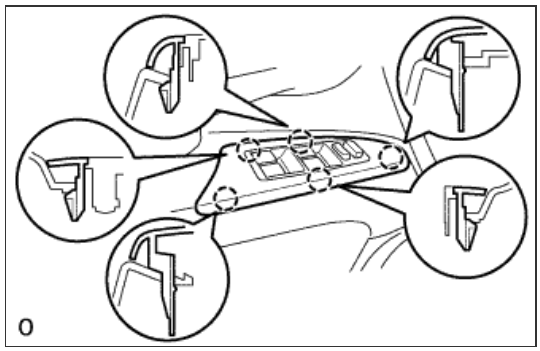
d. Install the 2 screws.



11. INSTALL FRONT UPPER ARMREST BASE PANEL LH

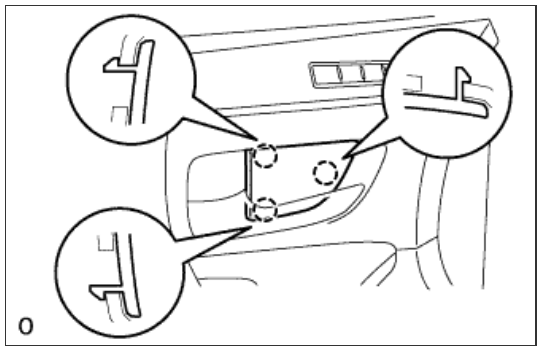
a. Connect the connector.

b. Attach the 5 claws to install the front upper armrest base panel.



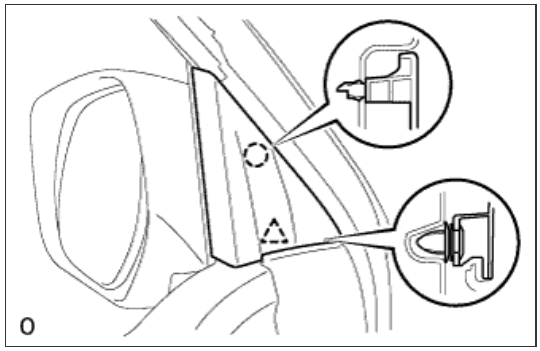
12. INSTALL FRONT DOOR INSIDE HANDLE BEZEL PLUG LH

a. Attach the 3 claws to install the inside handle bezel plug.



13. INSTALL FRONT LOWER DOOR FRAME BRACKET GARNISH LH

a. Attach the clip and claw to install the front door lower frame bracket garnish.



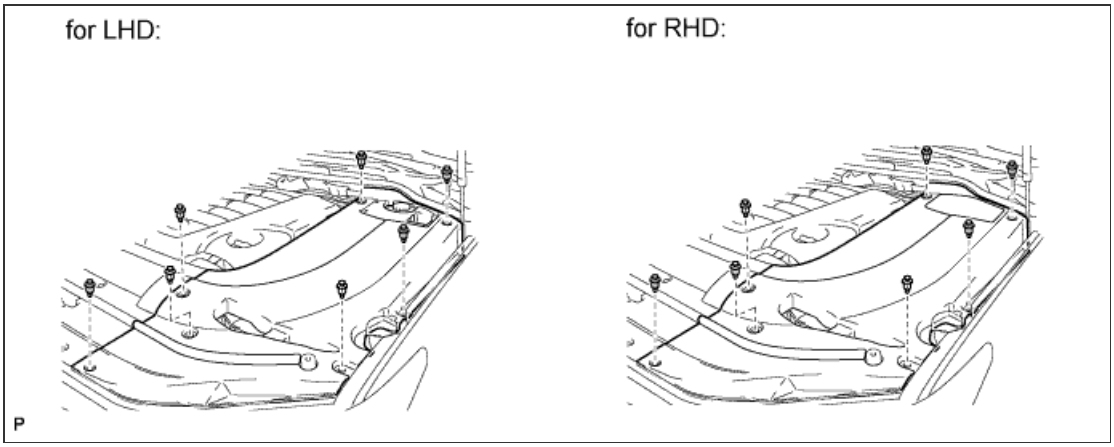
14. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

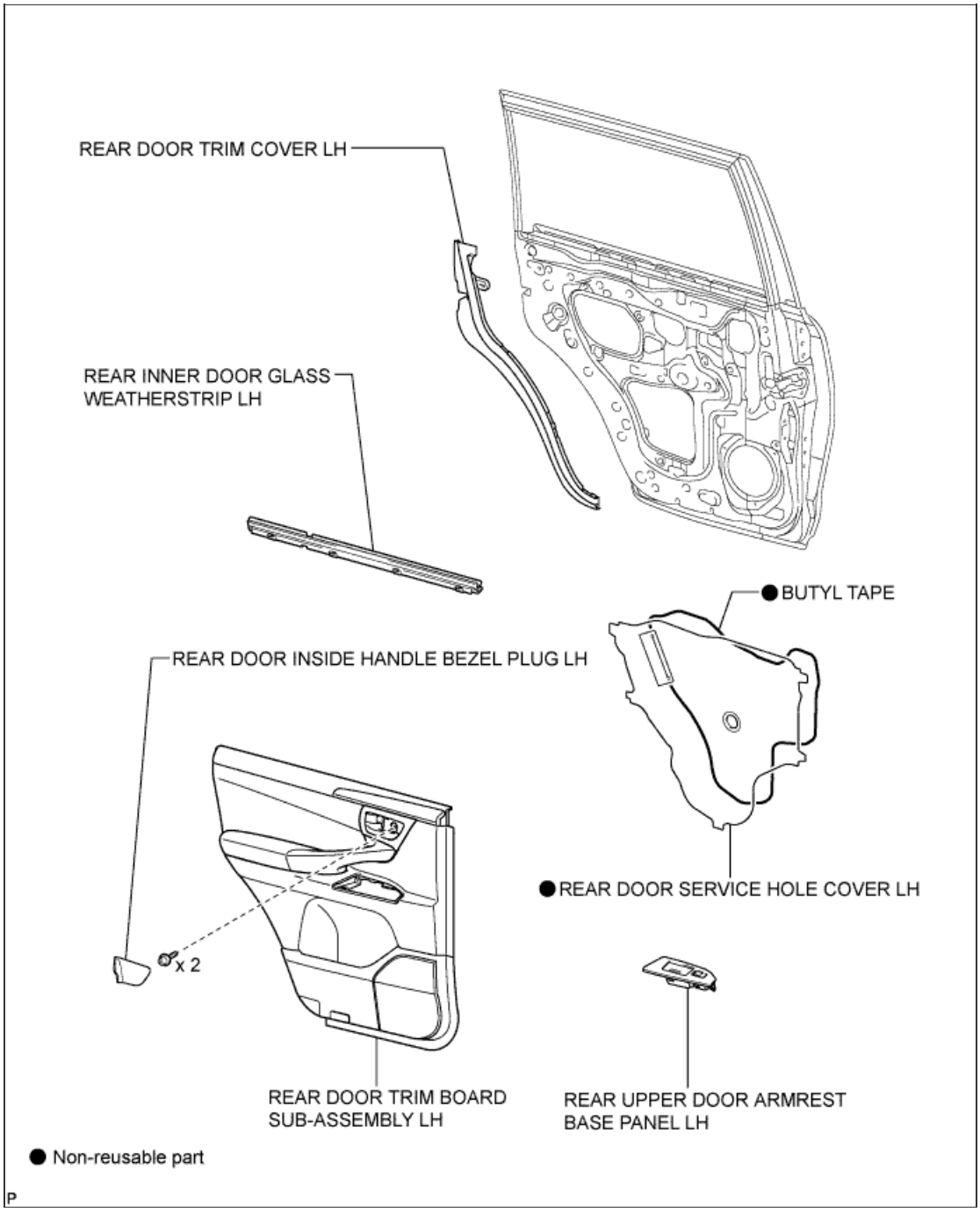
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

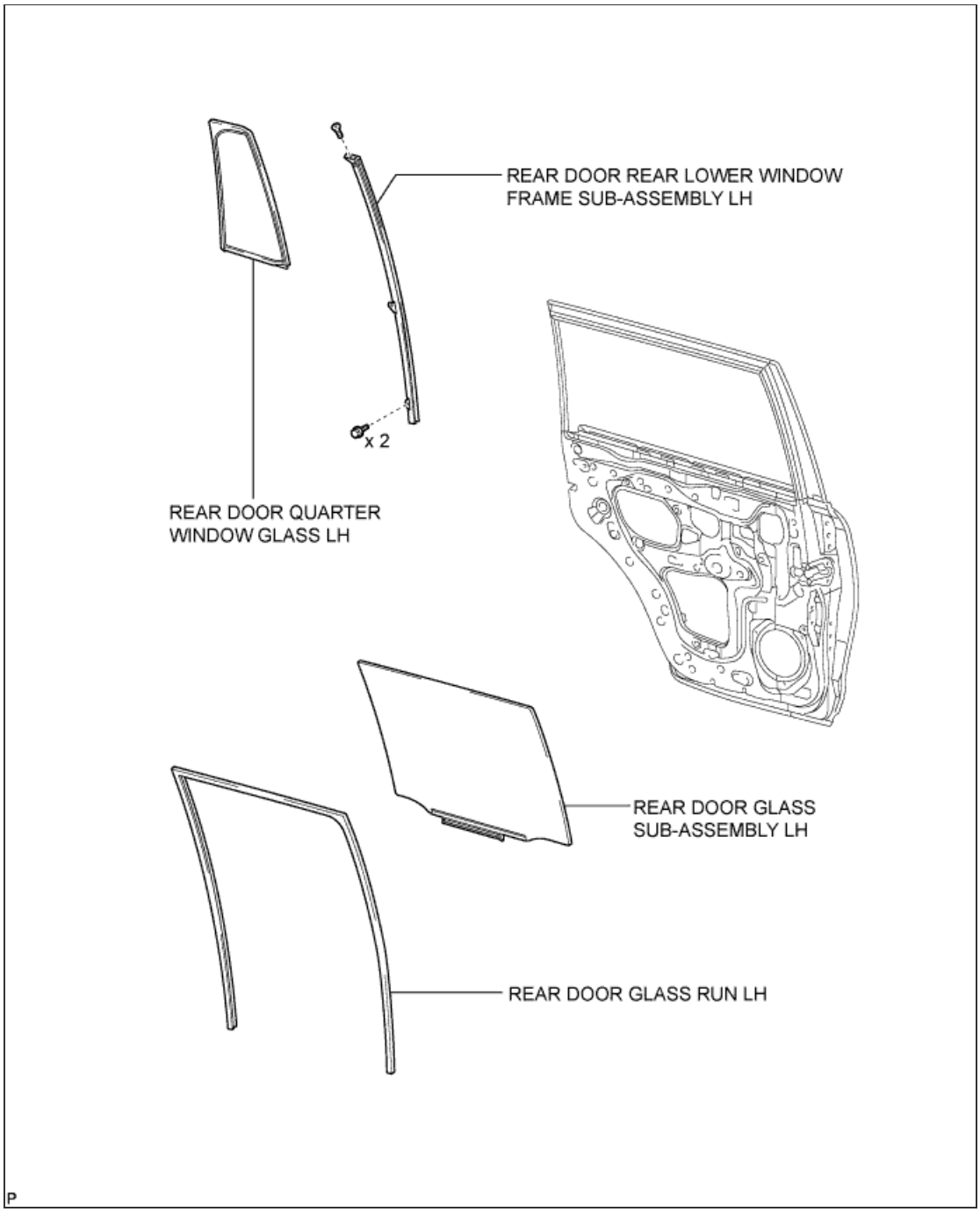
15. INSTALL ENGINE ROOM SIDE COVER LH

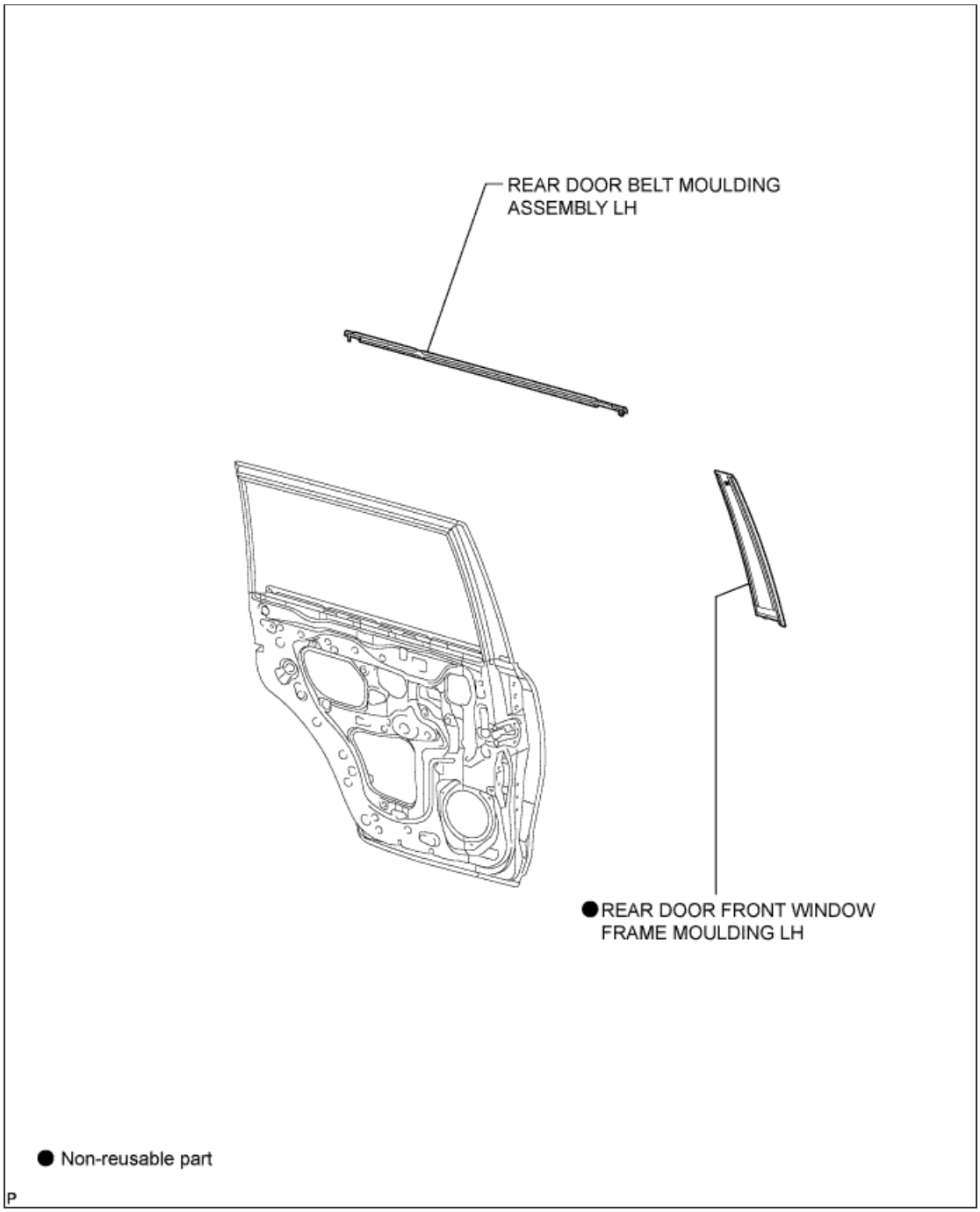
a. Install the engine room side cover with the 7 clips.



for Preparation Click here




REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY LH
x 2
REAR DOOR QUARTER WINDOW GLASS LH
REAR DOOR GLASS SUB-ASSEMBLY LH
REAR DOOR GLASS RUN LH
P


REAR DOOR BELT MOULDING ASSEMBLY LH
●REAR DOOR FRONT WINDOW FRAME MOULDING LH
● Non-reusable part
P

REAR DOOR WINDOW FRAME MOULDING > REMOVAL

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.**
- **When removing window frame moulding, heat the vehicle body and window frame moulding using a heat light.**

Standard:

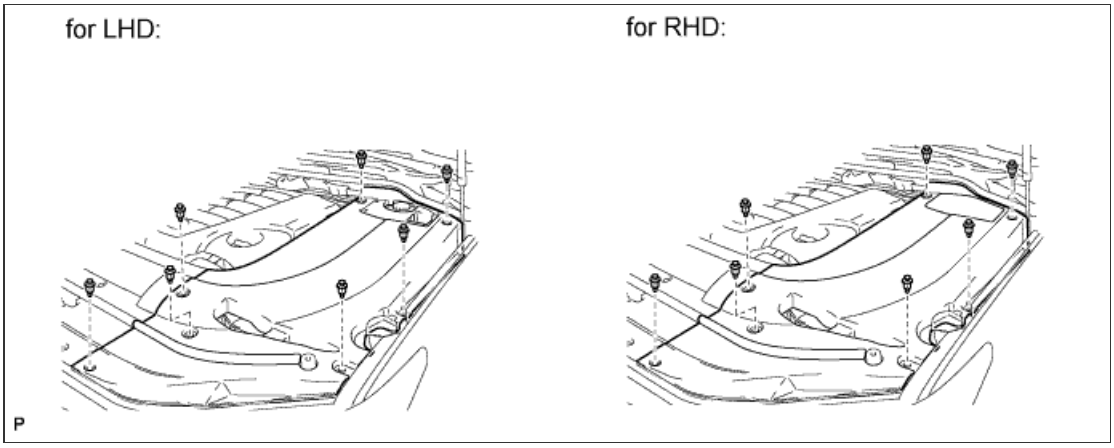
Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Window Frame Moulding	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body and window frame moulding excessively.

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

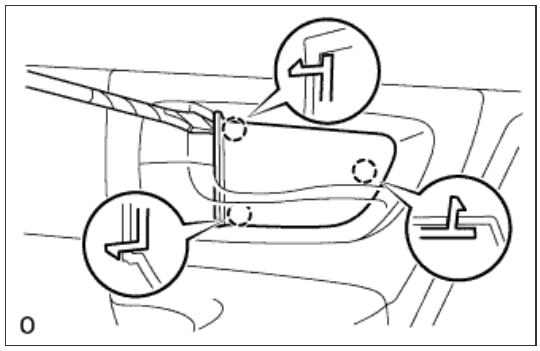
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

3. REMOVE REAR DOOR INSIDE HANDLE BEZEL PLUG LH

a. Using a screwdriver, detach the 3 claws and remove the inside handle bezel plug.

HINT:

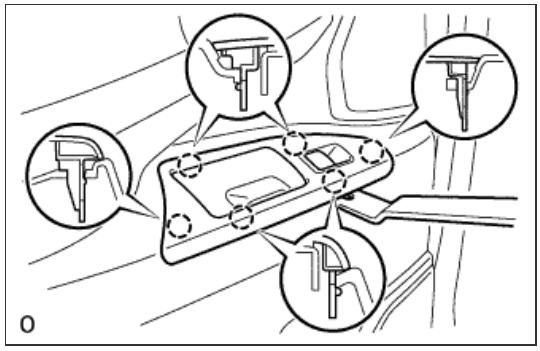
Tape the screwdriver tip before use.



4. REMOVE REAR UPPER DOOR ARMREST BASE PANEL LH

a. Using a moulding remover, detach the 6 claws.

b. Disconnect the connector and remove the rear upper door armrest base panel and rear power window regulator switch assembly.

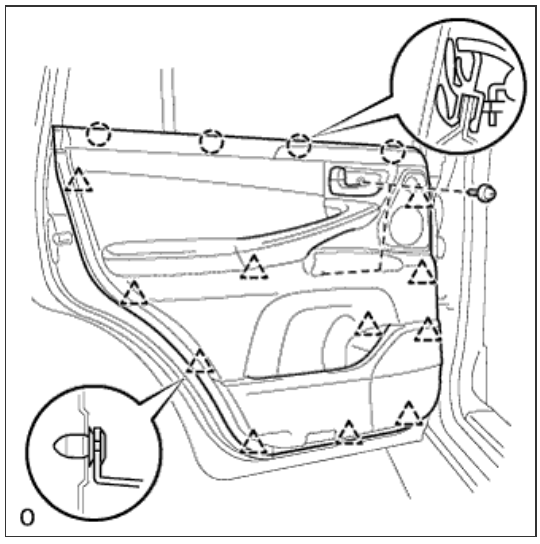


5. REMOVE REAR DOOR TRIM BOARD SUB-ASSEMBLY LH

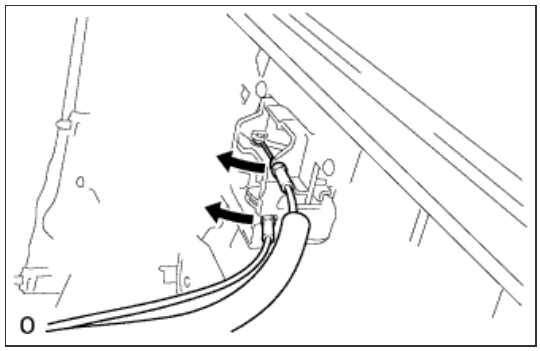
a. Remove the 2 screws.

b. Detach the 11 clips and 4 claws.

c. Disconnect the connector and remove the trim board.

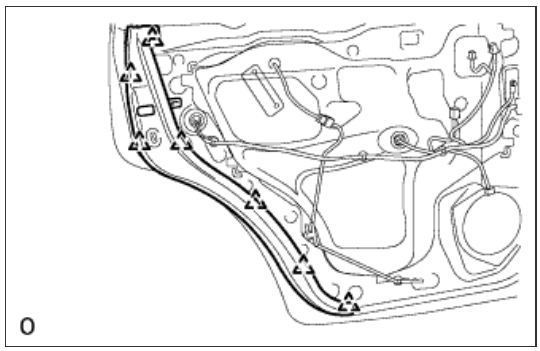


d. Disconnect the 2 cables from the inside handle.



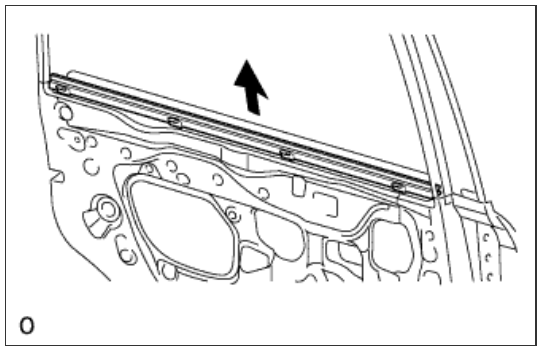
6. REMOVE REAR DOOR TRIM COVER LH

a. Detach the 7 clips and remove the door trim cover.



7. REMOVE REAR INNER DOOR GLASS WEATHERSTRIP LH

a. Remove the weatherstrip by pulling it upward in the direction indicated by the arrow in the illustration.



8. REMOVE REAR DOOR SERVICE HOLE COVER LH

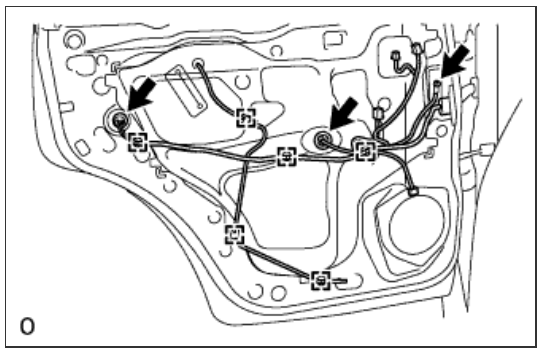
a. Using a clip remover, detach the 6 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the service hole cover.

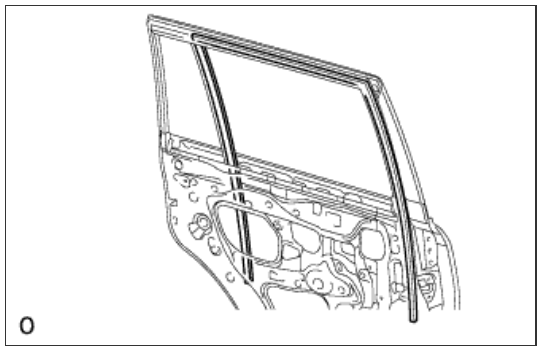
HINT:

Remove the remaining tape on the door.



9. REMOVE REAR DOOR GLASS RUN LH

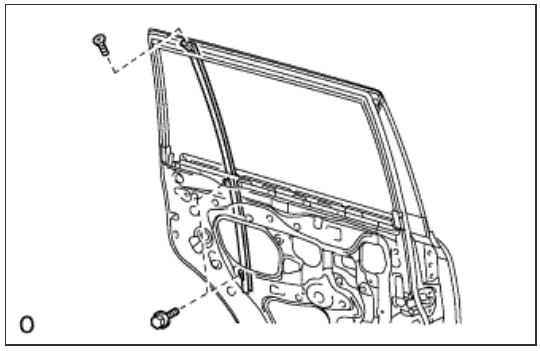
a. Remove the rear door glass run from the window frame.



10. REMOVE REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY LH

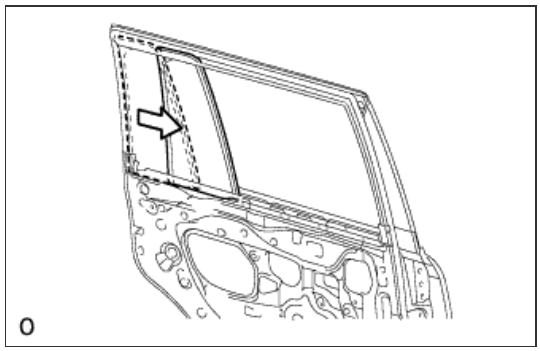
a. Remove the 2 bolts.

b. Remove the screw and window frame.



11. REMOVE REAR DOOR QUARTER WINDOW GLASS LH

a. Remove the rear door quarter window glass and rear door quarter window weatherstrip as a unit as shown in the illustration.

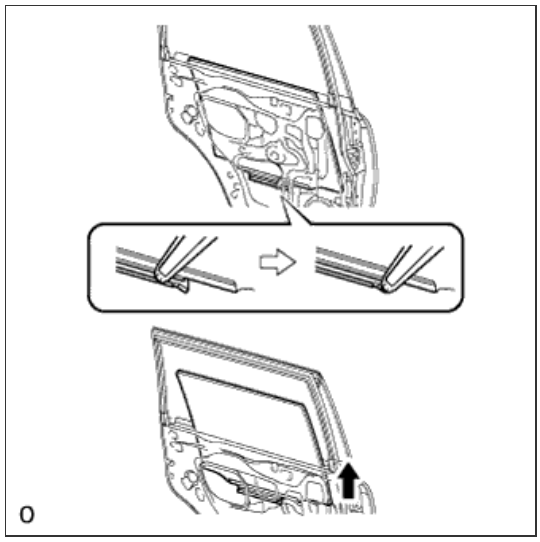


12. REMOVE REAR DOOR GLASS SUB-ASSEMBLY LH

a. Remove the rear door glass sub-assembly from the rear door window regulator sub-assembly as shown in the illustration.

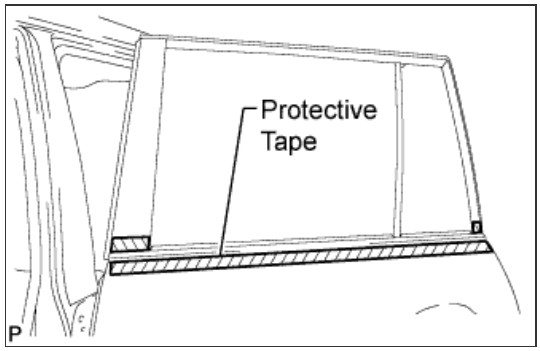
NOTICE:

Do not damage the door glass.

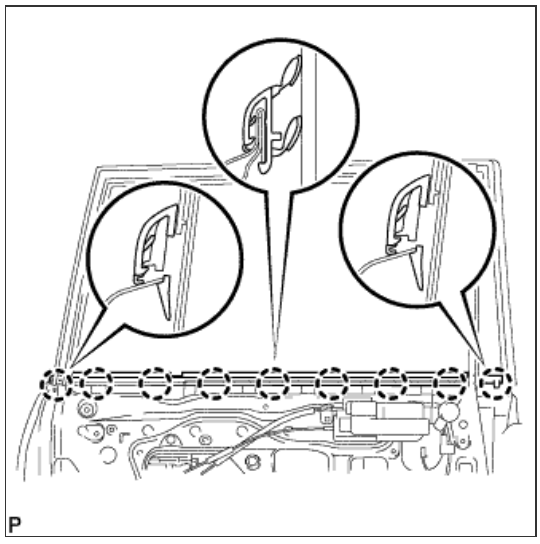


13. REMOVE REAR DOOR BELT MOULDING ASSEMBLY LH

a. Put protective tape around the belt moulding.



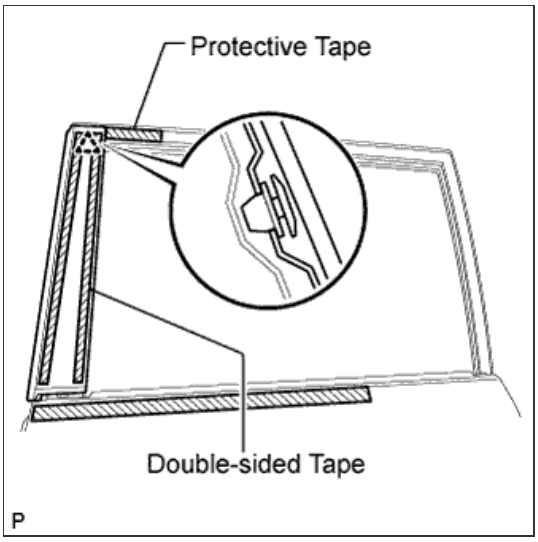
b. Detach the claw and remove the belt moulding.



14. REMOVE REAR DOOR FRONT WINDOW FRAME MOULDING LH

a. Put protective tape around the window frame moulding.

b. Detach the clip and remove the double-sided tape to remove the window frame moulding.


Protective Tape
Double-sided Tape
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.**
- **When installing the window frame moulding, heat the vehicle body and window frame moulding using a heat light.**

Standard:

Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Window Frame Moulding	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body and window frame moulding excessively.

1. INSTALL REAR DOOR FRONT WINDOW FRAME MOULDING LH

a. Clean the vehicle body surface.

i. Using a heat light, heat the vehicle body surface.

ii. Remove the double-sided tape from the vehicle body surface.

iii. Wipe off any tape adhesive residue with cleaner.

b. Install a new window frame moulding.

i. Using a heat light, heat a new window frame moulding and the vehicle body surface.

ii. Remove the peeling paper from the face of the window frame moulding.

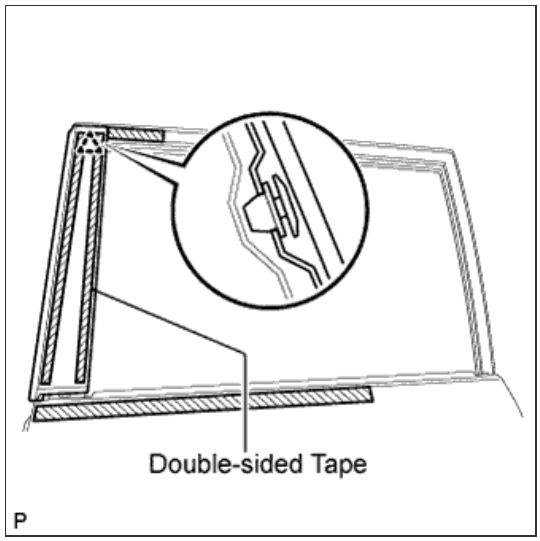
HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Attach the clip and double-sided tape to install the window frame moulding.

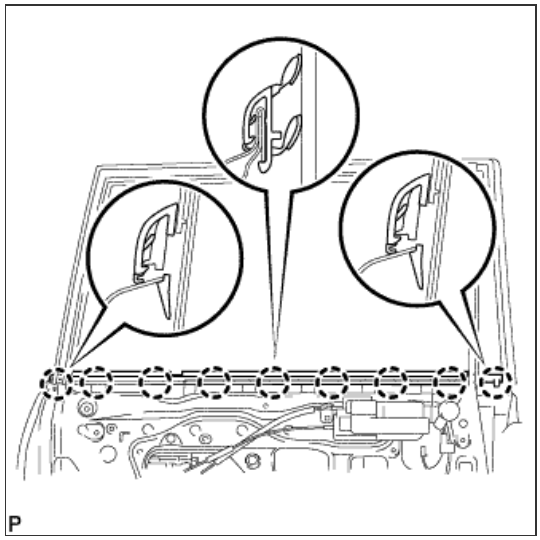
HINT:

Press the window frame moulding firmly to install it.



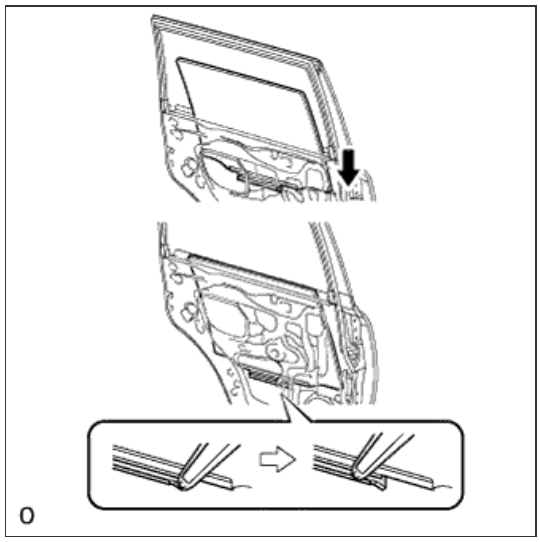
2. INSTALL REAR DOOR BELT MOULDING ASSEMBLY LH

a. Attach the claw to install the belt moulding.



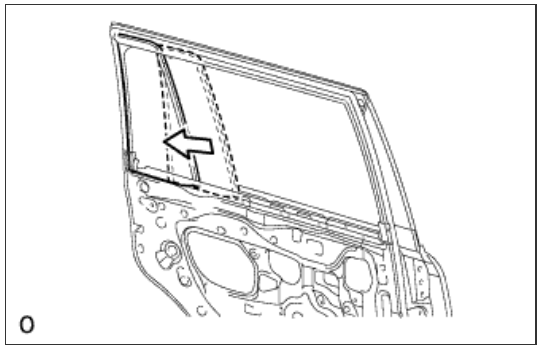
3. INSTALL REAR DOOR GLASS SUB-ASSEMBLY LH

a. Slide the rear door glass sub-assembly as shown in the illustration to install it.



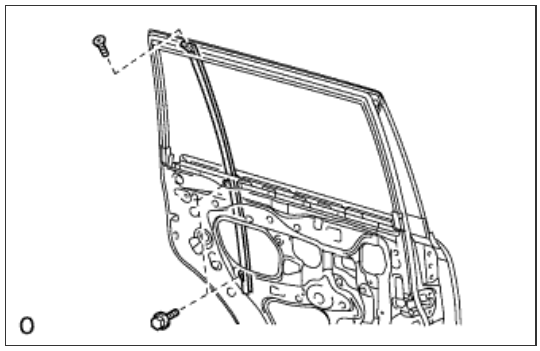
4. INSTALL REAR DOOR QUARTER WINDOW GLASS LH

a. Install the quarter glass together with the rear door quarter window weatherstrip in the direction indicated by the arrow in the illustration.



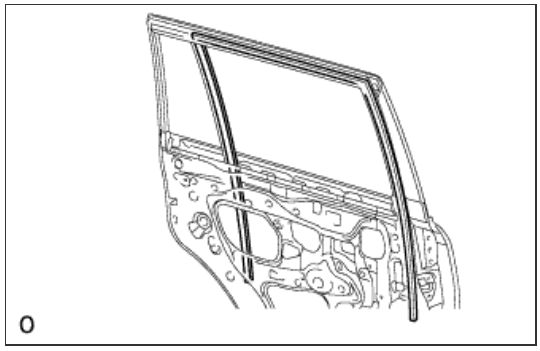
5. INSTALL REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY LH

a. Install the rear door rear lower window frame with the 2 bolts and screw.



6. INSTALL REAR DOOR GLASS RUN LH

a. Install the rear door glass run.



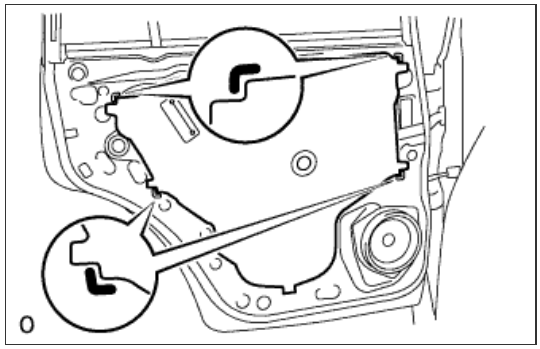
7. INSTALL REAR DOOR SERVICE HOLE COVER LH

a. Apply butyl tape to the door.

b. Pass the rear door lock remote control cable and rear door inside locking cable through a new rear door service hole cover.

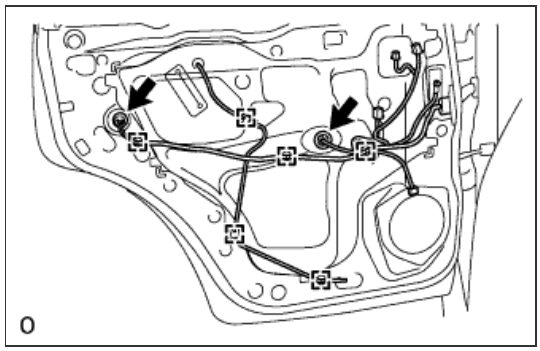
NOTICE:

- **When installing the service hole cover, pull the links and connectors through the service hole cover.**
- **There should be no wrinkles or folds after installing the service hole cover.**
- **After installing the service hole cover, check the sealing quality.**



c. Connect the 2 connectors.

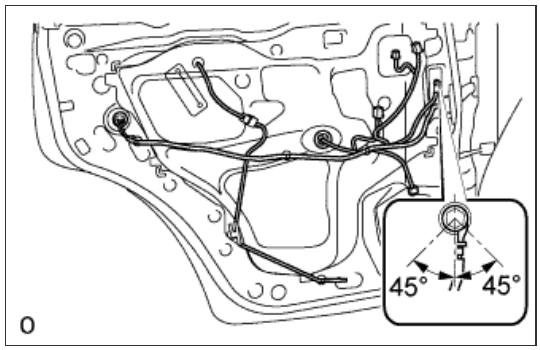
d. Attach the 6 clamps.



e. Install the bolt as shown in the illustration.

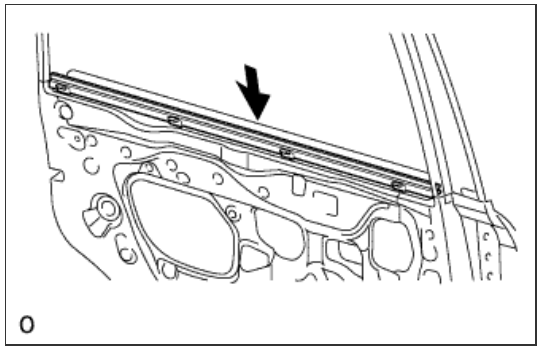
Torque:

8.4 N*m{ 86 kgf*cm , 74 in.*lbf }



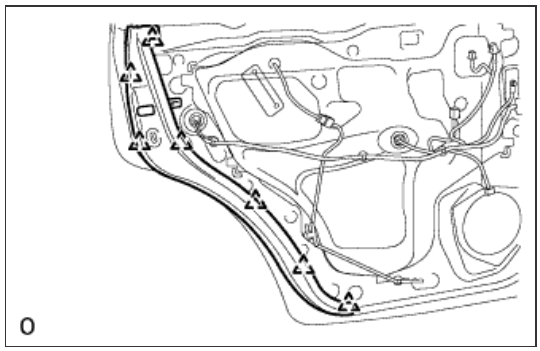
8. INSTALL REAR INNER DOOR GLASS WEATHERSTRIP LH

a. Install the rear inner door glass weatherstrip to the door panel.



9. INSTALL REAR DOOR TRIM COVER LH

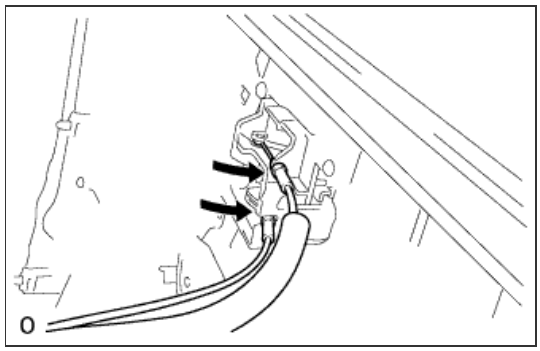
a. Attach the 7 clips to install the door trim cover.



10. INSTALL REAR DOOR TRIM BOARD SUB-ASSEMBLY LH

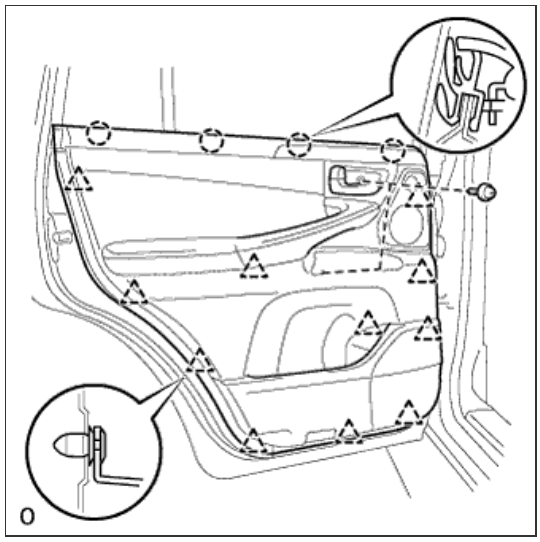
a. Connect the connector.

b. Connect the rear door lock remote control cable and rear door inside locking cable to the rear door inside handle sub-assembly.



c. Attach the 4 claws and 11 clips to install the rear door trim board sub-assembly.

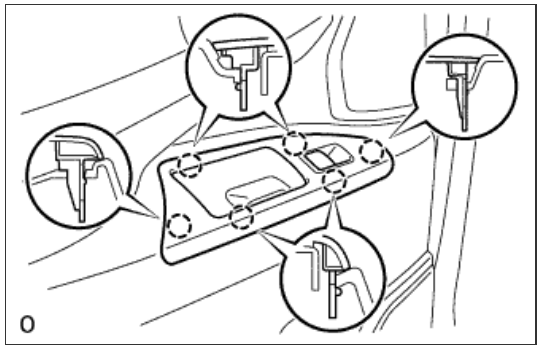
d. Install the 2 screws.



11. INSTALL REAR UPPER DOOR ARMREST BASE PANEL LH

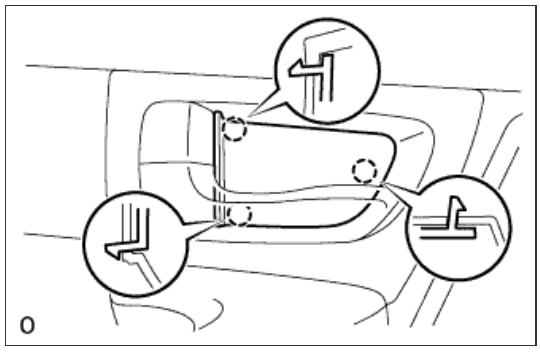
a. Connect the connector.

b. Attach the 6 claws to install the rear upper door armrest base panel.



12. INSTALL REAR DOOR INSIDE HANDLE BEZEL PLUG LH

a. Attach the 3 claws to install the bezel plug.



13. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

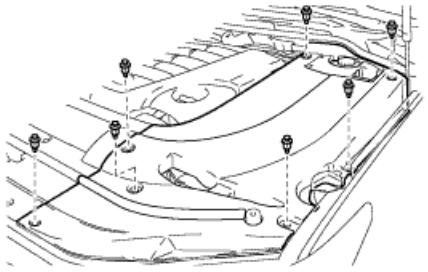
NOTICE:

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

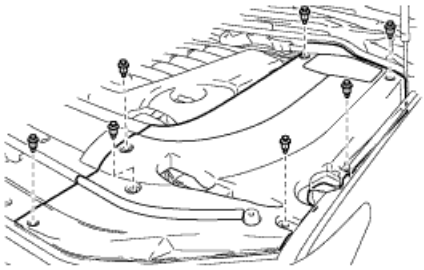
14. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

for LHD:

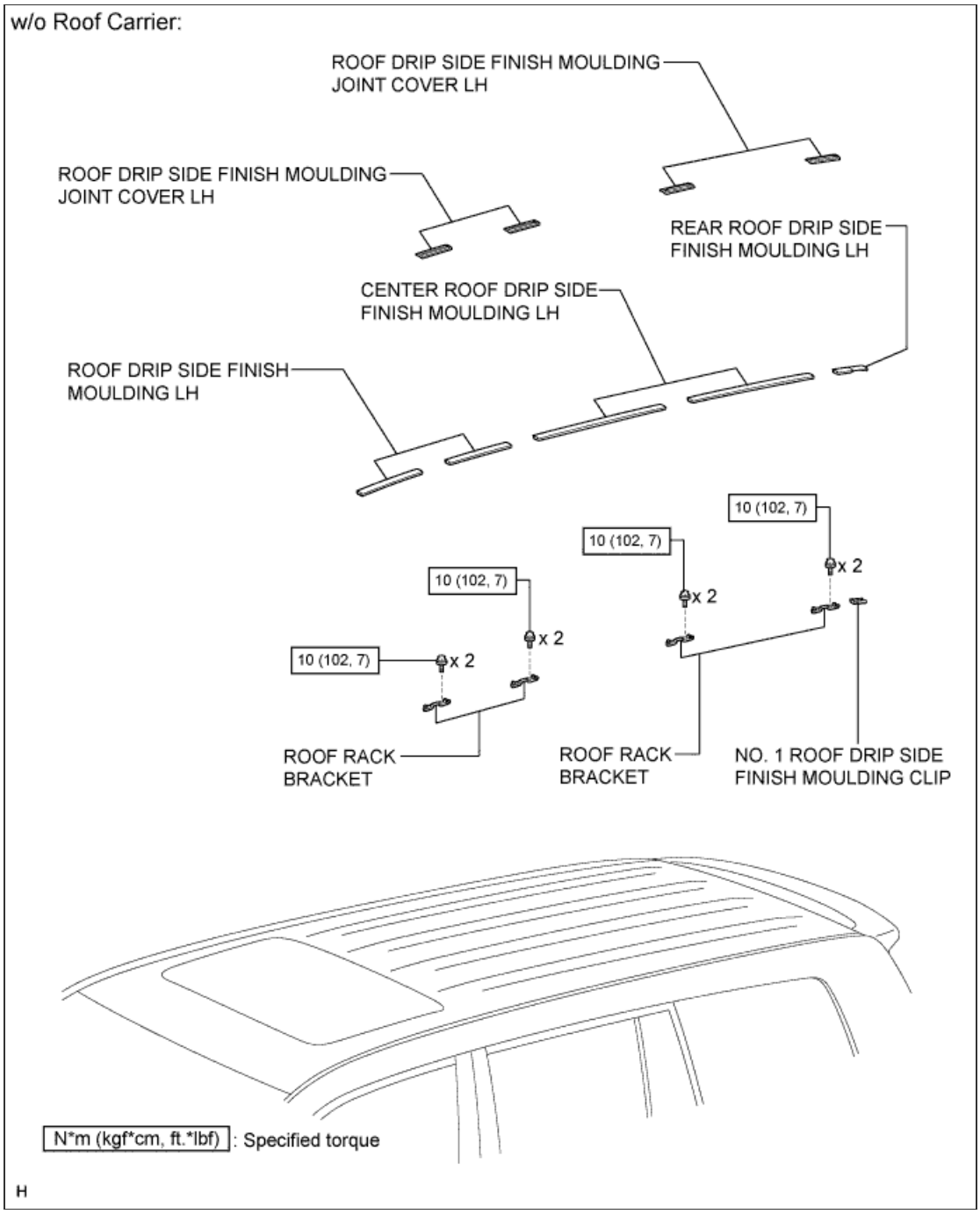


for RHD:

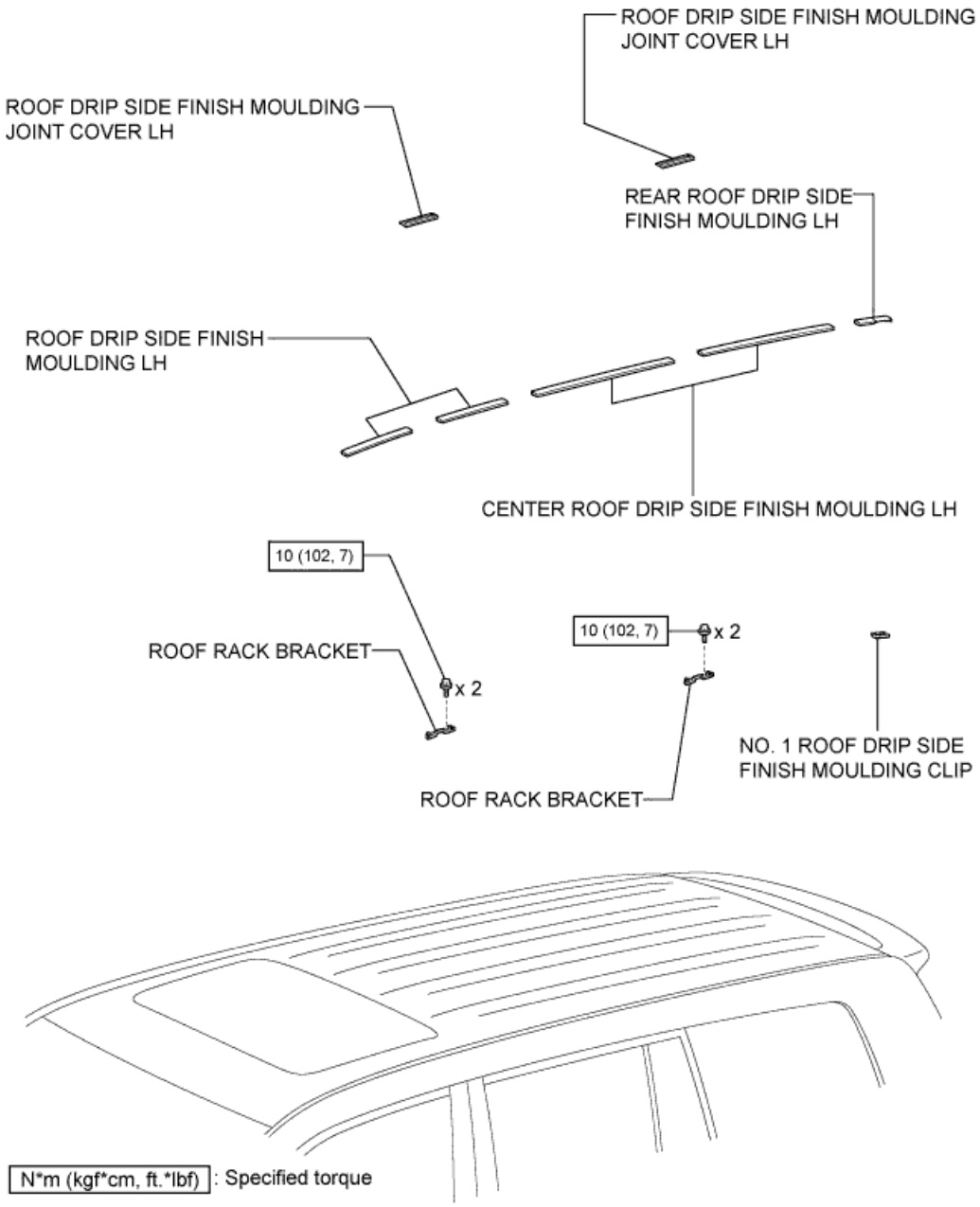


P

for Preparation Click here



w/ Roof Carrier:



N*m (kgf*cm, ft.*lbf) : Specified torque

H

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.**
- **When replacing a clip, heat the vehicle body and clip using a heat light.**

Standard:

Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Clip	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body and clip excessively.

1. REMOVE ROOF CARRIER ASSEMBLY (w/ Roof Carrier)

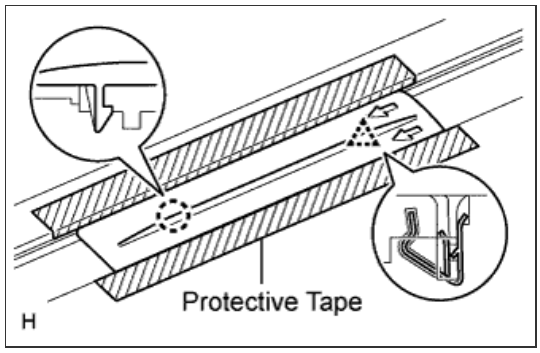
a. Remove the roof carrier assembly (Click here).

2. REMOVE ROOF DRIP SIDE FINISH MOULDING JOINT COVER LH

a. Put protective tape around the cover.

b. w/o Roof Carrier:
Detach the claws and clips and remove the 4 covers.

c. w/ Roof Carrier:
Detach the claws and clips and remove the 2 covers.



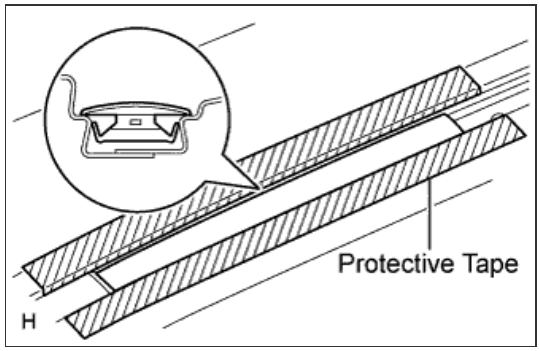
3. REMOVE ROOF DRIP SIDE FINISH MOULDING LH

HINT:

Use the same procedure to remove the moulding on the other side.

a. Put protective tape around the moulding.

b. Remove the moulding.



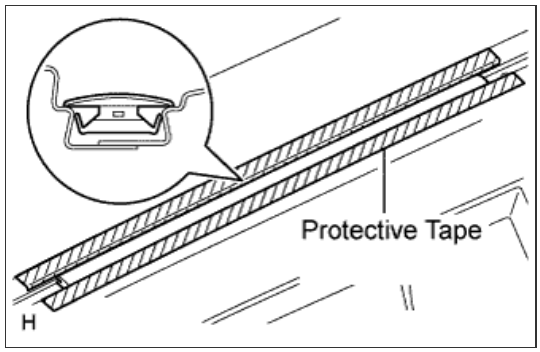
4. REMOVE CENTER ROOF DRIP SIDE FINISH MOULDING LH

HINT:

Use the same procedure to remove the moulding on the other side.

a. Put protective tape around the moulding.

b. Remove the moulding.



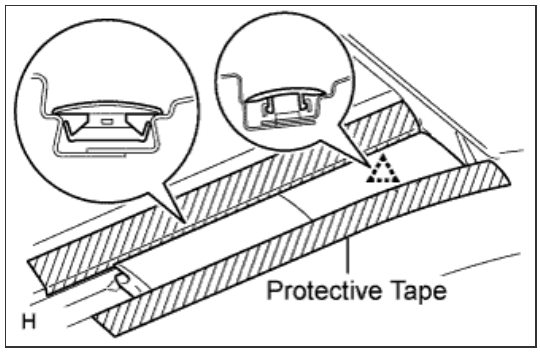
5. REMOVE REAR ROOF DRIP SIDE FINISH MOULDING LH

a. Put protective tape around the moulding.

b. Using a moulding remover, detach the clip and remove the moulding.

NOTICE:

- **When removing the rear roof drip side finish moulding, be careful not to damage the No. 1 roof drip side finish moulding clip.**
- **If the No. 1 roof drip side finish moulding clip is damaged or becomes detached from the vehicle, replace it with a new one.**



6. REMOVE NO. 1 ROOF DRIP SIDE FINISH MOULDING CLIP

HINT:

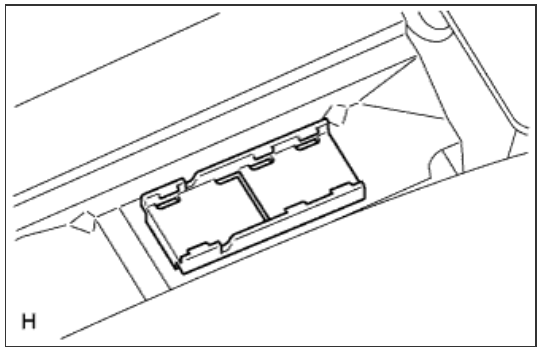
Perform the following procedures if replacing a No. 1 roof drip side finish moulding clip.

a. Using a heat light, heat the clip and vehicle body.

NOTICE:

Do not heat the clip and vehicle body excessively.

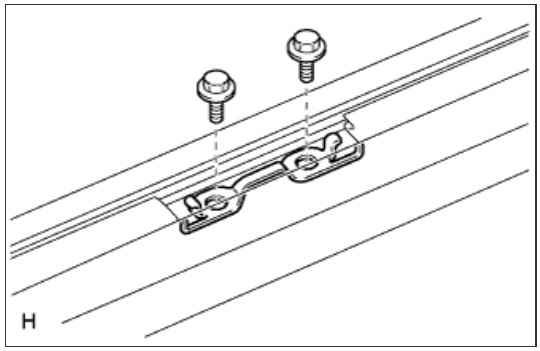
b. Remove the clip.



7. REMOVE ROOF RACK BRACKET

a. w/o Roof Carrier:
Remove the 8 bolts and 4 brackets.

b. w/ Roof Carrier:
Remove the 4 bolts and 2 brackets.



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.**
- **When installing a clip, heat the vehicle body and clip using a heat light.**

Standard:

Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Clip	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body and clip excessively.

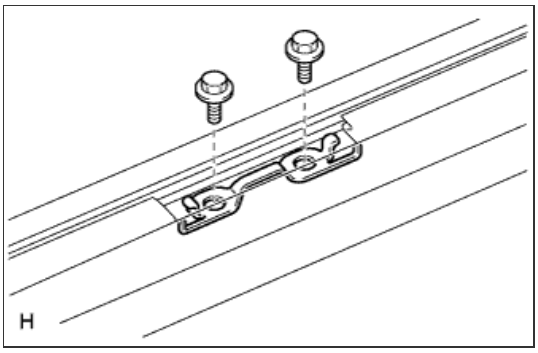
1. INSTALL ROOF RACK BRACKET

a. w/o Roof Carrier:
Install the 4 brackets with the 8 bolts.

Torque:
10 N*m{ 102 kgf*cm , 7 ft.*lbf }

b. w/ Roof Carrier:
Install the 2 brackets with the 4 bolts.

Torque:
10 N*m{ 102 kgf*cm , 7 ft.*lbf }



2. INSTALL NO. 1 ROOF DRIP SIDE FINISH MOULDING CLIP

HINT:

Perform the following procedures when replacing a No. 1 roof drip side finish moulding clip.

NOTICE:

Remove the double-sided tape where the clip will be installed on the body and clean the body with a non-residue type solvent.

a. Apply a 2 to 3 mm (0.0788 to 0.118 in.) bead of adhesive (3M DP-105 or equivalent) to a new No. 1 roof drip side finish moulding clip.

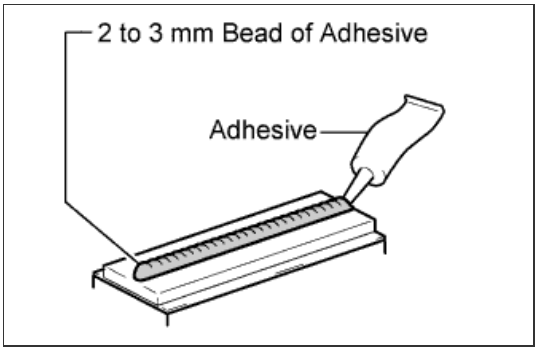
HINT:

Adhesive strength (tensile strength): 13.7 MPa (140 kgf/cm^2, 1991 psi) or more when the temperature is 23°C (73°F).

b. Apply primer to the body where the No. 1 roof drip side finish moulding clip will be installed.

NOTICE:

Do not let the primer dry.

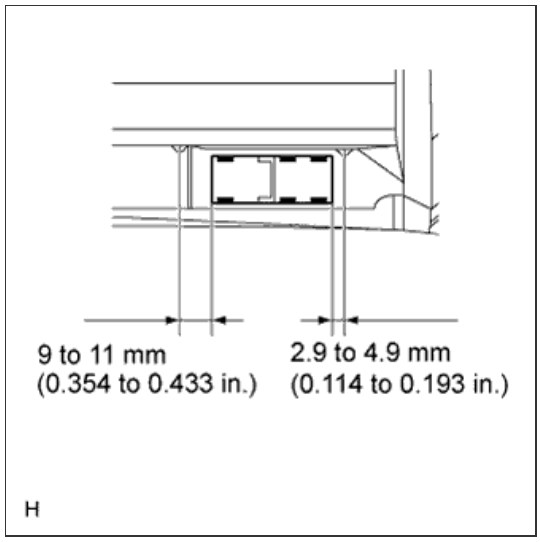


c. While using the position shown in the illustration as a reference, place the No. 1 roof drip side finish moulding clip onto the roof panel. Then position and install

the clip after lightly pressing against it so that the adhesive adheres to the primer.

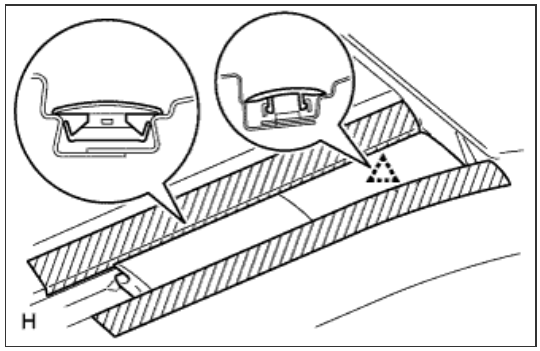
NOTICE:

- **Install the rear roof drip side finish moulding when 40 minutes or more have elapsed after pressing and installing the No. 1 roof drip side finish moulding clip.**
- **Initial hardening time: 40 minutes**
- **Complete hardening time: 48 hours**



3. INSTALL REAR ROOF DRIP SIDE FINISH MOULDING LH

a. Attach the clip to install the moulding.

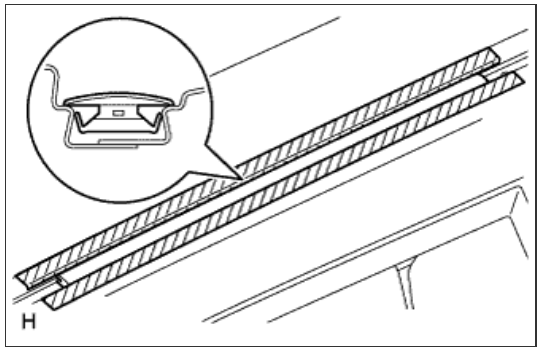


4. INSTALL CENTER ROOF DRIP SIDE FINISH MOULDING LH

HINT:

Use the same procedure to install the moulding on the other side.

a. Install the moulding as shown in the illustration.

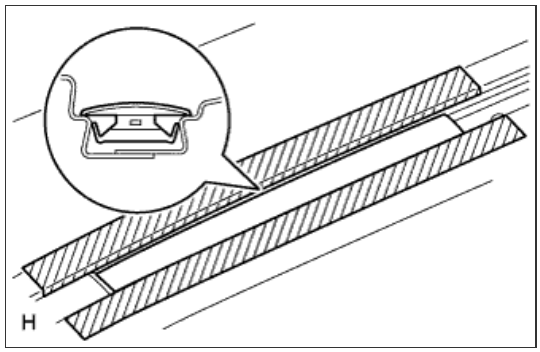


5. INSTALL ROOF DRIP SIDE FINISH MOULDING LH

HINT:

Use the same procedure to install the moulding on the other side.

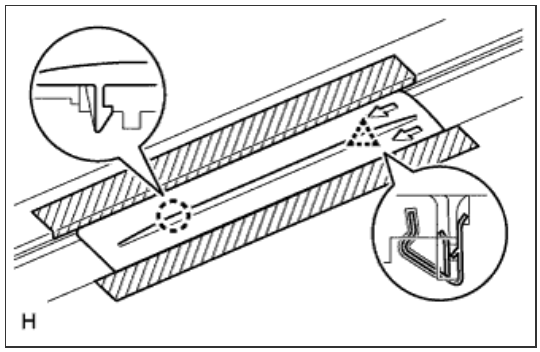
a. Install the moulding as shown in the illustration.



6. INSTALL ROOF DRIP SIDE FINISH MOULDING JOINT COVER LH

a. w/o Roof Carrier:
Attach the claws and clips to install the 4 covers.

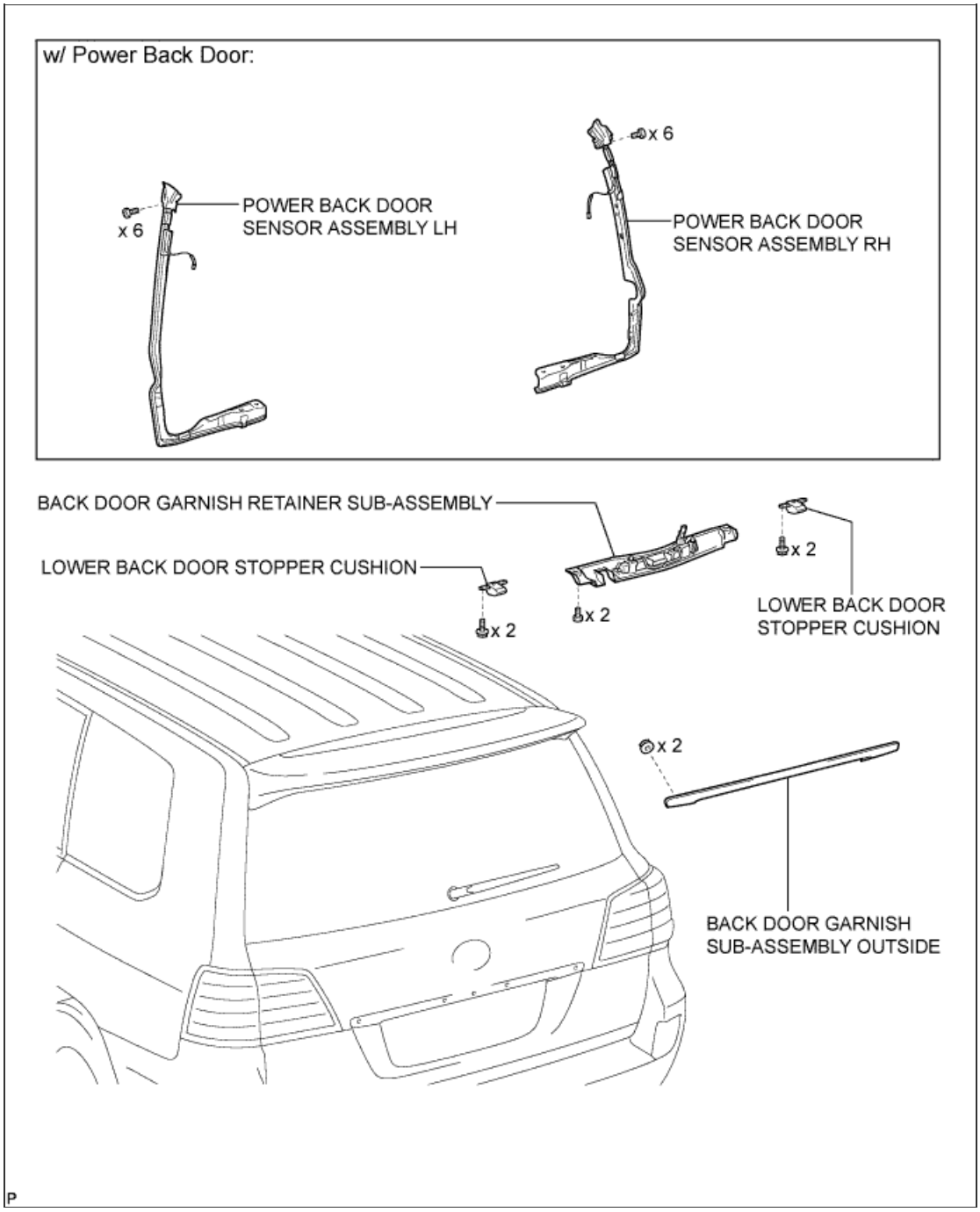
b. w/ Roof Carrier:
Attach the claws and clips to install the 2 covers.



7. INSTALL ROOF CARRIER ASSEMBLY (w/ Roof Carrier)

a. Install the roof carrier assembly (Click here).

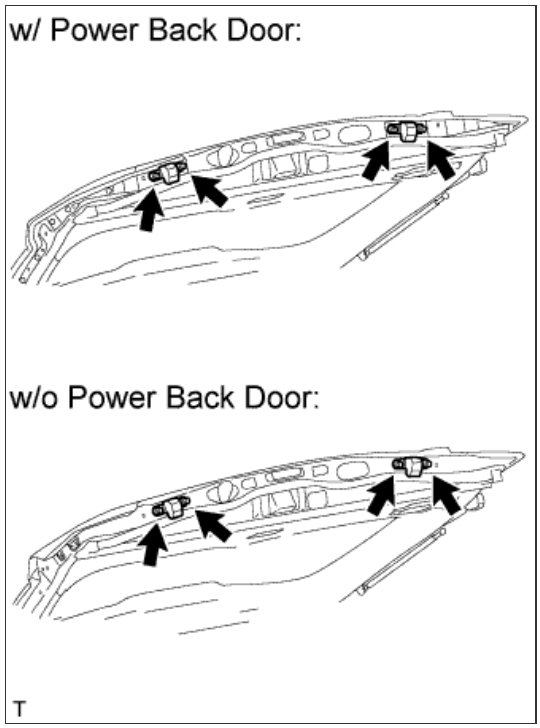
for Preparation Click here



for Preparation Click here

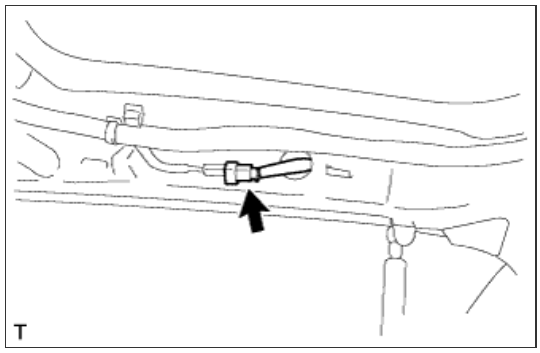
1. REMOVE LOWER BACK DOOR STOPPER CUSHION

a. Remove the 4 bolts and 2 lower back door stopper cushions.



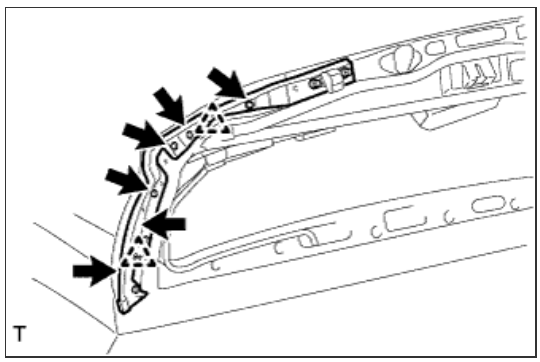
2. REMOVE POWER BACK DOOR SENSOR ASSEMBLY LH (w/ Power Back Door)

a. Disconnect the connector.



b. Using a T25 "TORX" wrench, remove the 6 screws.

c. Detach the 2 clips and remove the power back door sensor assembly LH.



3. REMOVE POWER BACK DOOR SENSOR ASSEMBLY RH (w/ Power Back Door)

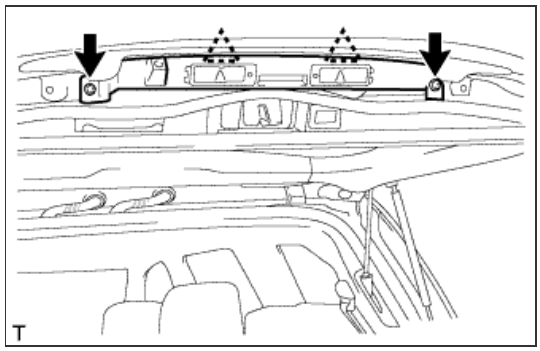
HINT:

Use the same procedures described for the LH side.

4. REMOVE BACK DOOR GARNISH RETAINER SUB-ASSEMBLY

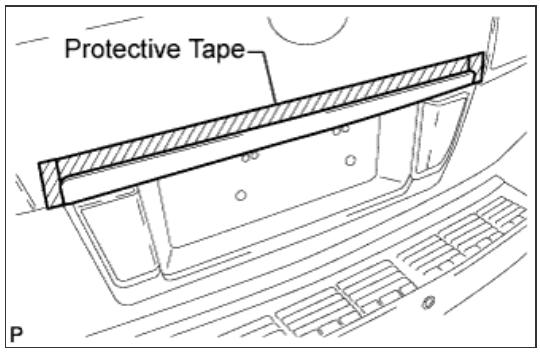
a. Using a T30 "TORX" socket wrench, detach the 2 clips and remove the 2 screws and garnish.

b. Disconnect the connector.



5. REMOVE BACK DOOR GARNISH SUB-ASSEMBLY OUTSIDE

a. Put protective tape around the back door garnish.

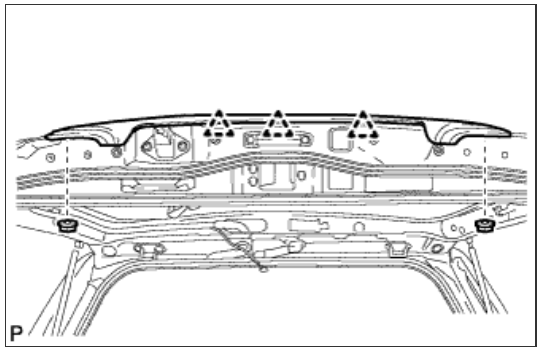


b. Remove the 2 nuts.

c. Detach the 3 clips and remove the garnish.

HINT:

Detach the clips from the backside of the garnish.



for Preparation Click here

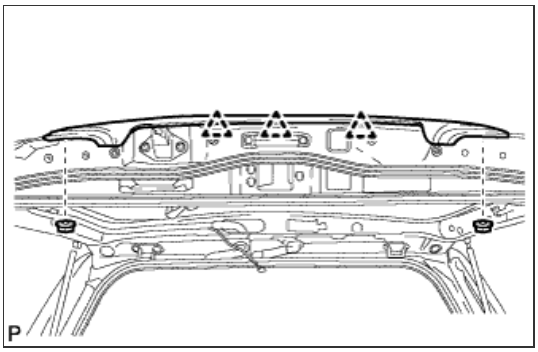
HINT:

A bolt without a torque specification is shown in the standard bolt chart (Click here).

1. INSTALL BACK DOOR GARNISH SUB-ASSEMBLY OUTSIDE

a. Attach the 3 clips to install the garnish.

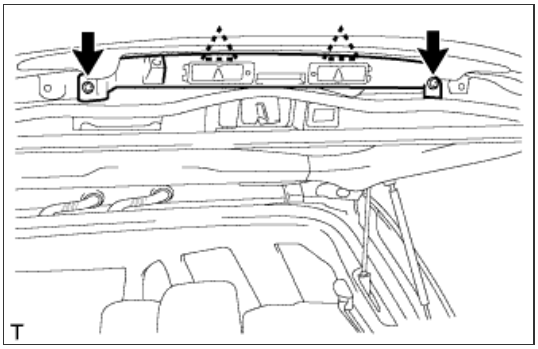
b. Install the 2 nuts.



2. INSTALL BACK DOOR GARNISH RETAINER SUB-ASSEMBLY

a. Connect the connector.

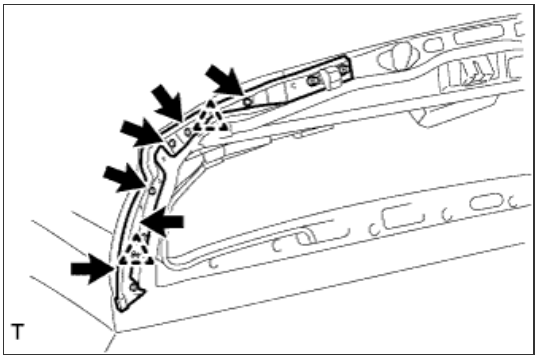
b. Using a T30 "TORX" socket wrench, attach the 2 clips and install the garnish with the 2 screws.



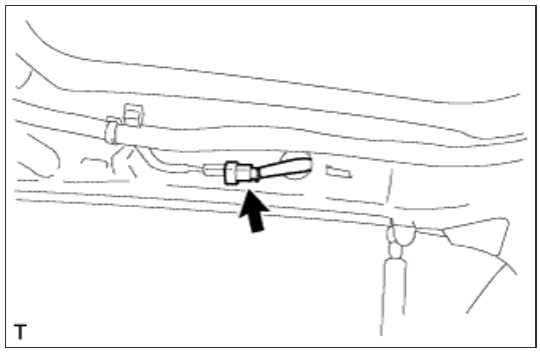
3. INSTALL POWER BACK DOOR SENSOR ASSEMBLY LH (w/ Power Back Door)

a. Attach the 2 clips to install the power back door sensor assembly LH.

b. Using a T25 "TORX" wrench, install the 6 screws.



c. Connect the connector.



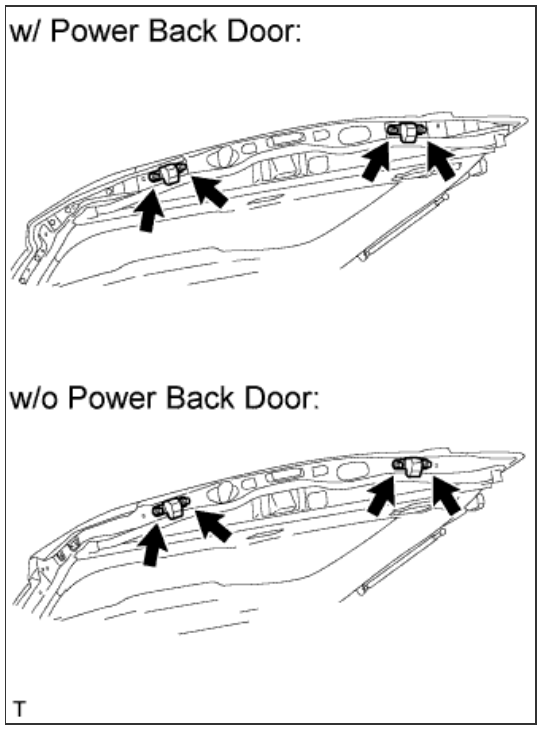
4. INSTALL POWER BACK DOOR SENSOR ASSEMBLY RH (w/ Power Back Door)

HINT:

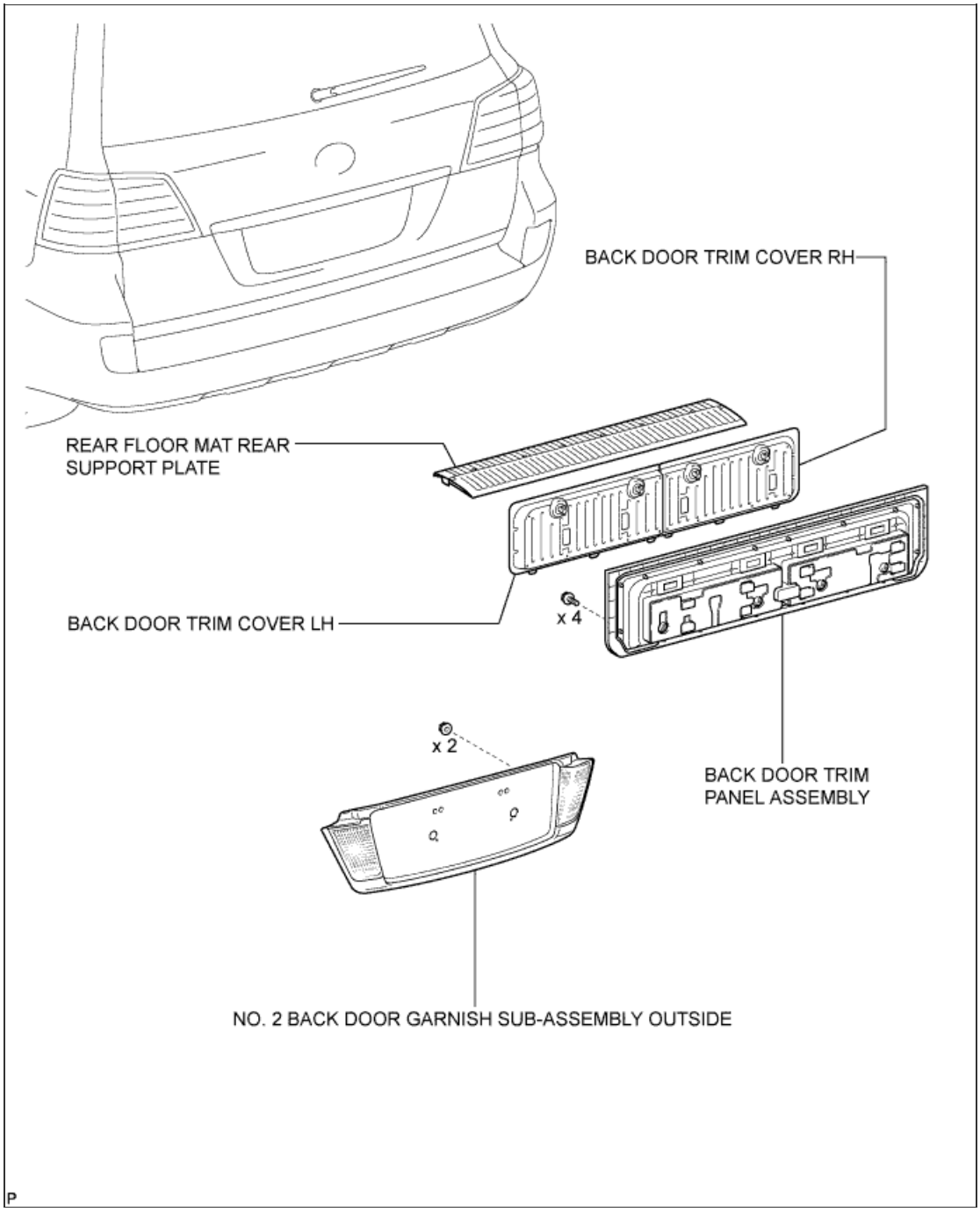
Use the same procedures described for the LH side.

5. INSTALL LOWER BACK DOOR STOPPER CUSHION

a. Install the 2 back door stopper cushions with the 4 bolts.



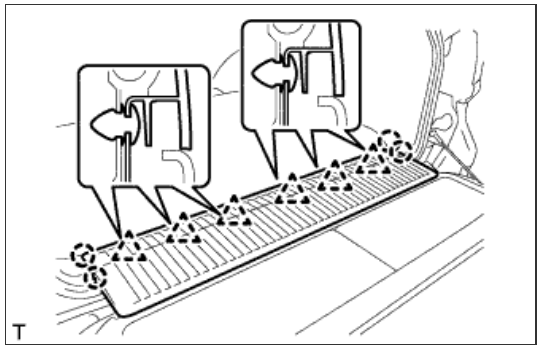
for Preparation Click here



for Preparation Click here

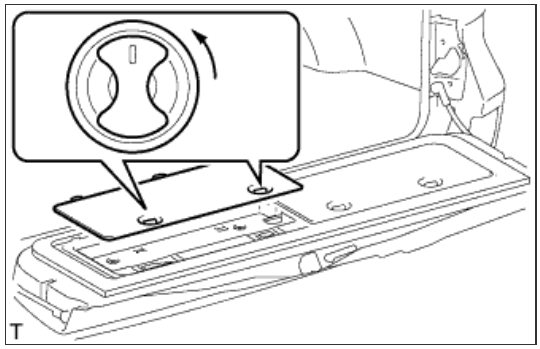
1. REMOVE REAR FLOOR MAT REAR SUPPORT PLATE

a. Detach the 6 clips and 4 claws, and remove the support plate.



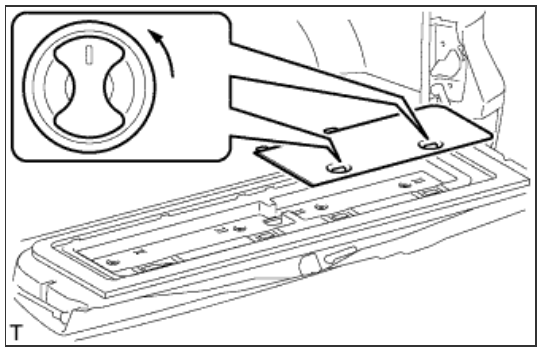
2. REMOVE BACK DOOR TRIM COVER LH

a. Remove the back door trim cover LH as shown in the illustration.



3. REMOVE BACK DOOR TRIM COVER RH

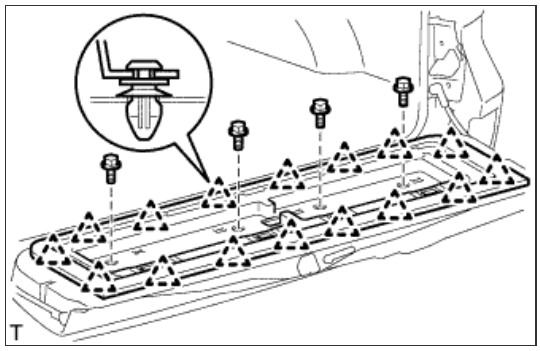
a. Remove the back door trim cover RH as shown in the illustration.



4. REMOVE BACK DOOR TRIM PANEL ASSEMBLY

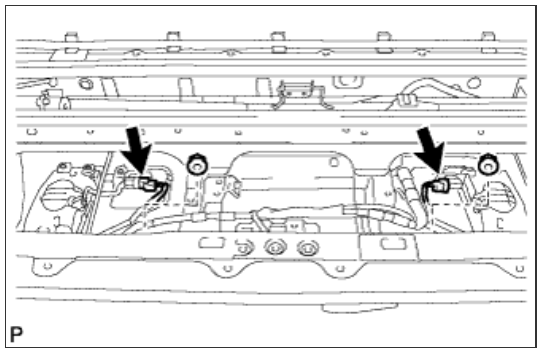
a. Remove the 4 bolts.

b. Detach the 16 clips and remove the back door trim panel.



5. REMOVE NO. 2 BACK DOOR GARNISH SUB-ASSEMBLY OUTSIDE

a. Remove the 2 nuts and disconnect the 2 connectors.

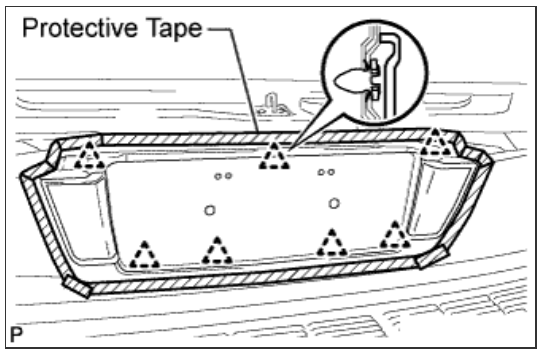


b. Put protective tape around the garnish.

c. Detach the 7 clips and remove the garnish.

HINT:

Detach the clips from the backside of the garnish.



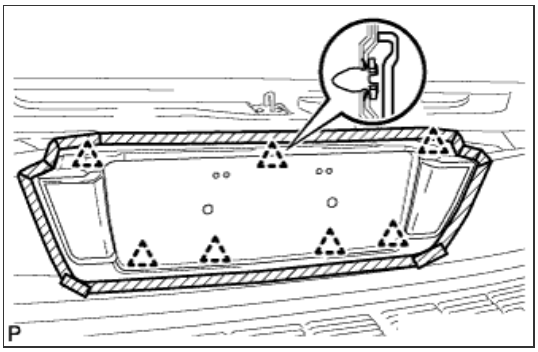
for Preparation Click here

HINT:

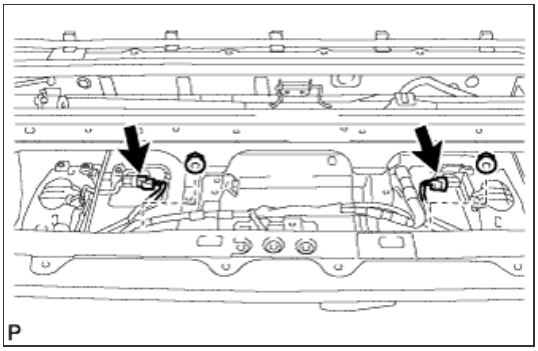
A bolt without a torque specification is shown in the standard bolt chart (Click here).

1. INSTALL NO. 2 BACK DOOR GARNISH SUB-ASSEMBLY OUTSIDE

a. Attach the 7 clips to install the garnish.



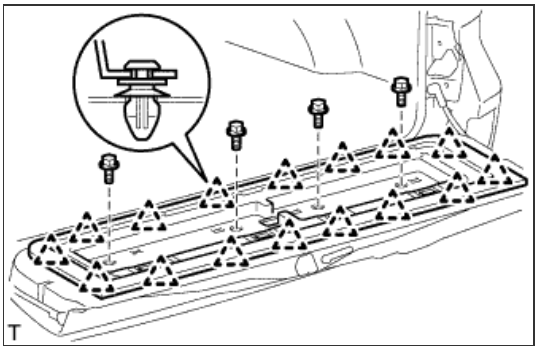
b. Install the 2 nuts and connect the 2 connectors.



2. INSTALL BACK DOOR TRIM PANEL ASSEMBLY

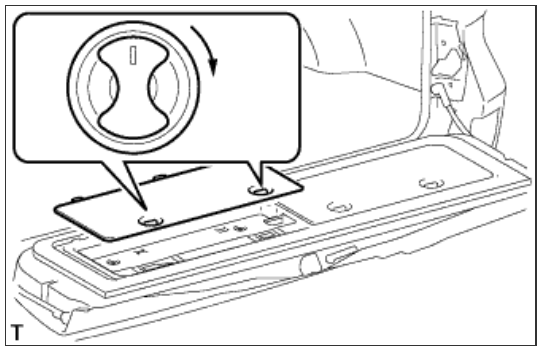
a. Attach the 16 clips to install the back door trim panel.

b. Install the 4 bolts.



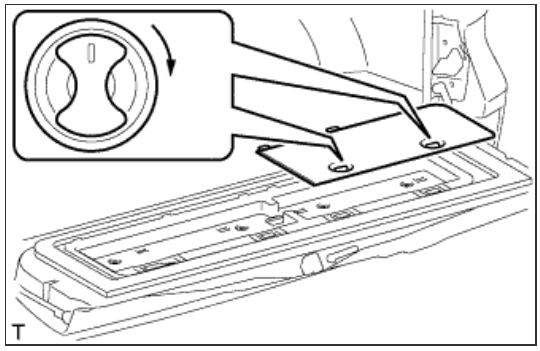
3. INSTALL BACK DOOR TRIM COVER LH

a. Install the back door trim cover LH as shown in the illustration.



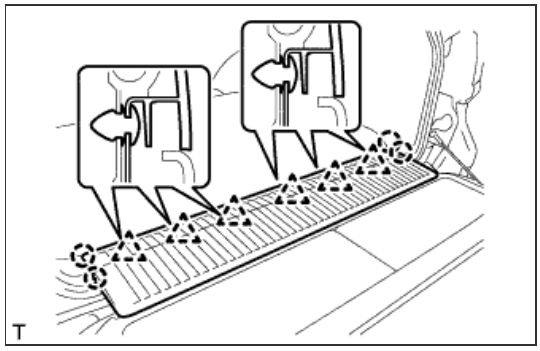
4. INSTALL BACK DOOR TRIM COVER RH

a. Install the back door trim cover RH as shown in the illustration.

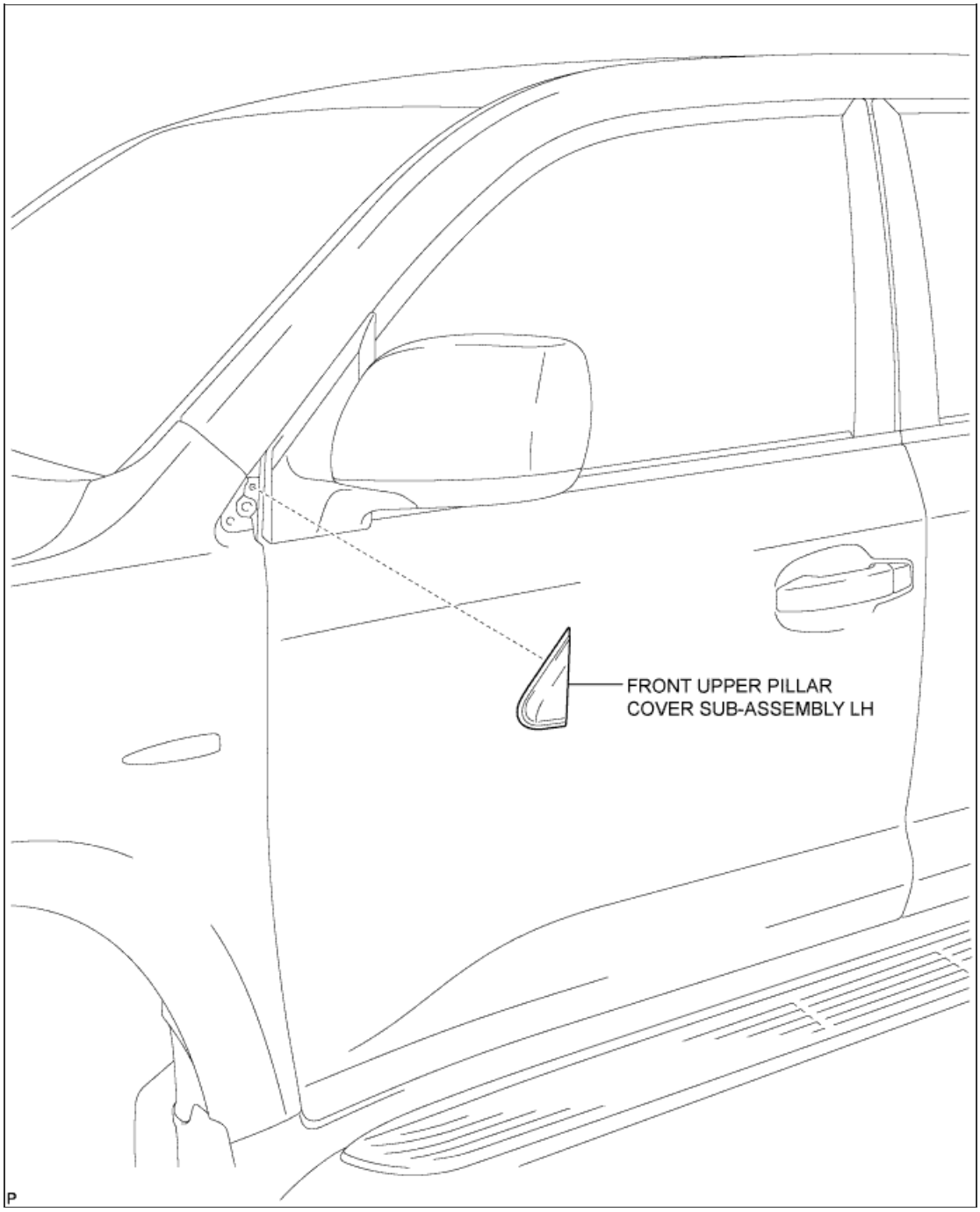


5. INSTALL REAR FLOOR MAT REAR SUPPORT PLATE

a. Attach the 6 clips and 4 claws to install the support plate.



for Preparation Click here



for Preparation Click here

HINT:

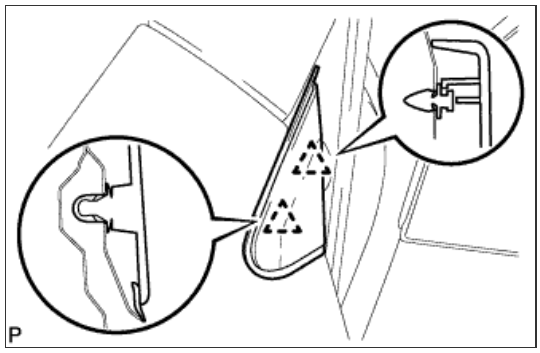
- **Use the same procedures for the RH side and LH side.**
- **The procedures listed below are for the LH side.**

1. REMOVE FRONT UPPER PILLAR COVER SUB-ASSEMBLY LH

a. Detach the 2 clips and remove the pillar cover.

HINT:

Detach the clips from the backside of the pillar cover.



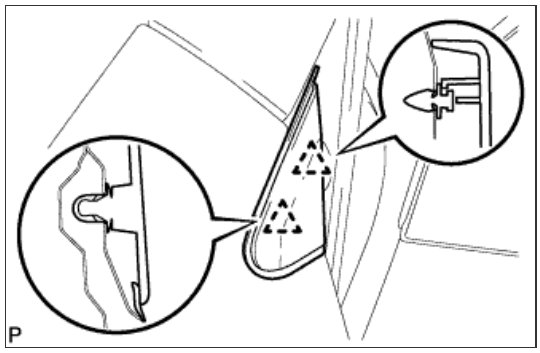
for Preparation Click here

HINT:

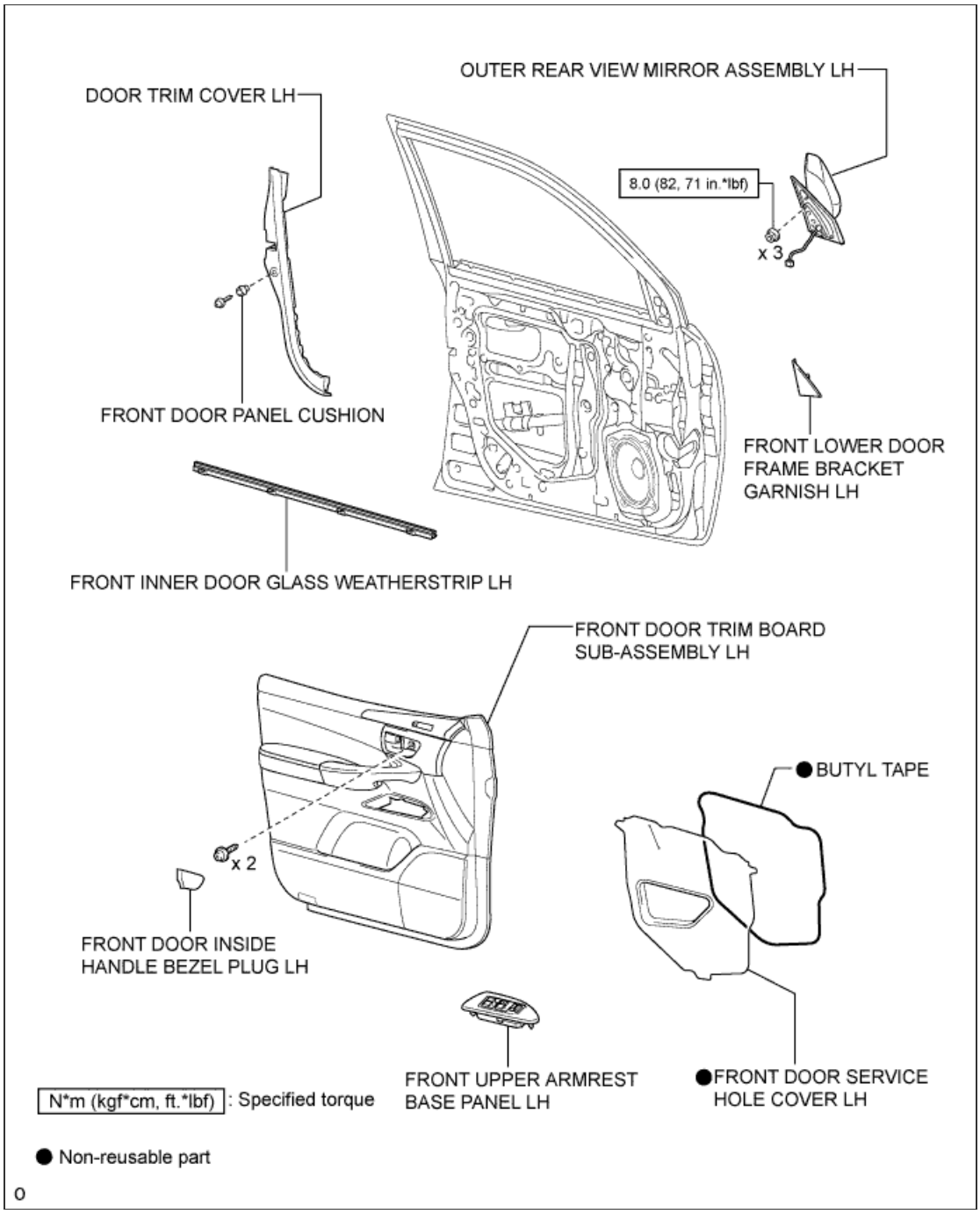
- **Use the same procedures for the RH side and LH side.**
- **The procedures listed below are for the LH side.**

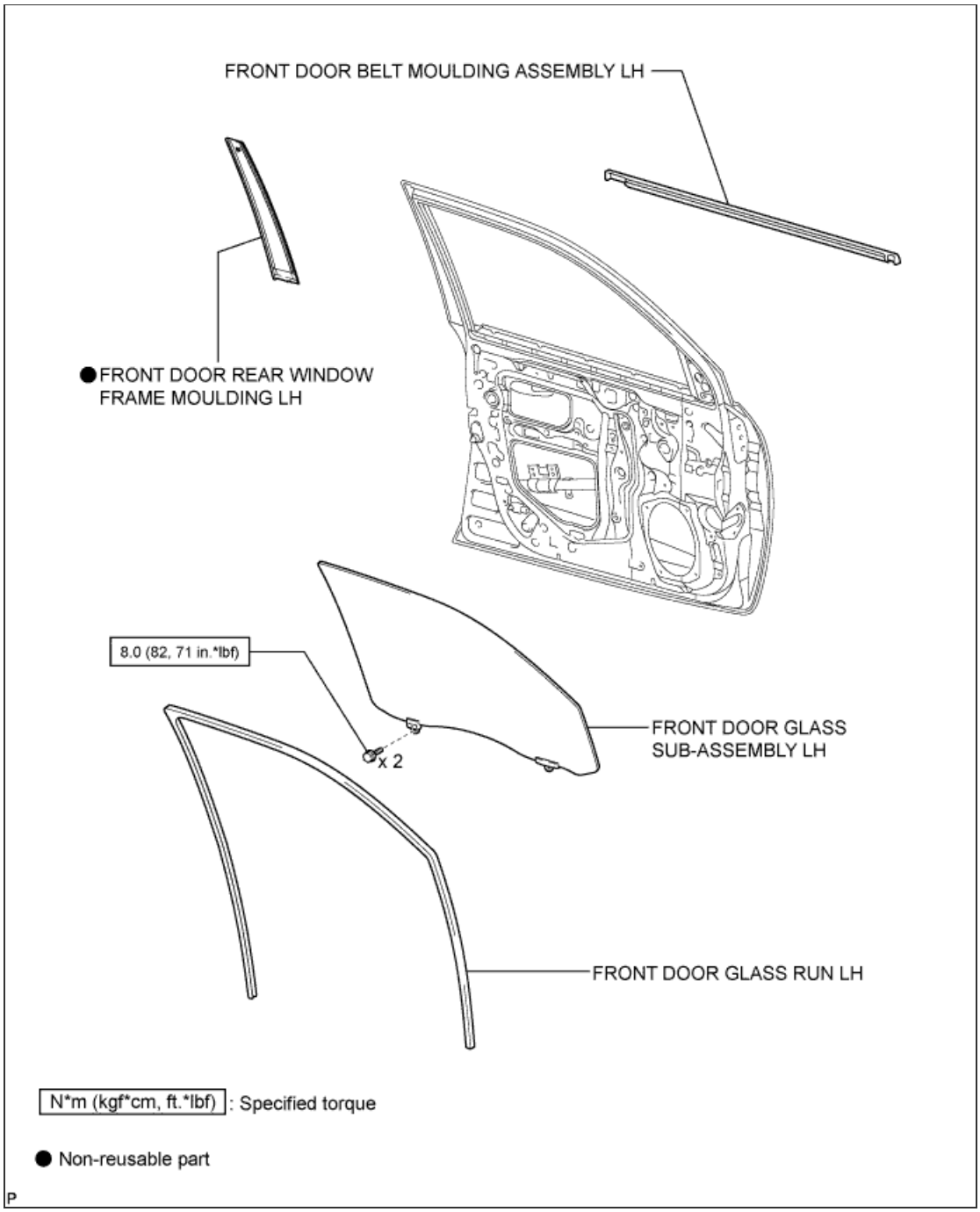
1. INSTALL FRONT UPPER PILLAR COVER SUB-ASSEMBLY LH

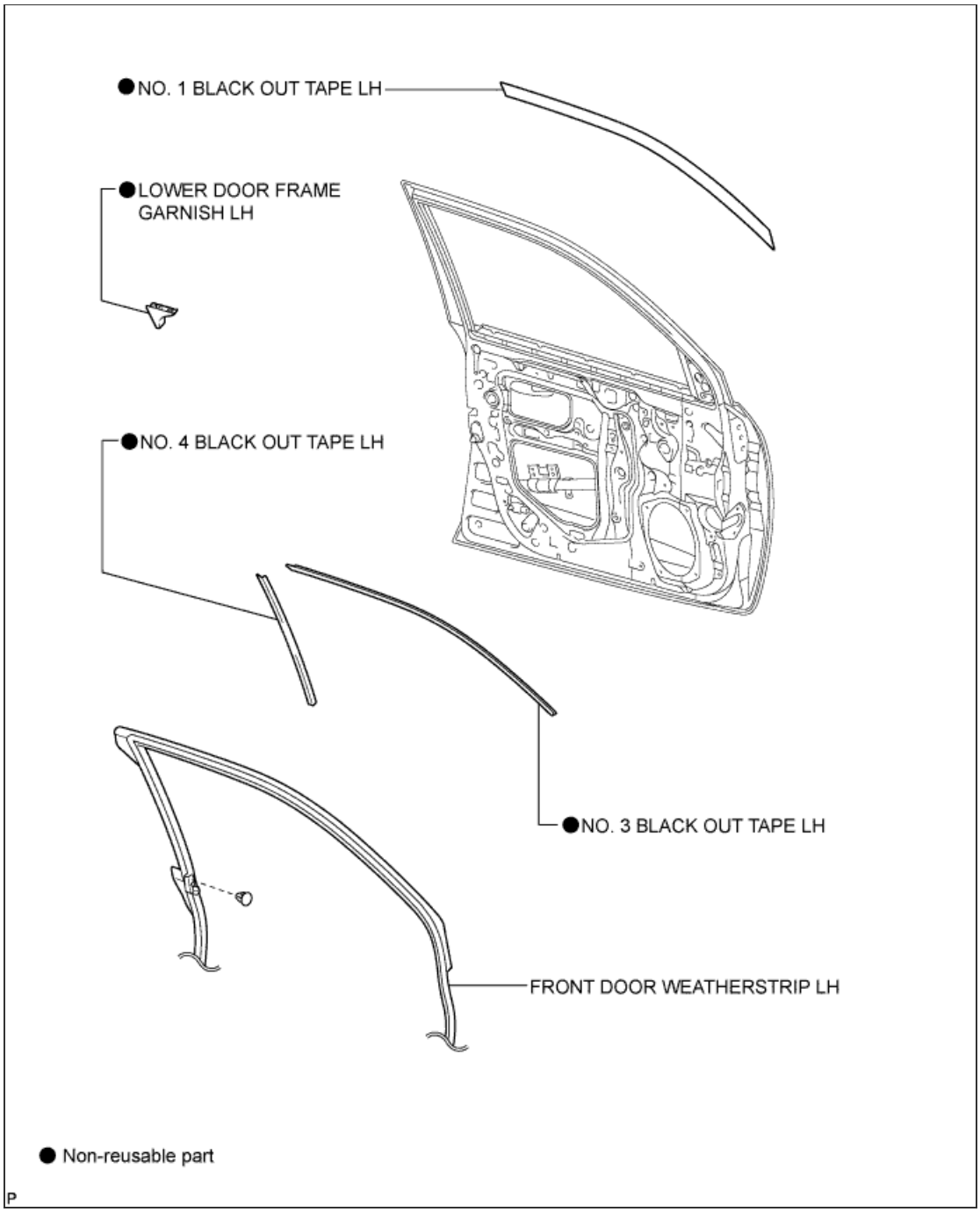
a. Attach the 2 clips to install the pillar cover.



for Preparation Click here




FRONT DOOR BELT MOULDING ASSEMBLY LH
●FRONT DOOR REAR WINDOW FRAME MOULDING LH
8.0 (82, 71 in.*lbf)
x 2
FRONT DOOR GLASS SUB-ASSEMBLY LH
FRONT DOOR GLASS RUN LH
N*m (kgf*cm, ft.*lbf) : Specified torque
● Non-reusable part
P


● NO. 1 BLACK OUT TAPE LH
● LOWER DOOR FRAME GARNISH LH
● NO. 4 BLACK OUT TAPE LH
● NO. 3 BLACK OUT TAPE LH
FRONT DOOR WEATHERSTRIP LH
● Non-reusable part
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.**
- **When removing the black out tape and window frame moulding, heat the vehicle body, black out tape and window frame moulding using a heat light.**

Standard:

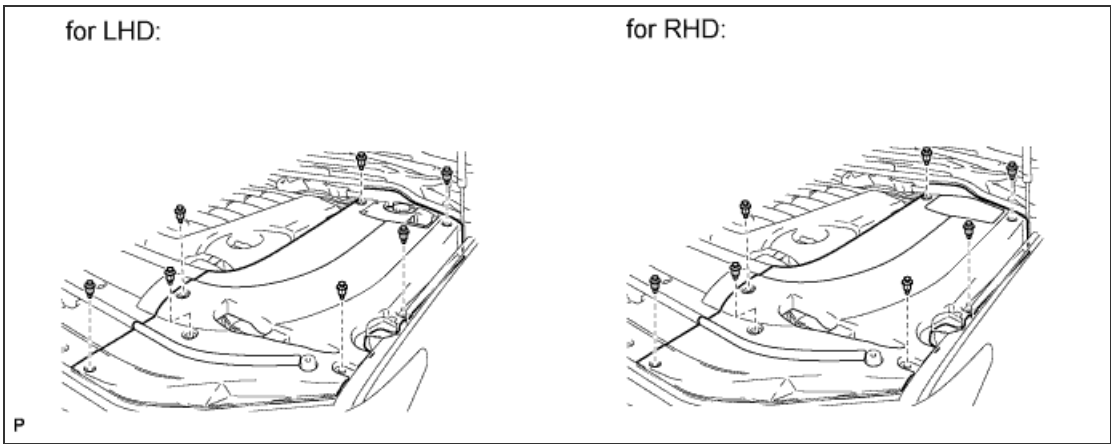
Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Black Out Tape	20 to 30°C (68 to 86°F)
Window Frame Moulding	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body, black out tape and window frame moulding excessively.

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



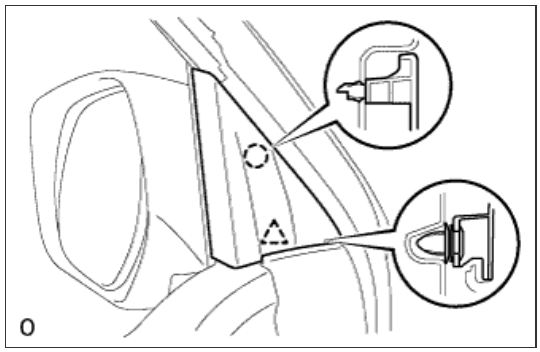
2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

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

3. REMOVE FRONT LOWER DOOR FRAME BRACKET GARNISH LH

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

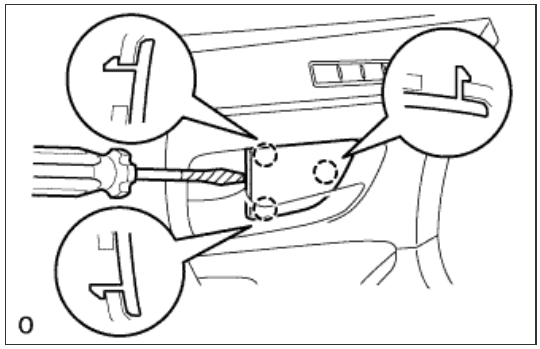


4. REMOVE FRONT DOOR INSIDE HANDLE BEZEL PLUG LH

a. Using a screwdriver, detach the 3 claws and remove the inside handle bezel plug.

HINT:

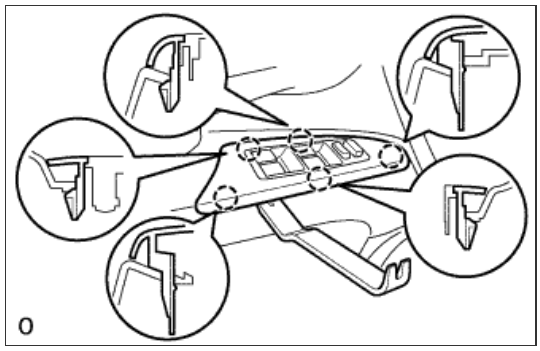
Tape the screwdriver tip before use.



5. REMOVE FRONT UPPER ARMREST BASE PANEL LH

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

b. Disconnect the connector and remove the front upper armrest base panel and multiplex network master switch.

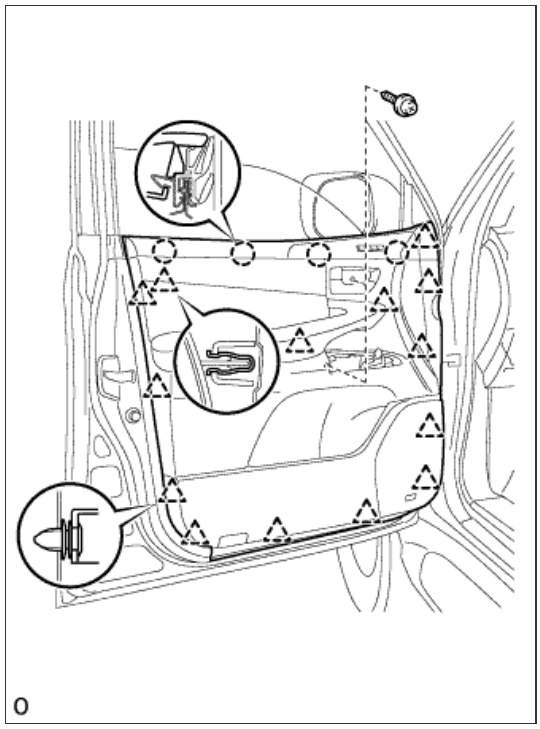


6. REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

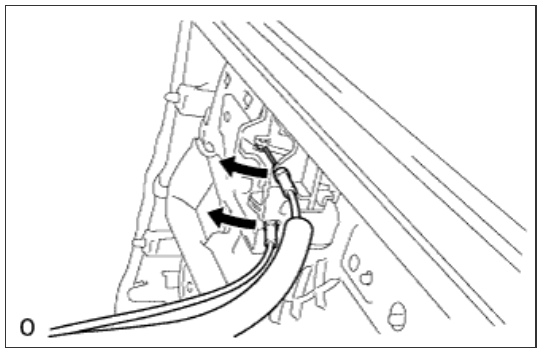
a. Remove the 2 screws.

b. Detach the 14 clips and 4 claws.

c. Disconnect the connector and remove the trim board.

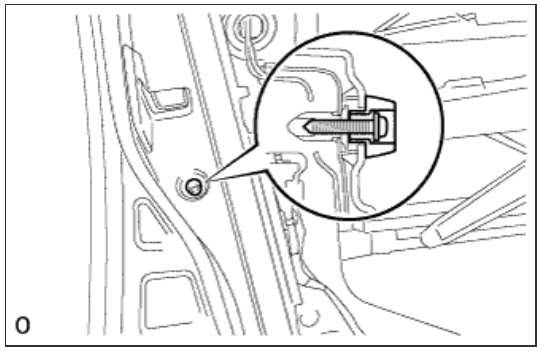


d. Disconnect the 2 cables from the inside handle.



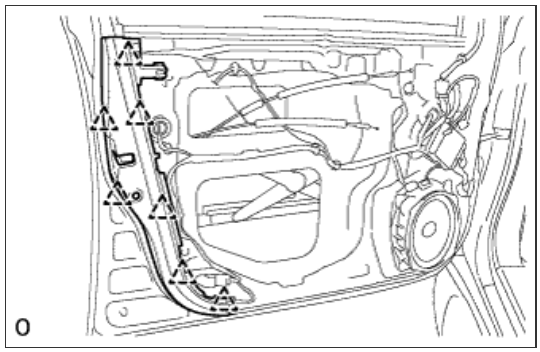
7. REMOVE FRONT DOOR PANEL CUSHION

a. Remove the screw and front door panel cushion.



8. REMOVE DOOR TRIM COVER LH

a. Using a clip remover, detach the 7 clips and remove the door trim cover.



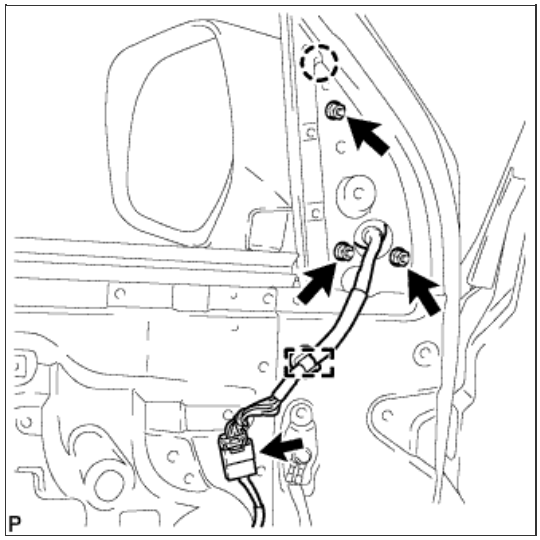
9. REMOVE OUTER REAR VIEW MIRROR ASSEMBLY LH

a. Disconnect the connector.

b. Detach the clamp.

c. Remove the 3 nuts.

d. Detach the claw and remove the mirror.



10. REMOVE FRONT DOOR SERVICE HOLE COVER LH

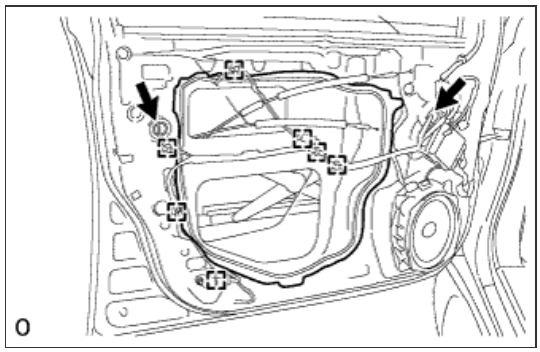
a. Using a clip remover, detach the 7 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the service hole cover.

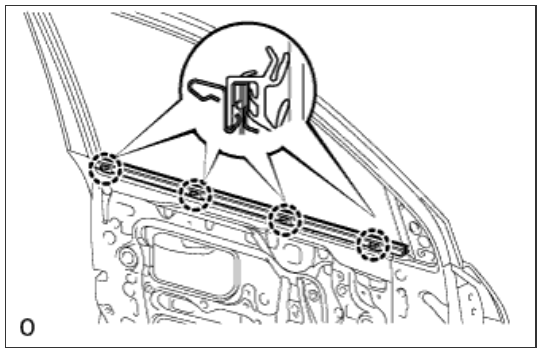
HINT:

Remove the remaining tape on the door.



11. REMOVE FRONT INNER DOOR GLASS WEATHERSTRIP LH

a. Detach the 4 claws by pulling the weatherstrip upward to remove the weatherstrip.



12. REMOVE FRONT DOOR GLASS SUB-ASSEMBLY LH

a. for Driver Side:
Temporarily install the multiplex network master switch.

b. for Passenger Side:
Temporarily install the power window regulator switch assembly.

c. Connect the cable to the negative (-) battery terminal.

d. Move the door glass until the bolts appear in the service holes.

e. Disconnect the cable from the negative (-) battery terminal.

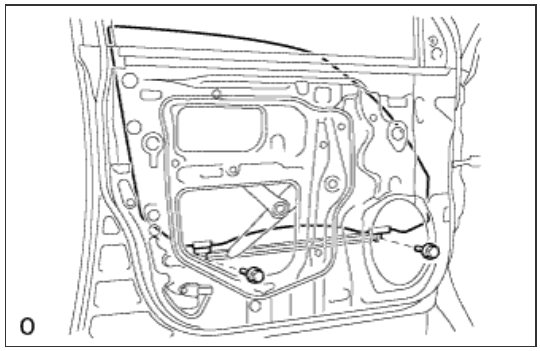
NOTICE:

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

f. Remove the 2 bolts.

NOTICE:

Be careful when removing the bolts as the glass may fall and become damaged.



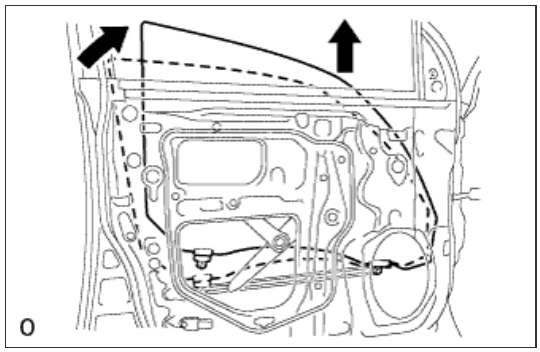
g. Remove the door glass in the direction indicated by the arrows in the illustration.

HINT:

Remove the glass upward.

NOTICE:

Be careful not to damage the glass.

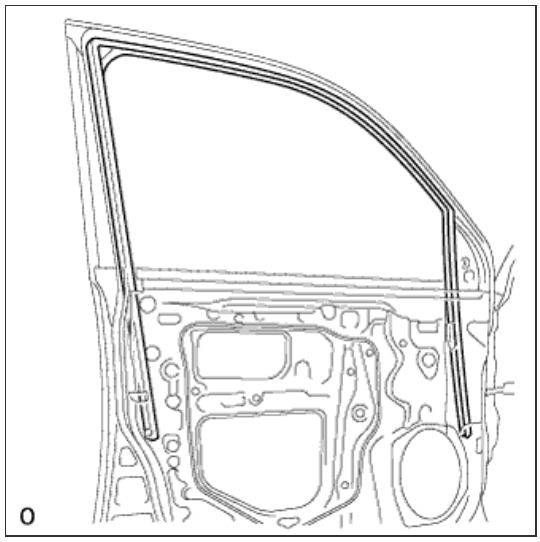


h. for Driver Side:
Remove the multiplex network master switch.

i. for Passenger Side:
Remove the power window regulator switch assembly.

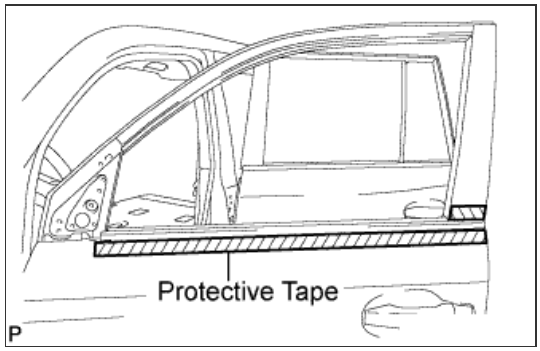
13. REMOVE FRONT DOOR GLASS RUN LH

a. Remove the front door glass run.

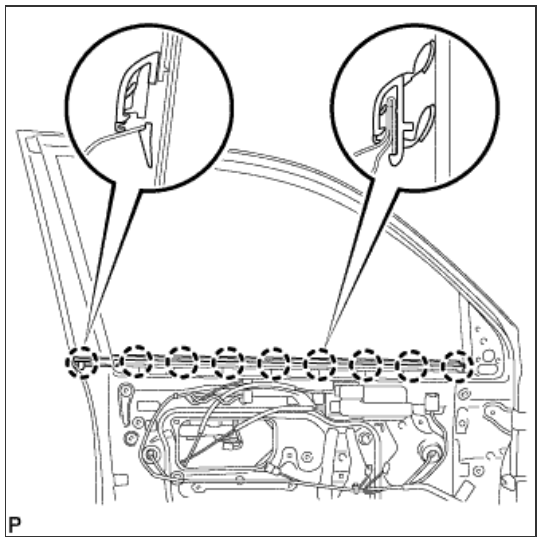


14. REMOVE FRONT DOOR BELT MOULDING ASSEMBLY LH

a. Put protective tape around the belt moulding.



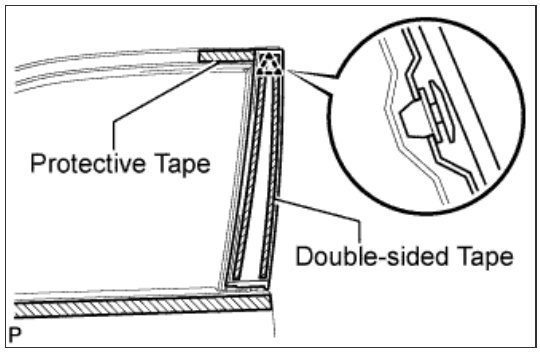
b. Detach the claw and remove the belt moulding.



15. REMOVE FRONT DOOR REAR WINDOW FRAME MOULDING LH

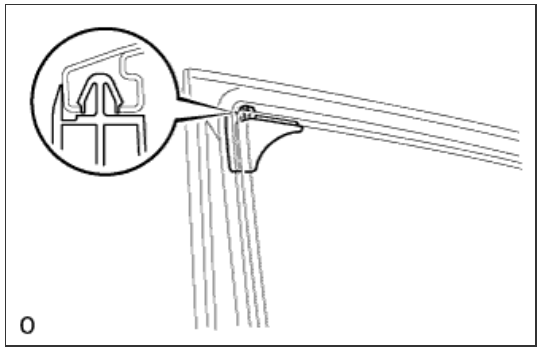
a. Put protective tape around the window frame moulding.

b. Detach the clip and remove the double-sided tape to remove the window frame moulding.



16. REMOVE LOWER DOOR FRAME GARNISH LH

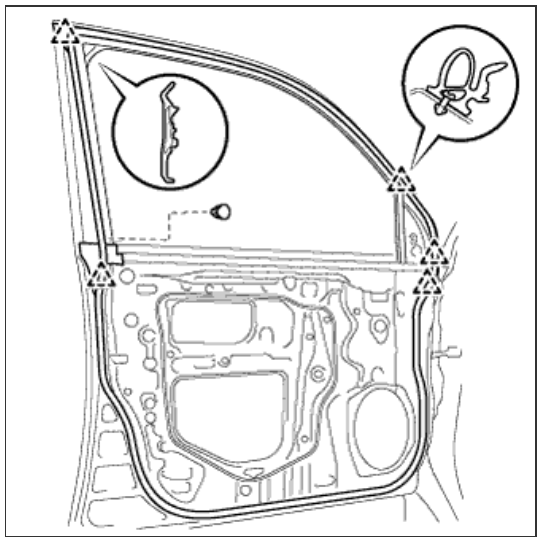
a. Detach the clip and remove the lower door frame garnish.



17. REMOVE FRONT DOOR WEATHERSTRIP LH

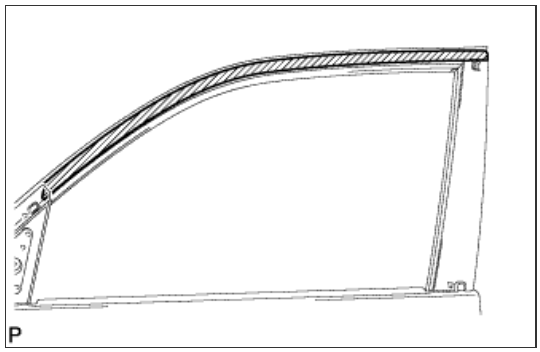
a. Remove the clip.

b. Detach the 5 clips, and remove the upper part of the front door weatherstrip so that the black out tape can be removed.



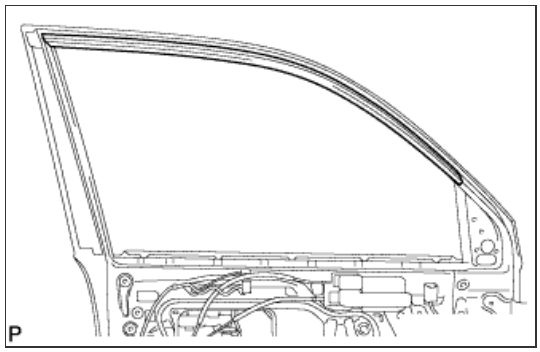
18. REMOVE NO. 1 BLACK OUT TAPE LH

a. Pull back an edge of the black out tape and pull it parallel to the vehicle body to remove it.



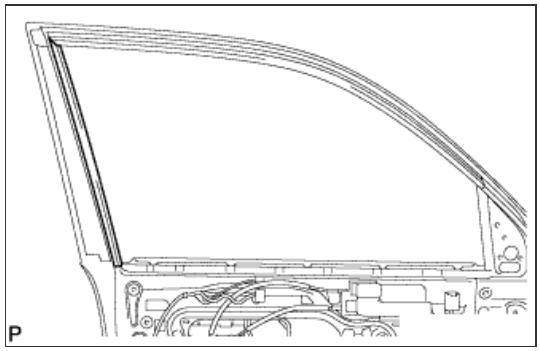
19. REMOVE NO. 3 BLACK OUT TAPE LH

a. Pull back an edge of the black out tape and pull it parallel to the vehicle body to remove it.



20. REMOVE NO. 4 BLACK OUT TAPE LH

a. Pull back an edge of the black out tape and pull it parallel to the vehicle body to remove it.



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.**
- **When installing the black out tape and window frame moulding, heat the vehicle body, black out tape and window frame moulding using a heat light.**

Standard:

Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Black Out Tape	20 to 30°C (68 to 86°F)
Window Frame Moulding	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body, black out tape and window frame moulding excessively.

1. REPAIR INSTRUCTION

a. Clean the vehicle body surface.

i. Using a heat light, heat the vehicle body surface.

ii. Wipe off any tape adhesive residue with cleaner.

b. Installation temperature

i. When the ambient temperature is below 15°C (59°F), perform the installation procedure after warming up the vehicle body surface (installation surface of the door frame) and tape to between 20 and 30°C (68 and 86°F) using a heat light. When the ambient temperature is above 35°C (95°F), cool down the vehicle body surface (installation surface of the door frame) and tape to between 20 and 30°C (68 and 86°F) prior to installation.

HINT:

- **The most appropriate temperature for installing the tape is 25°C (77°F).**
- **When the temperature is low, the tape becomes stiff and falls off easily. When the temperature is high, the tape loses elasticity.**

c. Before installation

i. Make sure any dirt on and around the vehicle body surface where the tape will be installed (installation surface of the door frame) is removed, and that the surface is smooth. If the surface is rough or dirt remains when pressing the tape onto the surface, air will be trapped under the tape and result in a poor appearance.

HINT:

Spray water on the shop floor to settle any dust.

d. Key points for handling the tape

i. The tape bends and rolls up easily. Store the tape between flat pieces of cardboard or other similar objects and keep it dry and level.

NOTICE:

Do not bend the tape or leave it in high temperature places.

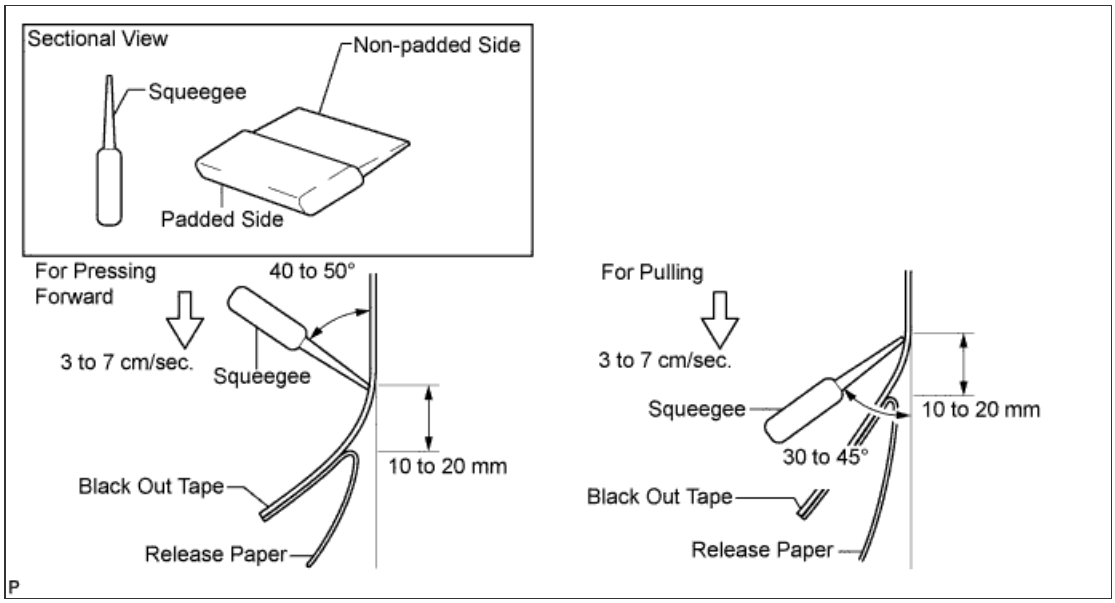
e. Key points for the installation of the tape (how to use a squeegee and the installation procedure for flat surfaces)

NOTICE:

- **Position the tape with a high level of accuracy to achieve a neat finish and to avoid peeling.**

- **The tape cannot be reused because it deforms and will not fit after removal.**

i. To avoid air bubbles, slightly raise the part of the tape that is going to be applied so that its adhesive surface does not touch the vehicle body while applying the tape. Tilt the squeegee at 40 to 50° (for pressing forward) or 30 to 45° (for pulling) to the vehicle body surface and slowly press the tape onto the vehicle body surface with a force of 20 to 30 N (2 to 3 kgf) at a constant speed of 30 to 70 mm (1.18 to 2.76 in.) per second.



NOTICE:

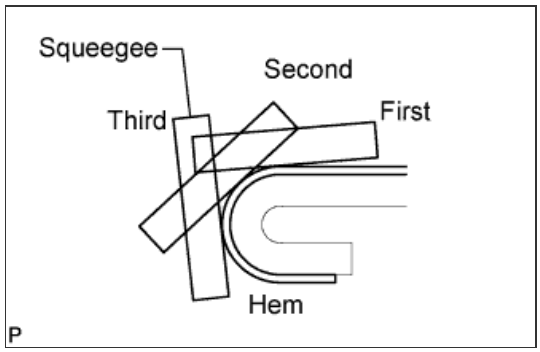
Be sure to observe the specified pressing speed, force, and angle of the squeegee to avoid wrinkles or air bubbles.

HINT:

- **Either angle of the squeegee (for pressing forward or for pulling) is acceptable.**
- **Be sure to apply the tape while removing the release paper 10 to 20 mm (0.393 to 0.787 in.) from the edge of the squeegee.**

f. Key points for the installation of the tape (how to use a squeegee and the installation procedure for hemmed surfaces)

i. If it is difficult to press the tape, press it in several steps as shown in the illustration. Use your fingers or the padded surface of a squeegee to slowly apply the tape to the hem of the vehicle, especially for a small hem.



HINT:

When applying tape to the backside of a hem, remove the release paper and use your fingers or the padded surface of a squeegee.

g. Key points for the installation of the tape (how to use a squeegee and the installation procedure for corners)

i. Remove the release paper and apply the tape carefully with your fingers.

ii. Before applying the tape to each corner, heat the tape using a heat light and gradually apply it to avoid wrinkles on the tape and achieve a neat finish.

h. Check after installation

i. After completing the application, check if the tape is applied neatly. If the tape is not applied neatly, apply new tape.

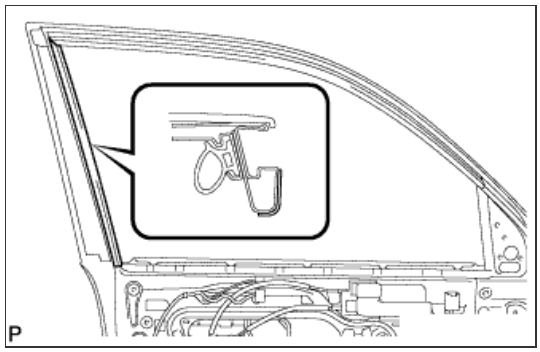
NOTICE:

Do not reuse the tape.

2. INSTALL NO. 4 BLACK OUT TAPE LH

a. Refer to the illustration to position a new No. 4 black out tape.

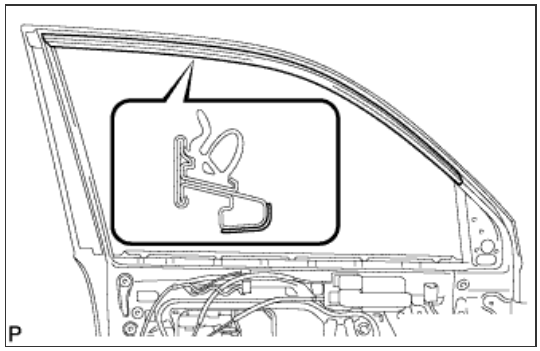
b. Remove the release paper and apply the tape.



3. INSTALL NO. 3 BLACK OUT TAPE LH

a. Refer to the illustration to position a new No. 3 black out tape.

b. Remove the release paper and apply the tape.



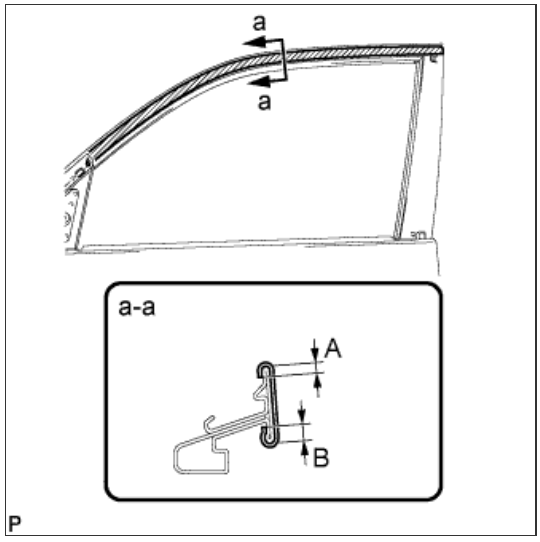
4. INSTALL NO. 1 BLACK OUT TAPE LH

a. Refer to the illustration to position a new No. 1 black out tape.

Standard:

Area	Dimension
A	2 to 4 mm (0.078 to 0.158 in.)
B	4 to 6 mm (0.158 to 0.236 in.)

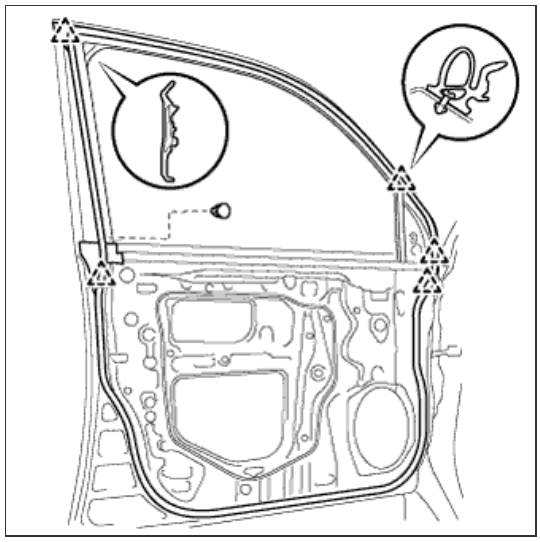
b. Remove the release paper and apply the tape.



5. INSTALL FRONT DOOR WEATHERSTRIP LH

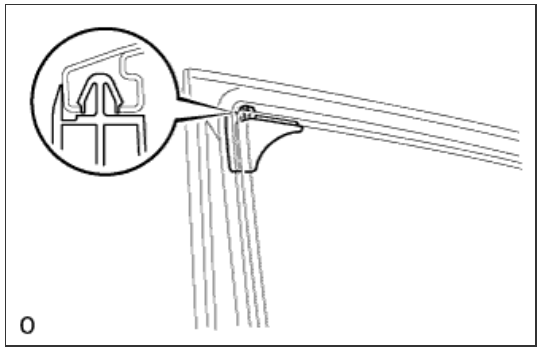
a. Attach the 5 clips and install the upper part of the front door weatherstrip.

b. Install the clip.



6. INSTALL LOWER DOOR FRAME GARNISH LH

a. Attach the clip to install a new door frame garnish.



7. INSTALL FRONT DOOR REAR WINDOW FRAME MOULDING LH

a. Clean the vehicle body surface.

i. Using a heat light, heat the vehicle body surface.

ii. Remove the double-sided tape from the vehicle body surface.

iii. Wipe off any tape adhesive residue with cleaner.

b. Install a new window frame moulding.

i. Using a heat light, heat a new window frame moulding and the vehicle body surface.

ii. Remove the peeling paper from the face of the window frame moulding.

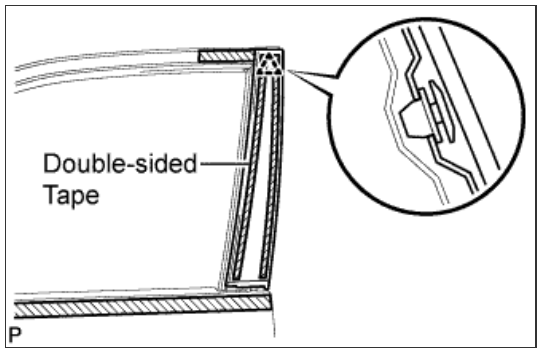
HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Attach the clip and double-sided tape to install the window frame moulding.

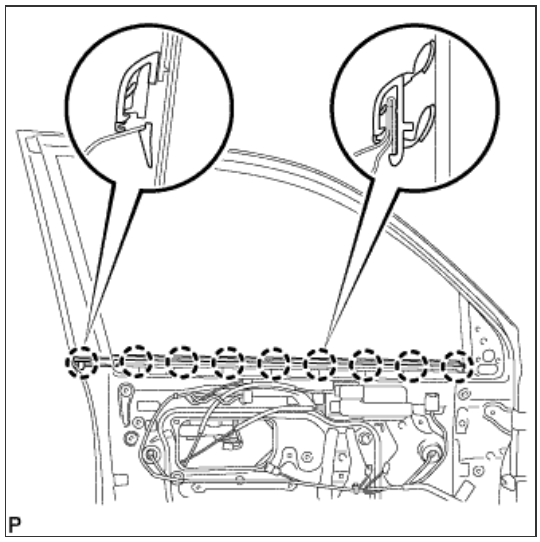
HINT:

Press the window frame moulding firmly to install it.



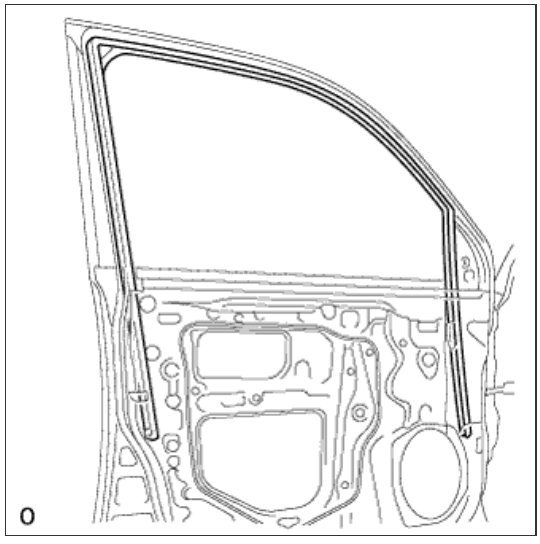
8. INSTALL FRONT DOOR BELT MOULDING ASSEMBLY LH

a. Attach the claw to install the belt moulding.



9. INSTALL FRONT DOOR GLASS RUN LH

a. Install the front door glass run.

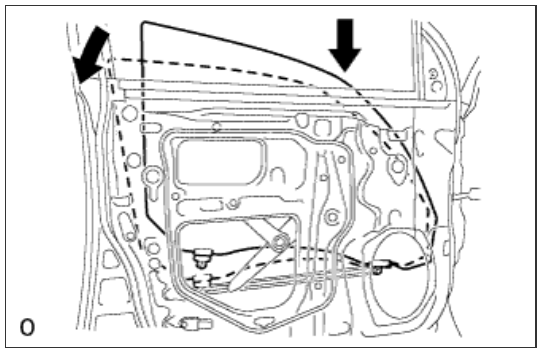


10. INSTALL FRONT DOOR GLASS SUB-ASSEMBLY LH

a. Insert the door glass into the door panel along the glass run as indicated by the arrows in the illustration.

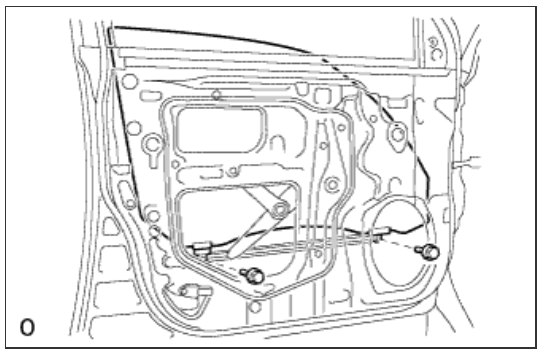
NOTICE:

Be careful not to damage the glass.



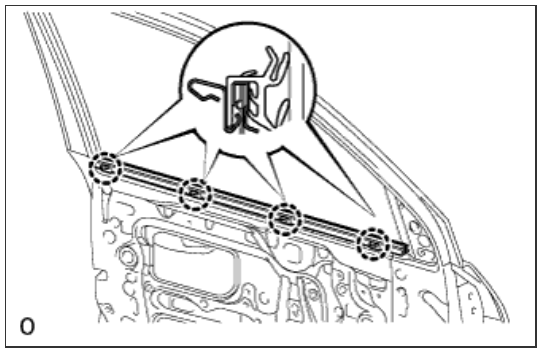
b. Install the door glass to the window regulator with the 2 bolts.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }



11. INSTALL FRONT INNER DOOR GLASS WEATHERSTRIP LH

a. Attach the 4 claws to install the front inner door glass weatherstrip LH.



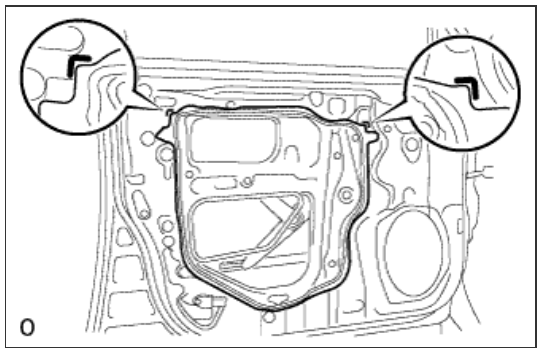
12. INSTALL FRONT DOOR SERVICE HOLE COVER LH

a. Apply butyl tape to the door.

b. Pass the front door lock remote control cable and front door inside locking cable through a new front door service hole cover.

NOTICE:

- **When installing the service hole cover, pull the links and connectors through the service hole cover.**
- **There should be no wrinkles or folds after installing the service hole cover.**
- **After installing the service hole cover, check the sealing quality.**



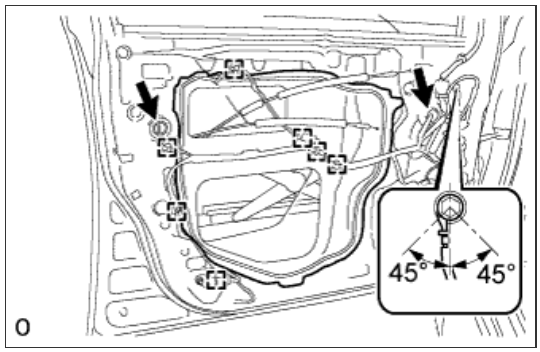
c. Connect the 2 connectors.

d. Attach the 7 clamps.

e. Install the bolt as shown in the illustration.

Torque:

8.4 N*m{ 86 kgf*cm , 74 in.*lbf }



13. INSTALL OUTER REAR VIEW MIRROR ASSEMBLY LH

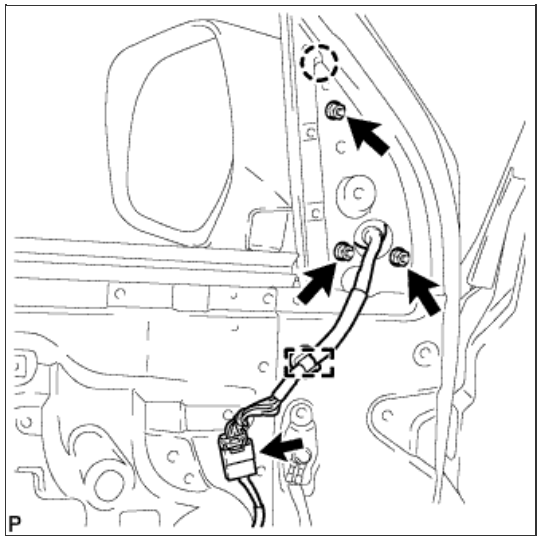
a. Attach the claw to install the mirror.

b. Install the 3 nuts.

Torque:
8.0 N*m{ 82 kgf*cm , 71 in.*lbf }

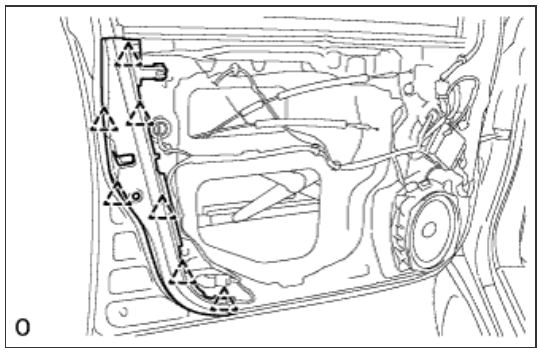
c. Attach the clamp.

d. Connect the connector.



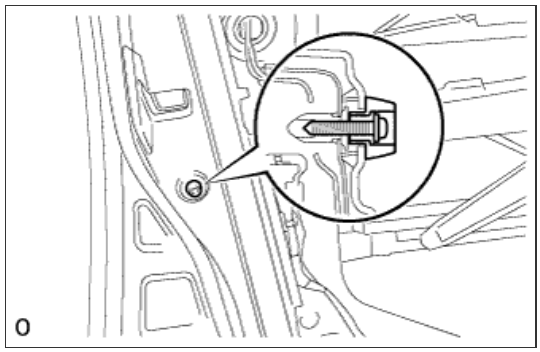
14. INSTALL DOOR TRIM COVER LH

a. Attach the 7 clips to install the door trim cover.



15. INSTALL FRONT DOOR PANEL CUSHION

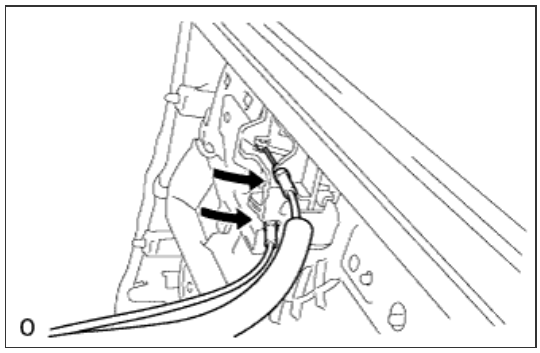
a. Install the front door panel cushion with the screw.



16. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH

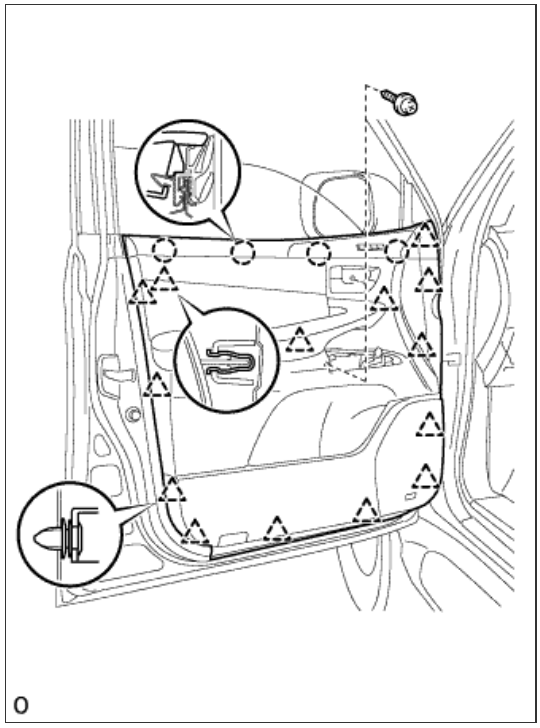
a. Connect the connector.

b. Connect the front door lock remote control cable and front door inside locking cable to the front door inside handle sub-assembly.



c. Attach the 4 claws and 14 clips to install the trim board.

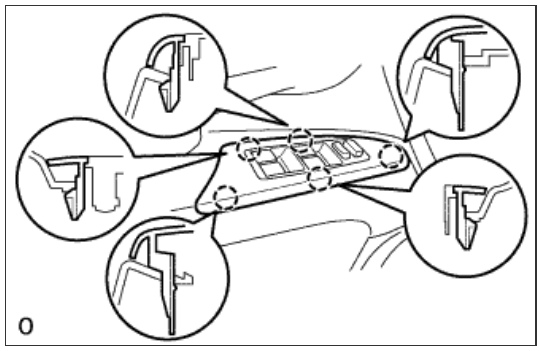
d. Install the 2 screws.



17. INSTALL FRONT UPPER ARMREST BASE PANEL LH

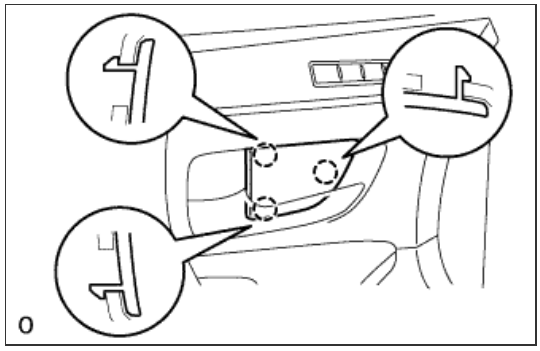
a. Connect the connector.

b. Attach the 5 claws to install the front upper armrest base panel.



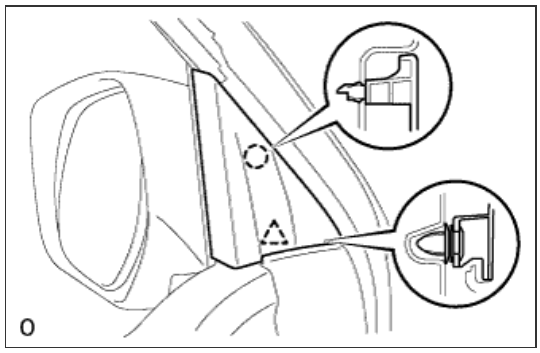
18. INSTALL FRONT DOOR INSIDE HANDLE BEZEL PLUG LH

a. Attach the 3 claws to install the inside handle bezel plug.



19. INSTALL FRONT LOWER DOOR FRAME BRACKET GARNISH LH

a. Attach the clip and claw to install the front door lower frame bracket garnish.



20. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

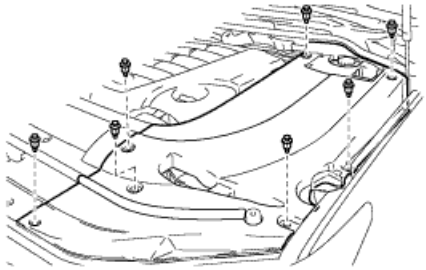
NOTICE:

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

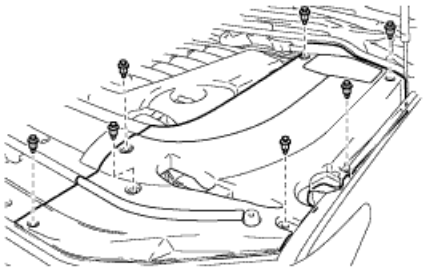
21. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

for LHD:

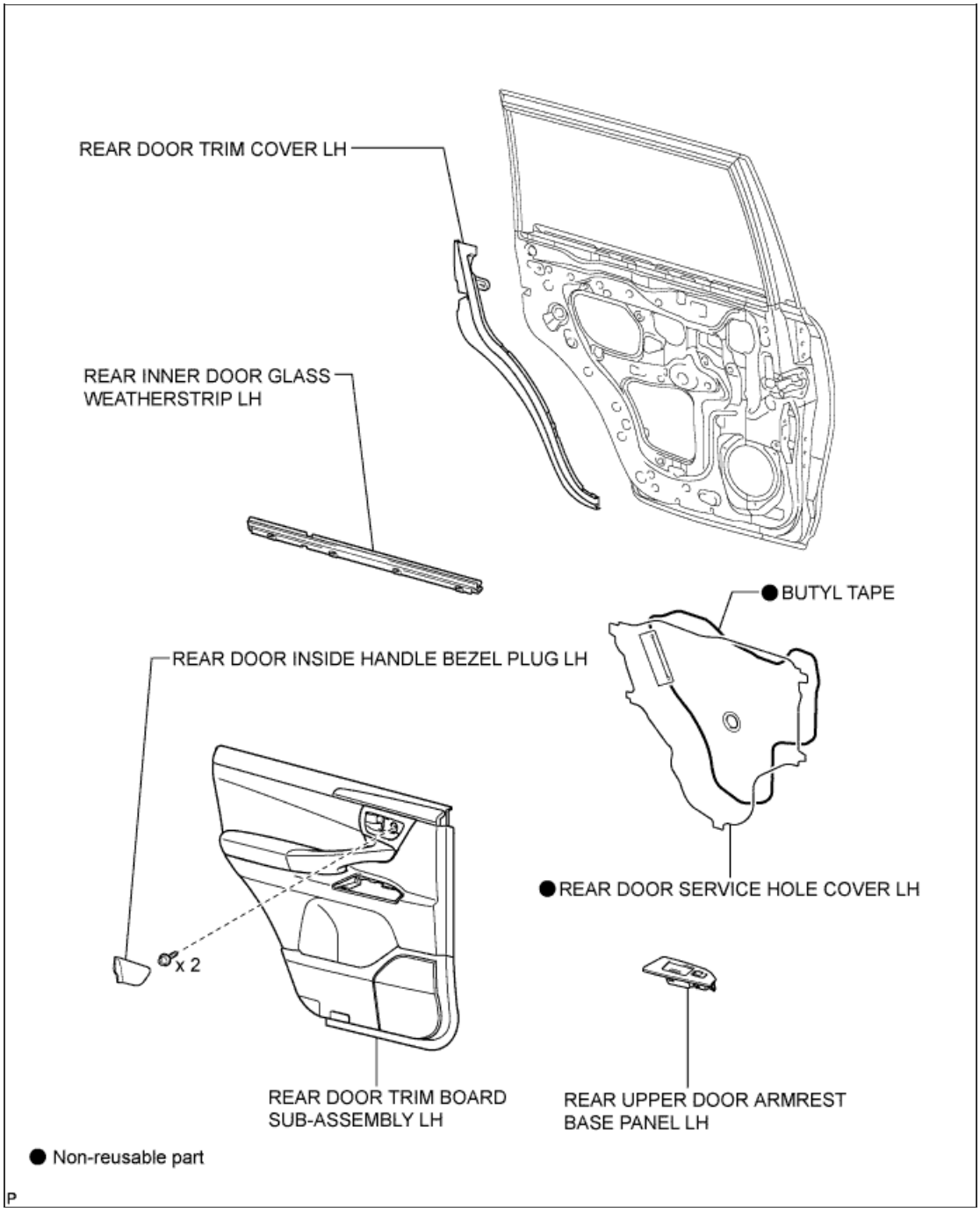


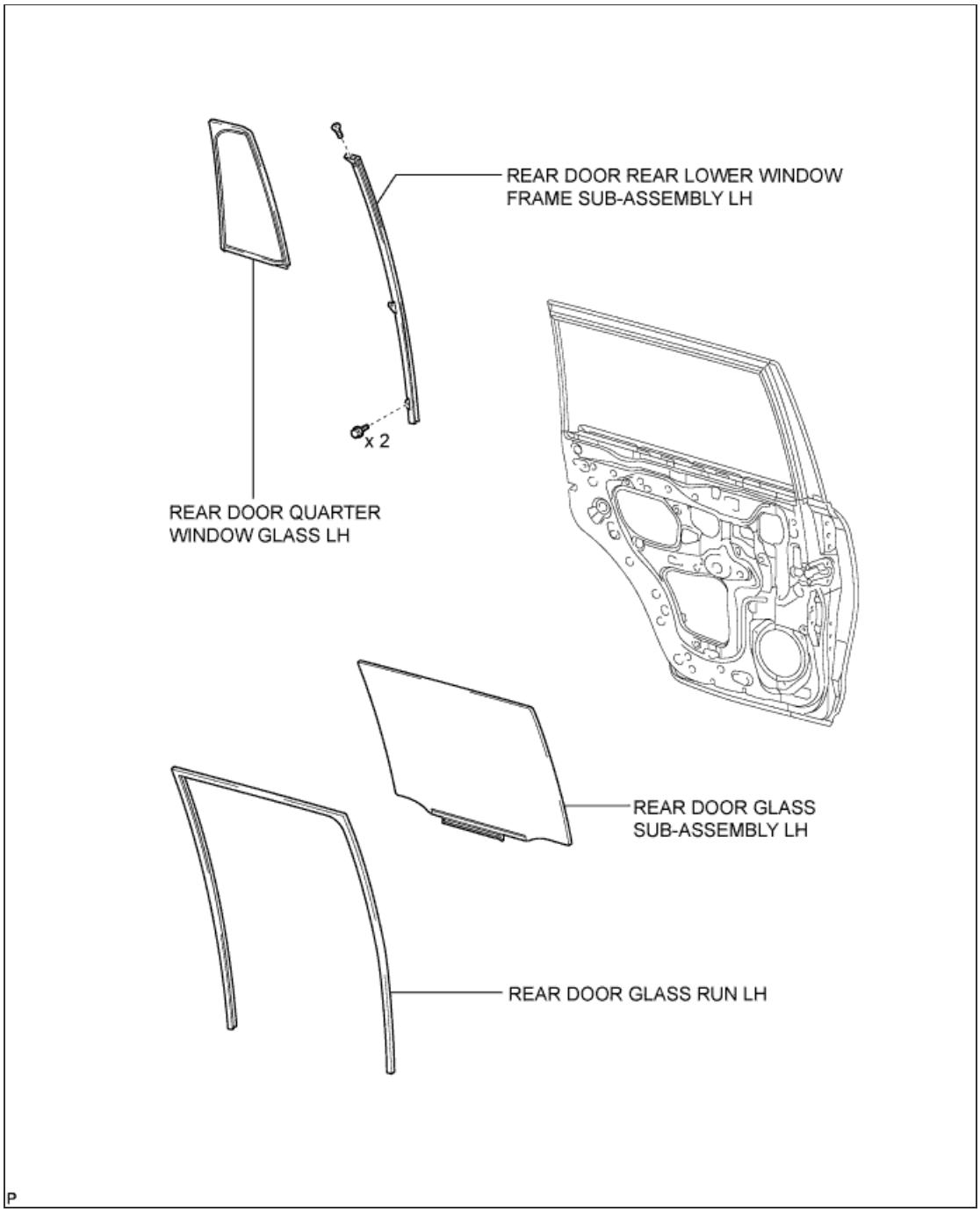
for RHD:

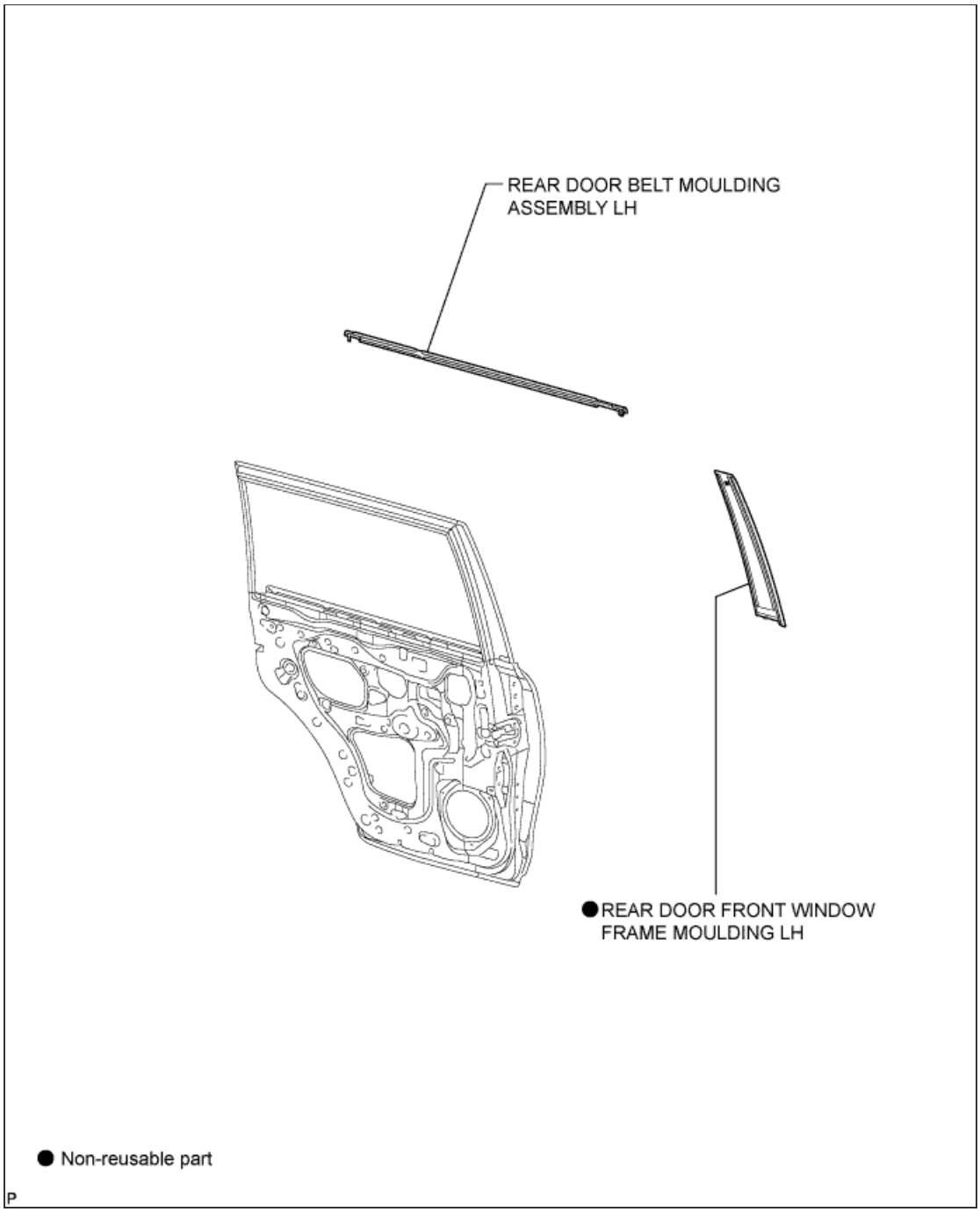


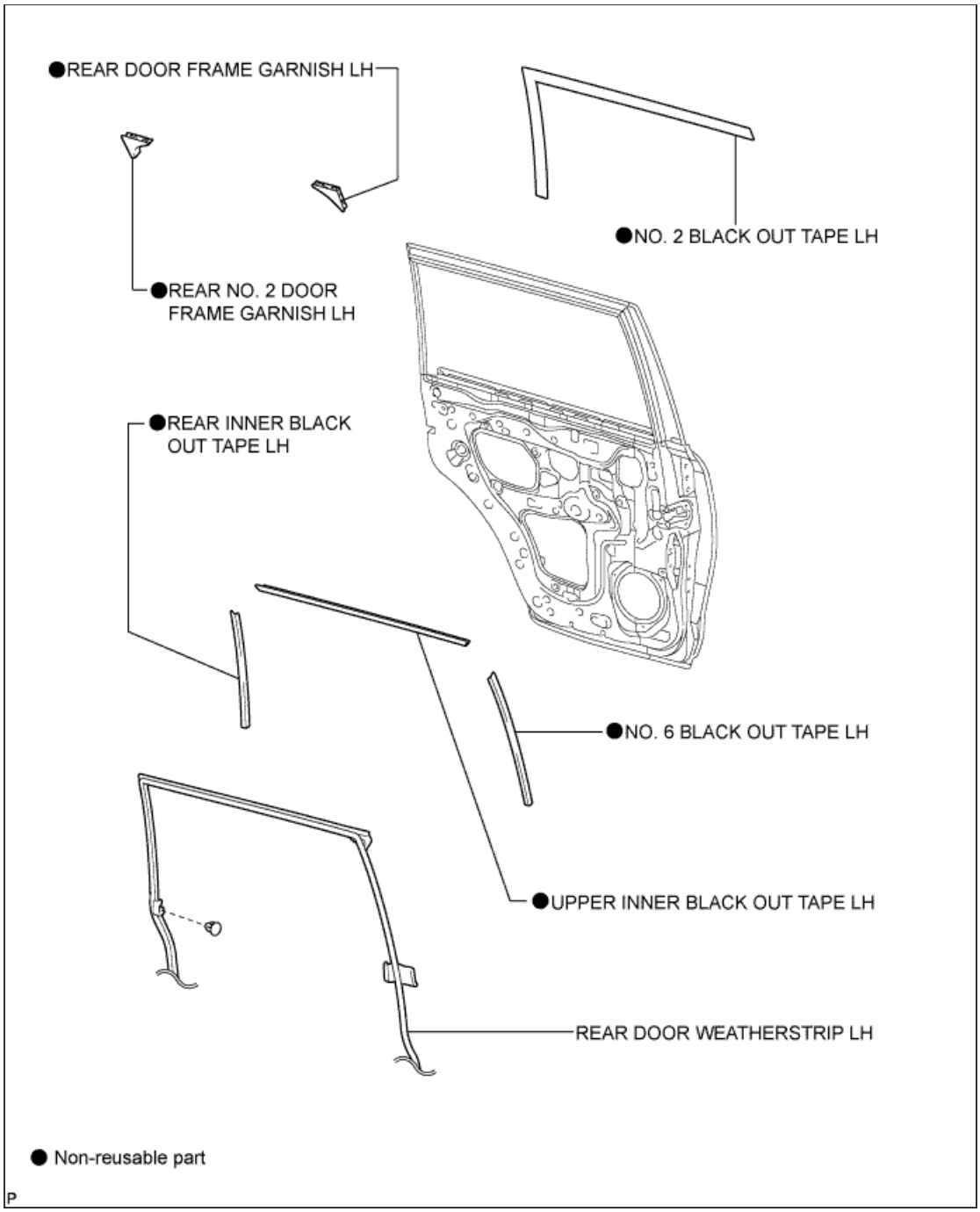
P

for Preparation Click here




REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY LH
x 2
REAR DOOR QUARTER WINDOW GLASS LH
REAR DOOR GLASS SUB-ASSEMBLY LH
REAR DOOR GLASS RUN LH
P


REAR DOOR BELT MOULDING ASSEMBLY LH
●REAR DOOR FRONT WINDOW FRAME MOULDING LH
● Non-reusable part
P


●REAR DOOR FRAME GARNISH LH
●NO. 2 BLACK OUT TAPE LH
●REAR NO. 2 DOOR FRAME GARNISH LH
●REAR INNER BLACK OUT TAPE LH
●NO. 6 BLACK OUT TAPE LH
●UPPER INNER BLACK OUT TAPE LH
REAR DOOR WEATHERSTRIP LH
● Non-reusable part

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.**
- **When removing the black out tape and window frame moulding, heat the vehicle body, black out tape and window frame moulding using a heat light.**

Standard:

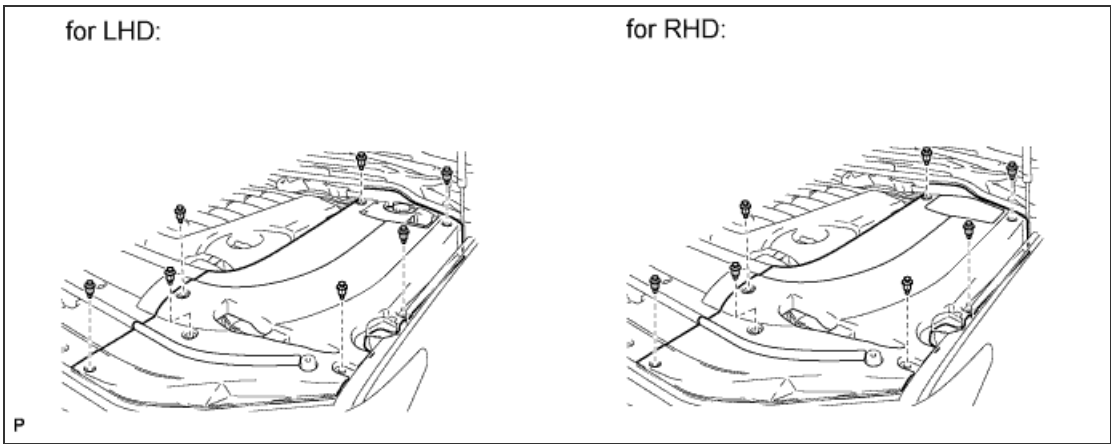
Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Black Out Tape	20 to 30°C (68 to 86°F)
Window Frame Moulding	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body, black out tape and window frame moulding excessively.

1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover.



2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

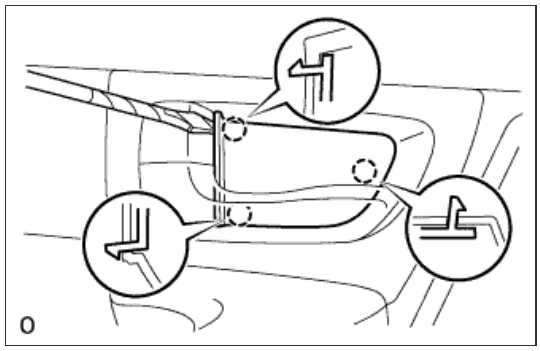
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

3. REMOVE REAR DOOR INSIDE HANDLE BEZEL PLUG LH

a. Using a screwdriver, detach the 3 claws and remove the inside handle bezel plug.

HINT:

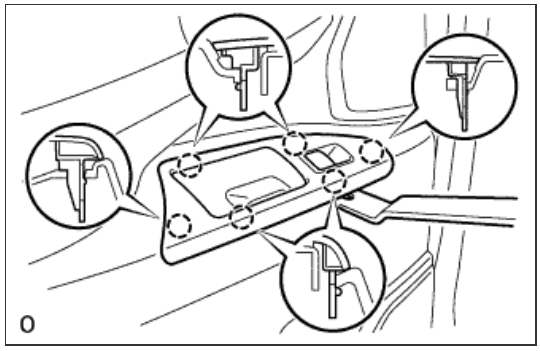
Tape the screwdriver tip before use.



4. REMOVE REAR UPPER DOOR ARMREST BASE PANEL LH

a. Using a moulding remover, detach the 6 claws.

b. Disconnect the connector and remove the rear upper door armrest base panel and rear power window regulator switch assembly.

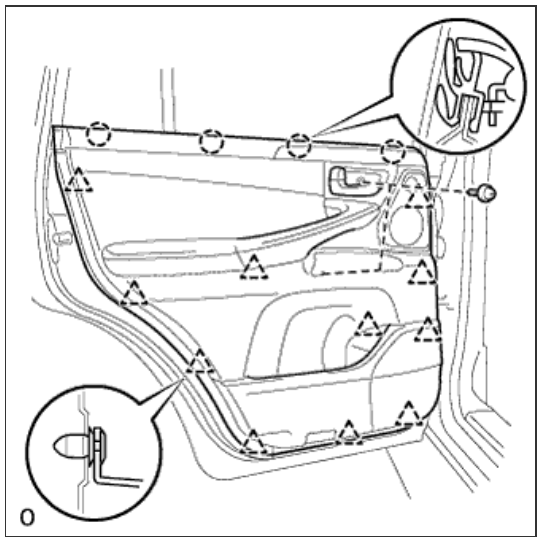


5. REMOVE REAR DOOR TRIM BOARD SUB-ASSEMBLY LH

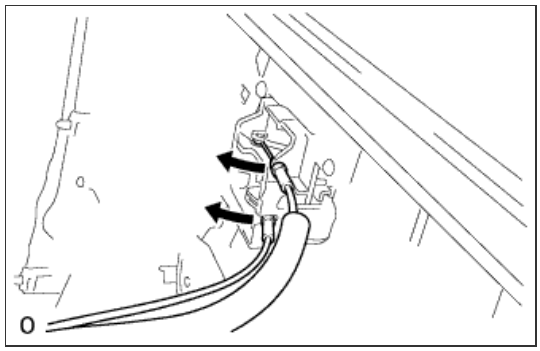
a. Remove the 2 screws.

b. Detach the 11 clips and 4 claws.

c. Disconnect the connector and remove the trim board.

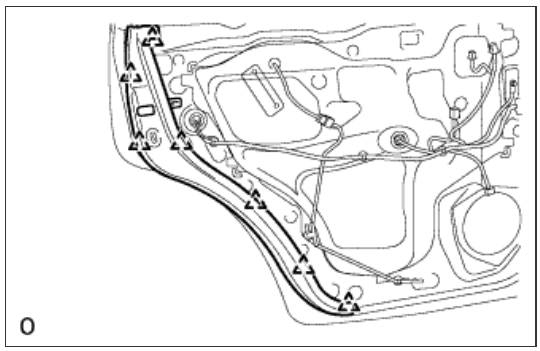


d. Disconnect the 2 cables from the inside handle.



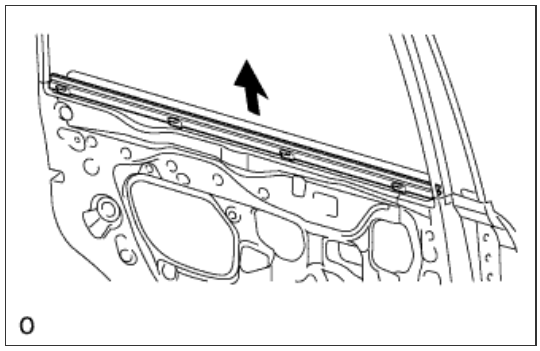
6. REMOVE REAR DOOR TRIM COVER LH

a. Detach the 7 clips and remove the door trim cover.



7. REMOVE REAR INNER DOOR GLASS WEATHERSTRIP LH

a. Remove the weatherstrip by pulling it upward in the direction indicated by the arrow in the illustration.



8. REMOVE REAR DOOR SERVICE HOLE COVER LH

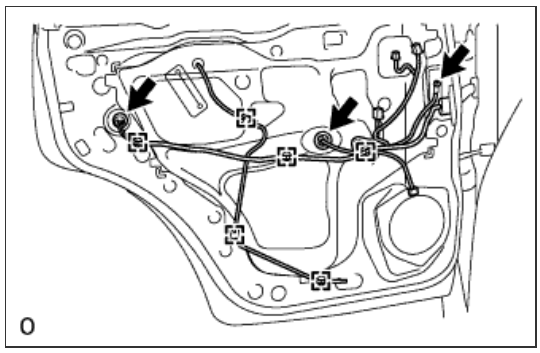
a. Using a clip remover, detach the 6 clamps.

b. Remove the bolt and disconnect the 2 connectors.

c. Remove the service hole cover.

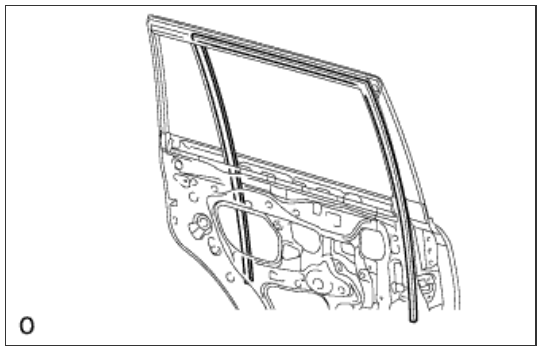
HINT:

Remove the remaining tape on the door.



9. REMOVE REAR DOOR GLASS RUN LH

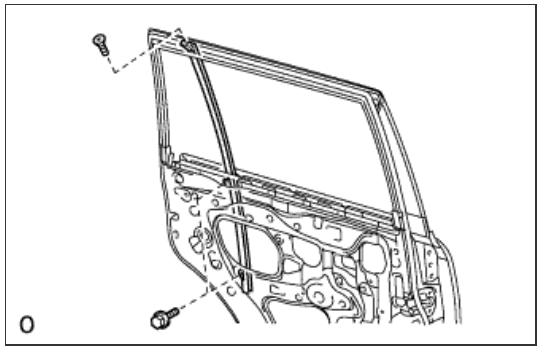
a. Remove the rear door glass run from the window frame.



10. REMOVE REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY LH

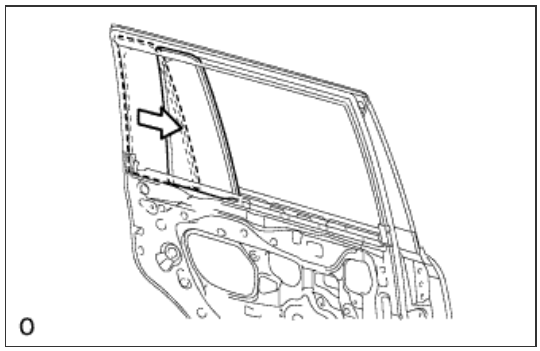
a. Remove the 2 bolts.

b. Remove the screw and window frame.



11. REMOVE REAR DOOR QUARTER WINDOW GLASS LH

a. Remove the rear door quarter window glass and rear door quarter window weatherstrip as a unit as shown in the illustration.

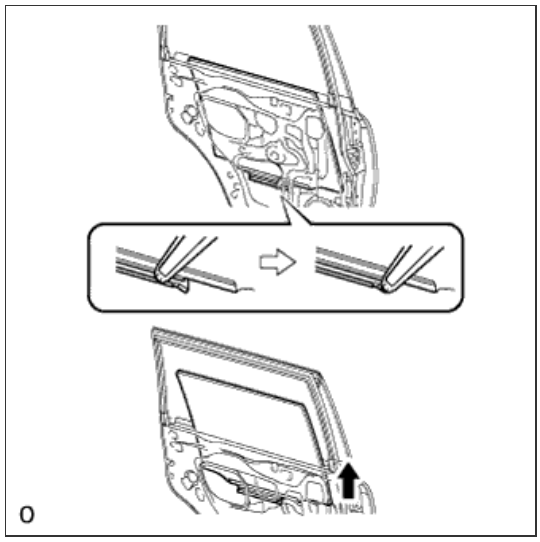


12. REMOVE REAR DOOR GLASS SUB-ASSEMBLY LH

a. Remove the rear door glass sub-assembly from the rear door window regulator sub-assembly as shown in the illustration.

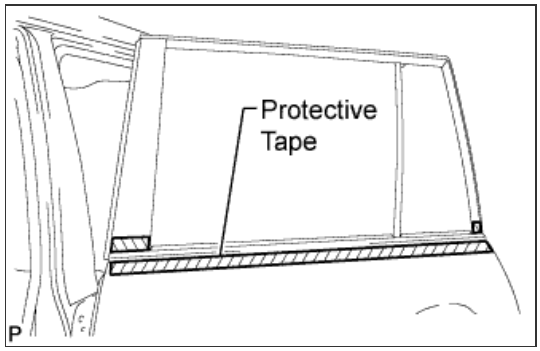
NOTICE:

Do not damage the door glass.

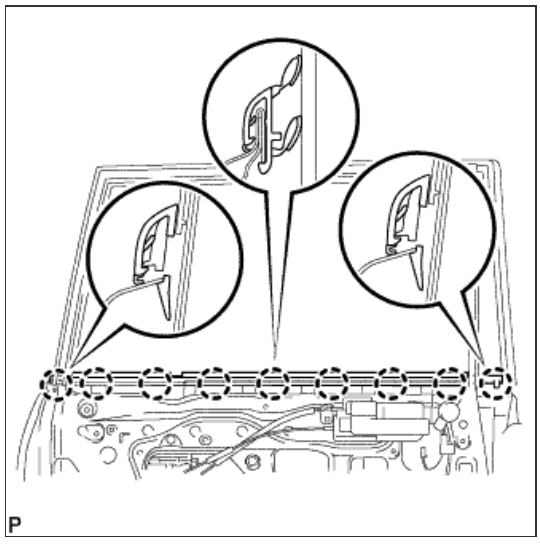


13. REMOVE REAR DOOR BELT MOULDING ASSEMBLY LH

a. Put protective tape around the belt moulding.



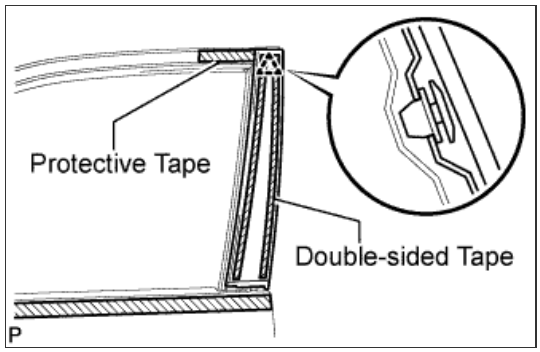
b. Detach the claw and remove the belt moulding.



14. REMOVE REAR DOOR FRONT WINDOW FRAME MOULDING LH

a. Put protective tape around the window frame moulding.

b. Detach the clip and remove the double-sided tape to remove the window frame moulding.

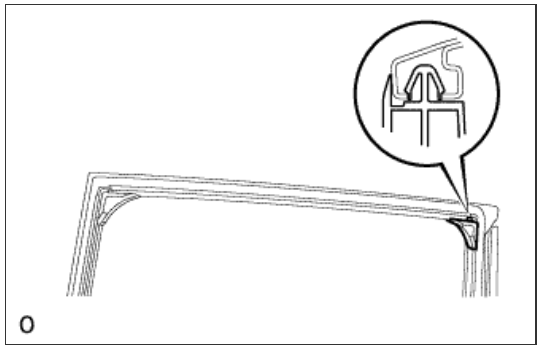


15. REMOVE REAR DOOR FRAME GARNISH LH

a. Detach the clip and remove the rear door frame garnish.

HINT:

The rear door frame garnish needs to be replaced with a new one because the clip will break when removing the rear door frame garnish.

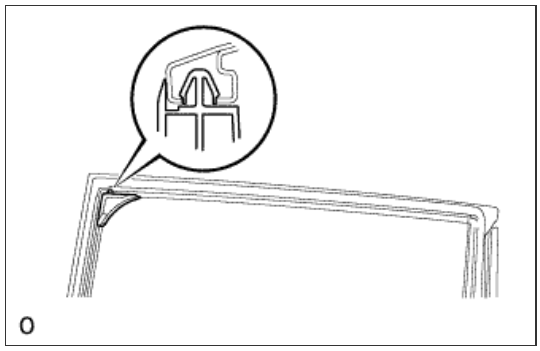


16. REMOVE REAR NO. 2 DOOR FRAME GARNISH LH

a. Detach the clip and remove the rear door frame garnish.

HINT:

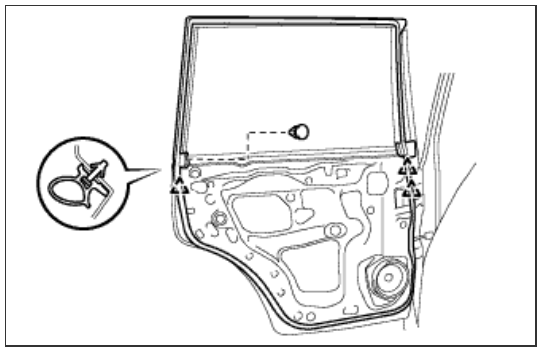
The rear door frame garnish needs to be replaced with a new one because the clip will break when removing the rear door frame garnish.



17. REMOVE REAR DOOR WEATHERSTRIP LH

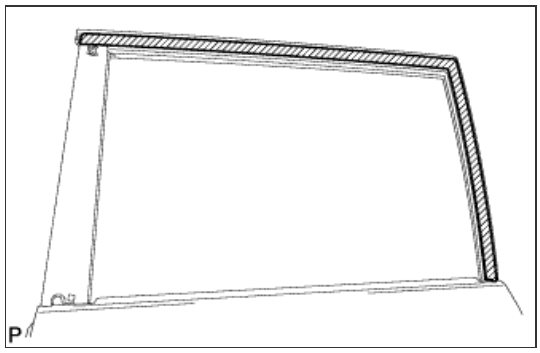
a. Remove the clip.

b. Detach the 3 clips, and remove the upper part of the rear door weatherstrip so that the black out tape can be removed.



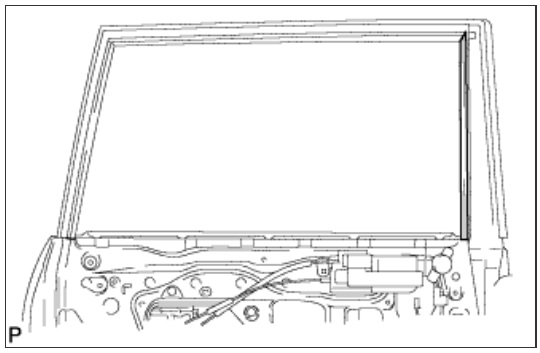
18. REMOVE NO. 2 BLACK OUT TAPE LH

a. Pull back an edge of the black out tape and pull it parallel to the vehicle body to remove it.



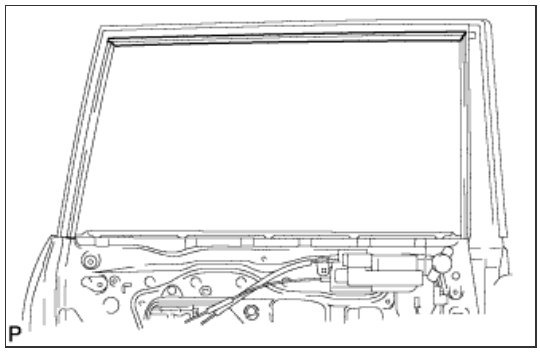
19. REMOVE NO. 6 BLACK OUT TAPE LH

a. Pull back an edge of the black out tape and pull it parallel to the vehicle body to remove it.



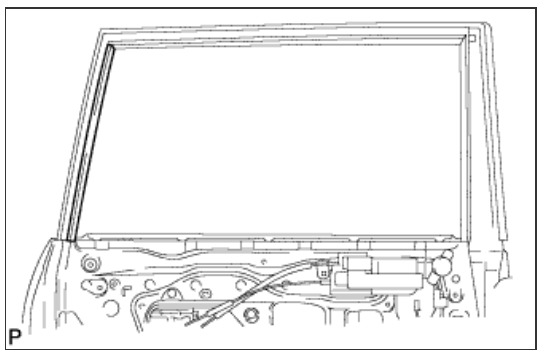
20. REMOVE UPPER INNER BLACK OUT TAPE LH

a. Pull back an edge of the black out tape and pull it parallel to the vehicle body to remove it.



21. REMOVE REAR INNER BLACK OUT TAPE LH

a. Pull back an edge of the black out tape and pull it parallel to the vehicle body to remove it.



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.**
- **When installing the black out tape and window frame moulding, heat the vehicle body, black out tape and window frame moulding using a heat light.**

Standard:

Item	Temperature
Vehicle Body	40 to 60°C (104 to 140°F)
Black Out Tape	20 to 30°C (68 to 86°F)
Window Frame Moulding	20 to 30°C (68 to 86°F)

NOTICE:

Do not heat the vehicle body, black out tape and window frame moulding excessively.

1. REPAIR INSTRUCTION

a. Clean the vehicle body surface.

i. Using a heat light, heat the vehicle body surface.

ii. Wipe off any tape adhesive residue with cleaner.

b. Installation temperature

i. When the ambient temperature is below 15°C (59°F), perform the installation procedure after warming up the vehicle body surface (installation surface of the door frame) and tape to between 20 and 30°C (68 and 86°F) using a heat light. When the ambient temperature is above 35°C (95°F), cool down the vehicle body surface (installation surface of the door frame) and tape to between 20 and 30°C (68 and 86°F) prior to installation.

HINT:

- **The most appropriate temperature for installing the tape is 25°C (77°F).**
- **When the temperature is low, the tape becomes stiff and falls off easily. When the temperature is high, the tape loses elasticity.**

c. Before installation

i. Make sure any dirt on and around the vehicle body surface where the tape will be installed (installation surface of the door frame) is removed, and that the surface is smooth. If the surface is rough or dirt remains when pressing the tape onto the surface, air will be trapped under the tape and result in a poor appearance.

HINT:

Spray water on the shop floor to settle any dust.

d. Key points for handling the tape

i. The tape bends and rolls up easily. Store the tape between flat pieces of cardboard or other similar objects and keep it dry and level.

NOTICE:

Do not bend the tape or leave it in high temperature places.

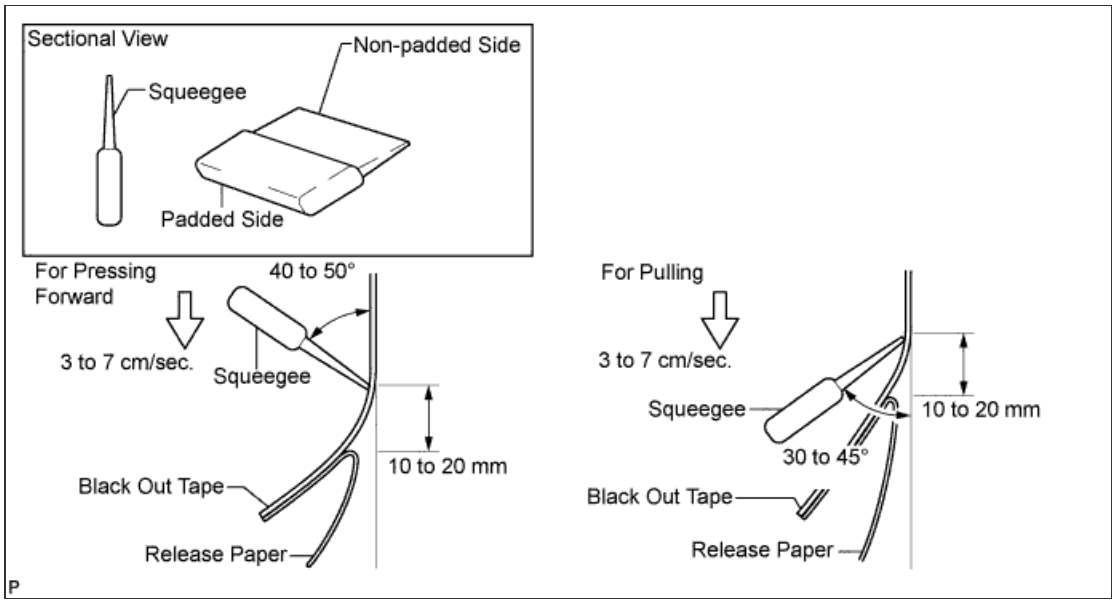
e. Key points for the installation of the tape (how to use a squeegee and the installation procedure for flat surfaces)

NOTICE:

- **Position the tape with a high level of accuracy to achieve a neat finish and to avoid peeling.**

- **The tape cannot be reused because it deforms and will not fit after removal.**

i. To avoid air bubbles, slightly raise the part of the tape that is going to be applied so that its adhesive surface does not touch the vehicle body while applying the tape. Tilt the squeegee at 40 to 50° (for pressing forward) or 30 to 45° (for pulling) to the vehicle body surface and slowly press the tape onto the vehicle body surface with a force of 20 to 30 N (2 to 3 kgf) at a constant speed of 30 to 70 mm (1.18 to 2.76 in.) per second.



NOTICE:

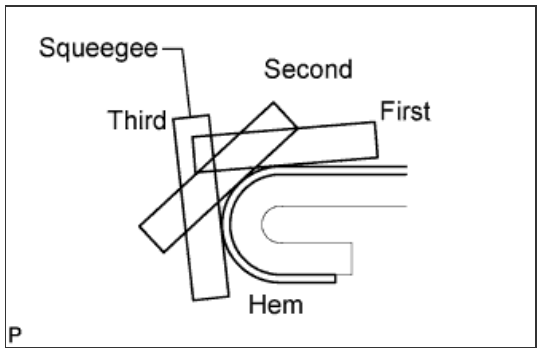
Be sure to observe the specified pressing speed, force, and angle of the squeegee to avoid wrinkles or air bubbles.

HINT:

- **Either angle of the squeegee (for pressing forward or for pulling) is acceptable.**
- **Be sure to apply the tape while removing the release paper 10 to 20 mm (0.393 to 0.787 in.) from the edge of the squeegee.**

f. Key points for the installation of the tape (how to use a squeegee and the installation procedure for hemmed surfaces)

i. If it is difficult to press the tape, press it in several steps as shown in the illustration. Use your fingers or the padded surface of a squeegee to slowly apply the tape to the hem of the vehicle, especially for a small hem.



HINT:

When applying tape to the backside of a hem, remove the release paper and use your fingers or the padded surface of a squeegee.

g. Key points for the installation of the tape (how to use a squeegee and the installation procedure for corners)

i. Remove the release paper and apply the tape carefully with your fingers.

ii. Before applying the tape to each corner, heat the tape using a heat light and gradually apply it to avoid wrinkles on the tape and achieve a neat finish.

h. Check after installation

i. After completing the application, check if the tape is applied neatly. If the tape is not applied neatly, apply new tape.

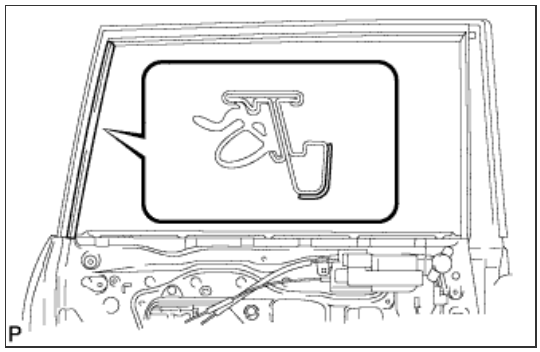
NOTICE:

Do not reuse the tape.

2. INSTALL REAR INNER BLACK OUT TAPE LH

a. Refer to the illustration to position a new rear inner black out tape.

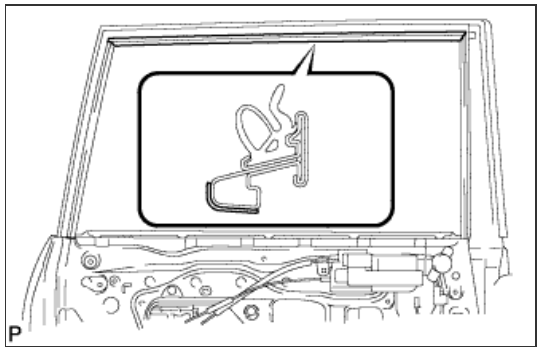
b. Remove the release paper and apply the tape.



3. INSTALL UPPER INNER BLACK OUT TAPE LH

a. Refer to the illustration to position a new upper inner black out tape.

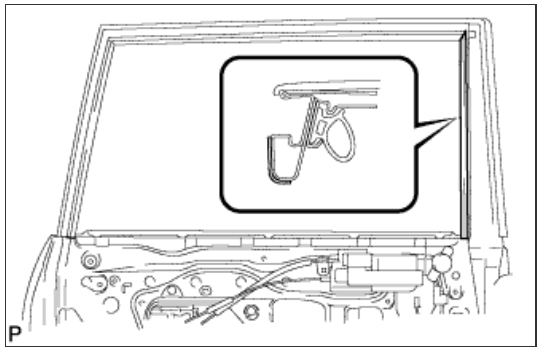
b. Remove the release paper and apply the tape.



4. INSTALL NO. 6 BLACK OUT TAPE LH

a. Refer to the illustration to position a new No. 6 black out tape.

b. Remove the release paper and apply the tape.



5. INSTALL NO. 2 BLACK OUT TAPE LH

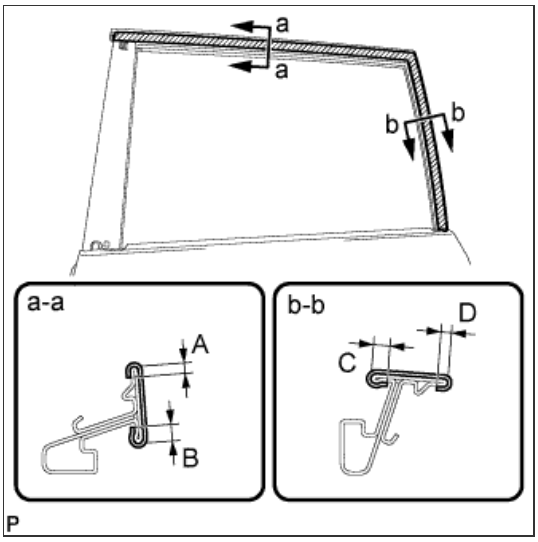
a. Refer to the illustration to position a new No. 2 black out tape.

Standard:

Area	Dimension
A	2 to 4 mm (0.078 to 0.158 in.)
B	4 to 6 mm (0.158 to 0.236 in.)

C	4 to 6 mm (0.158 to 0.236 in.)
D	2 to 4 mm (0.078 to 0.158 in.)

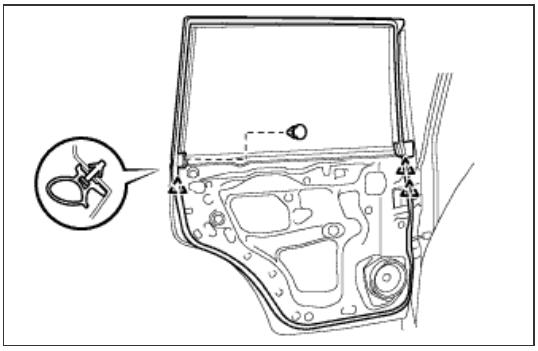
b. Remove the release paper and apply the tape.



6. INSTALL REAR DOOR WEATHERSTRIP LH

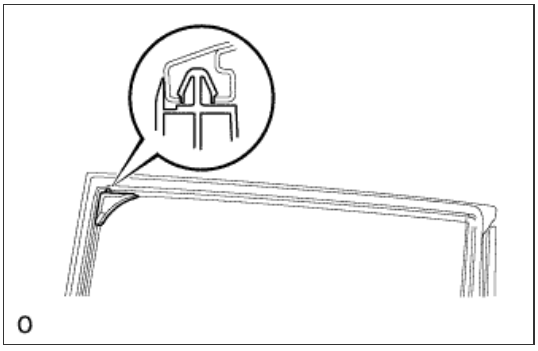
a. Attach the 3 clips and install the upper part of the rear door weatherstrip.

b. Install the clip.



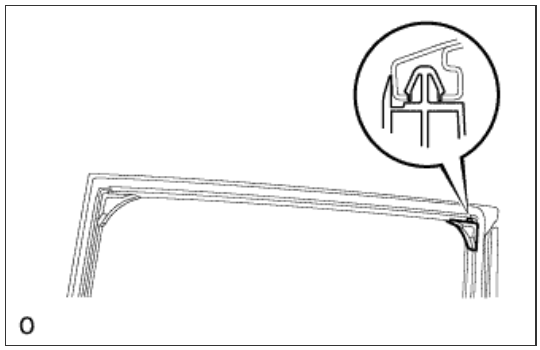
7. INSTALL REAR NO. 2 DOOR FRAME GARNISH LH

a. Attach the clip to install a new rear door frame garnish.



8. INSTALL REAR DOOR FRAME GARNISH LH

a. Attach the clip to install a new rear door frame garnish.



9. INSTALL REAR DOOR FRONT WINDOW FRAME MOULDING LH

a. Clean the vehicle body surface.

i. Using a heat light, heat the vehicle body surface.

ii. Remove the double-sided tape from the vehicle body surface.

iii. Wipe off any tape adhesive residue with cleaner.

b. Install a new window frame moulding.

i. Using a heat light, heat a new window frame moulding and the vehicle body surface.

ii. Remove the peeling paper from the face of the window frame moulding.

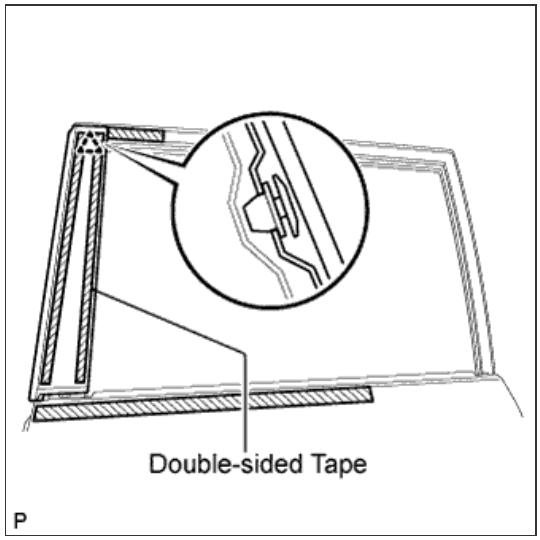
HINT:

After removing the peeling paper, keep the exposed adhesive free from foreign matter.

iii. Attach the clip and double-sided tape to install the window frame moulding.

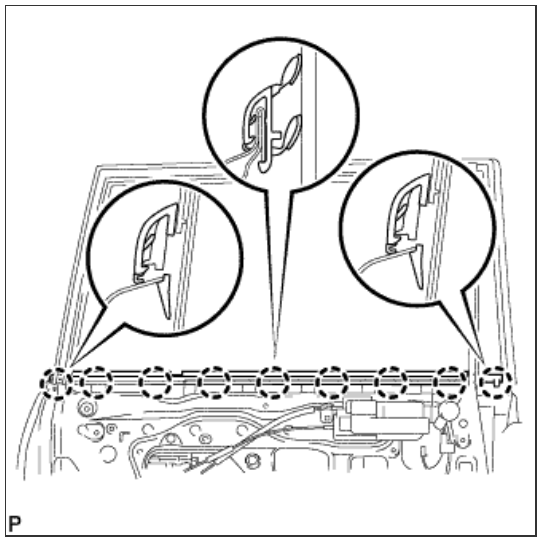
HINT:

Press the window frame moulding firmly to install it.



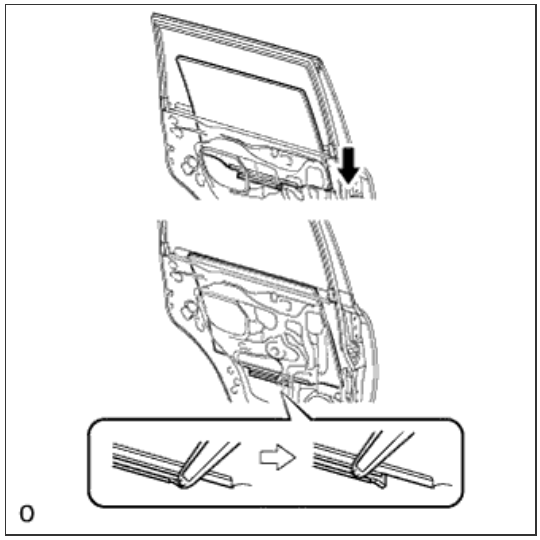
10. INSTALL REAR DOOR BELT MOULDING ASSEMBLY LH

a. Attach the claw to install the belt moulding.



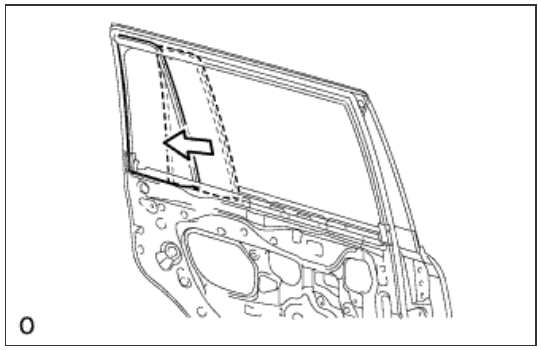
11. INSTALL REAR DOOR GLASS SUB-ASSEMBLY LH

a. Slide the rear door glass sub-assembly as shown in the illustration to install it.



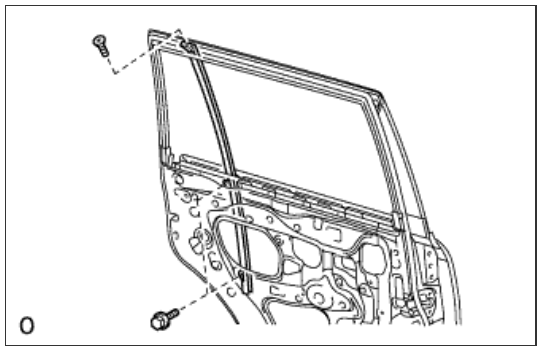
12. INSTALL REAR DOOR QUARTER WINDOW GLASS LH

a. Install the quarter glass together with the rear door quarter window weatherstrip in the direction indicated by the arrow in the illustration.



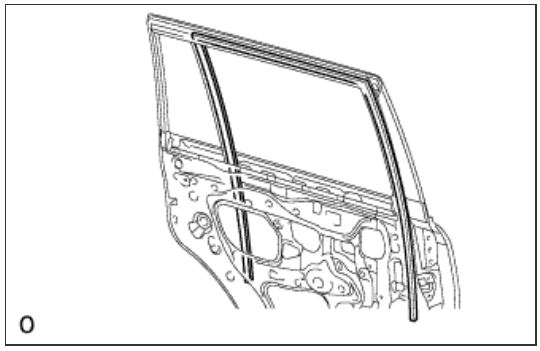
13. INSTALL REAR DOOR REAR LOWER WINDOW FRAME SUB-ASSEMBLY LH

a. Install the rear door rear lower window frame with the 2 bolts and screw.



14. INSTALL REAR DOOR GLASS RUN LH

a. Install the rear door glass run.



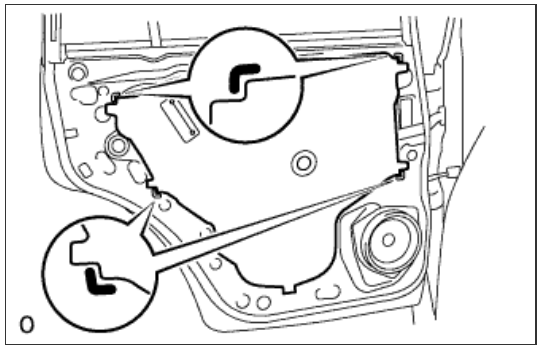
15. INSTALL REAR DOOR SERVICE HOLE COVER LH

a. Apply butyl tape to the door.

b. Pass the rear door lock remote control cable and rear door inside locking cable through a new rear door service hole cover.

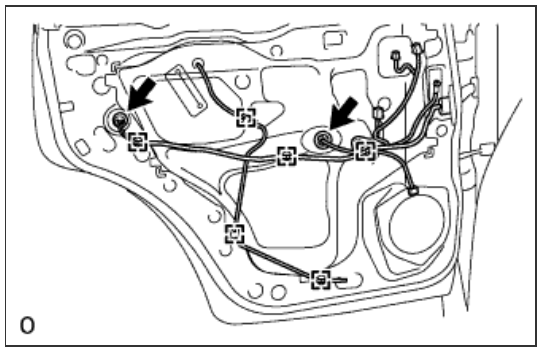
NOTICE:

- **When installing the service hole cover, pull the links and connectors through the service hole cover.**
- **There should be no wrinkles or folds after installing the service hole cover.**
- **After installing the service hole cover, check the sealing quality.**



c. Connect the 2 connectors.

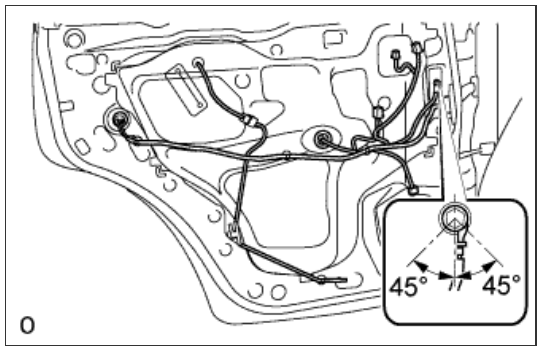
d. Attach the 6 clamps.



e. Install the bolt as shown in the illustration.

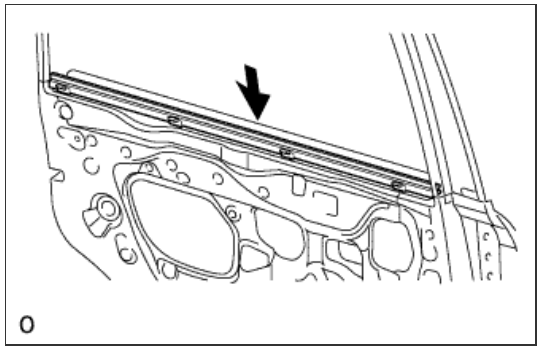
Torque:

8.4 N*m{ 86 kgf*cm , 74 in.*lbf }



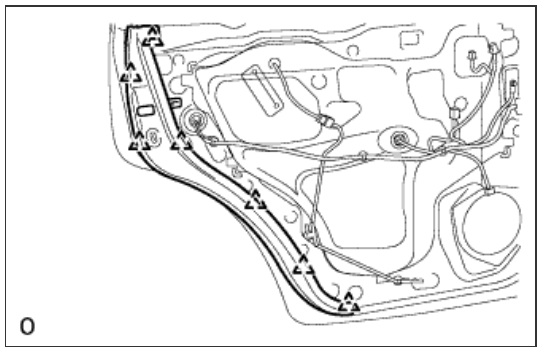
16. INSTALL REAR INNER DOOR GLASS WEATHERSTRIP LH

a. Install the rear inner door glass weatherstrip to the door panel.



17. INSTALL REAR DOOR TRIM COVER LH

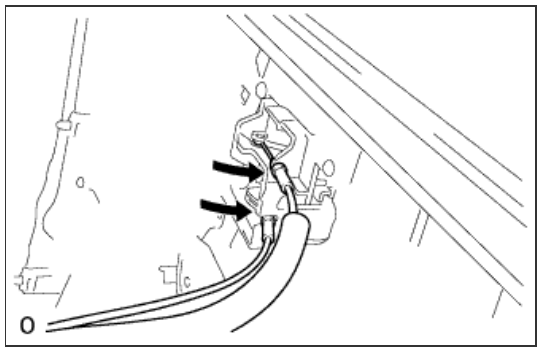
a. Attach the 7 clips to install the door trim cover.



18. INSTALL REAR DOOR TRIM BOARD SUB-ASSEMBLY LH

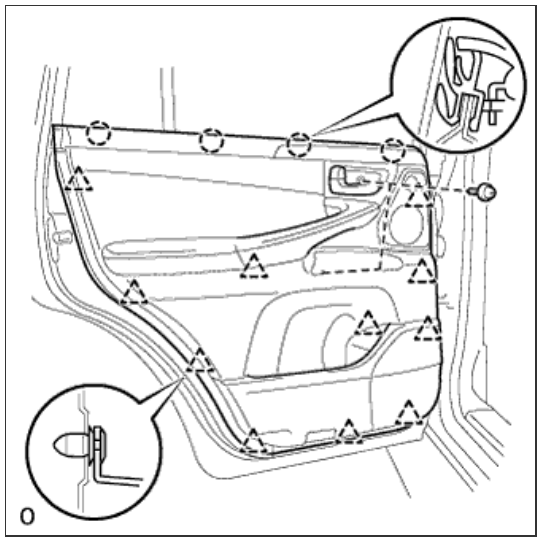
a. Connect the connector.

b. Connect the rear door lock remote control cable and rear door inside locking cable to the rear door inside handle sub-assembly.



c. Attach the 4 claws and 11 clips to install the rear door trim board sub-assembly.

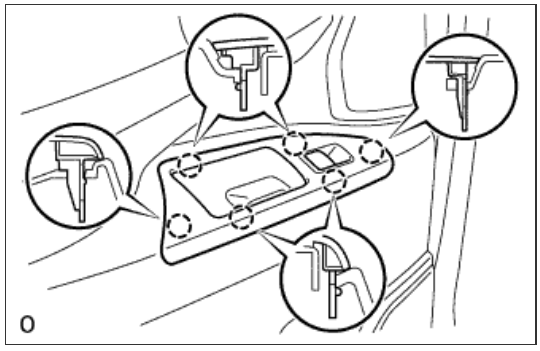
d. Install the 2 screws.



19. INSTALL REAR UPPER DOOR ARMREST BASE PANEL LH

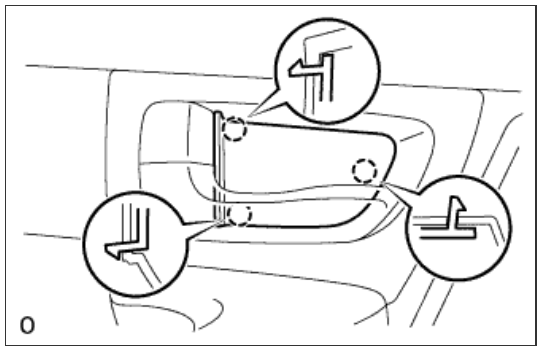
a. Connect the connector.

b. Attach the 6 claws to install the rear upper door armrest base panel.



20. INSTALL REAR DOOR INSIDE HANDLE BEZEL PLUG LH

a. Attach the 3 claws to install the bezel plug.



21. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

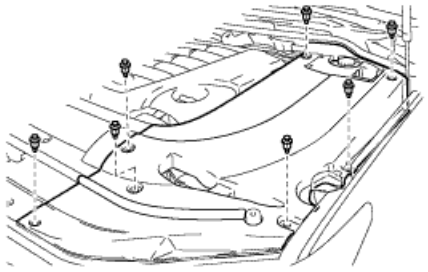
NOTICE:

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

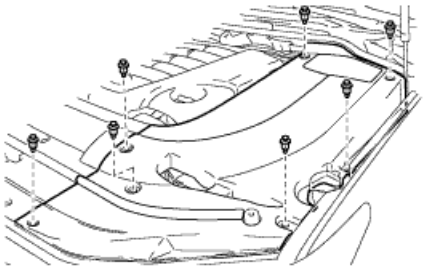
22. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.

for LHD:



for RHD:



P