**for Preparation** Click here

## 1.PRECAUTION

a. Check that the battery cables are connected to the correct terminals.

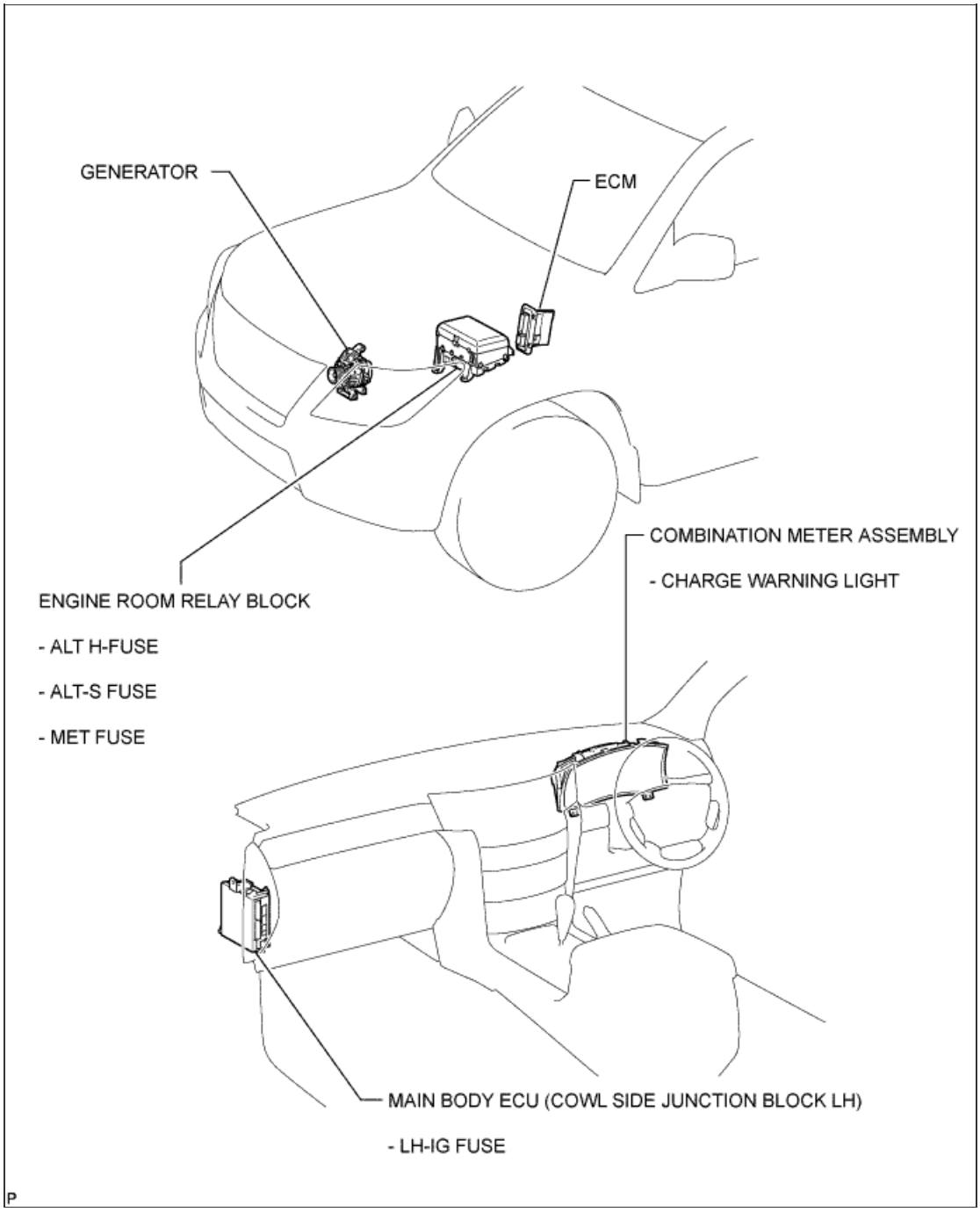
b. Disconnect the battery cables when the battery is given a quick charge.

c. Do not perform tests with a high voltage insulation resistance tester.

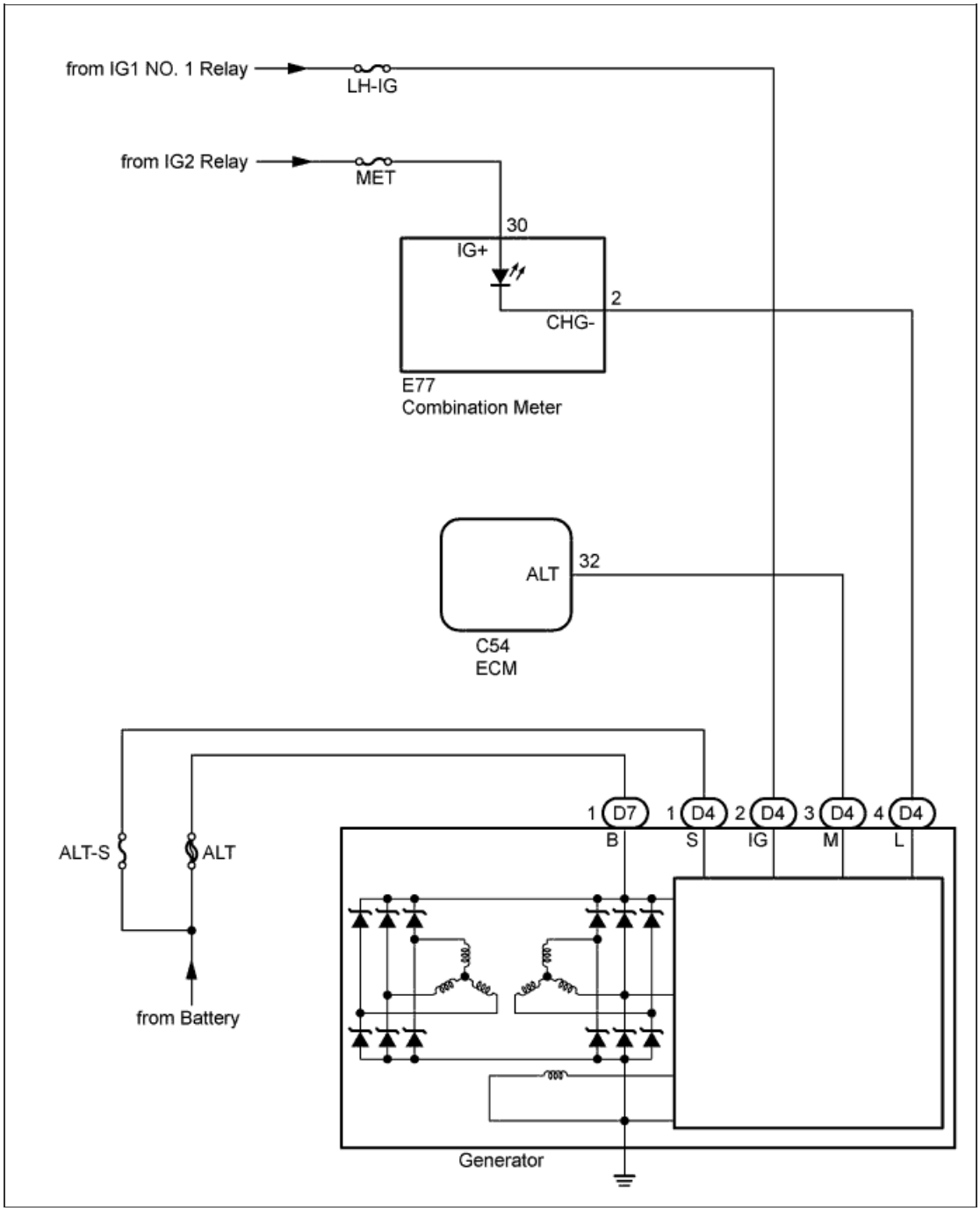
d. Never disconnect the battery while the engine is running.

e. Check that the charging cable nut is securely installed to terminal B of the generator and the fuse box.

**for Preparation** Click here



**for Preparation** Click here



**for Preparation** Click here

## 1. CHECK BATTERY CONDITION

**NOTICE:**

If the battery is weak or if the engine is difficult to start, perform the following procedures.

a. Check the battery for damage and deformation. If severe damage, deformation or leakage is found, replace the battery.

b. Turn the engine switch off and turn on the headlight for 20 to 30 seconds. This will remove the surface charge from the battery.

c. Measure the battery voltage between the negative (-) and positive (+) terminals of the battery.

**Standard voltage:**
**12.5 to 12.9 V at 20°C (68°F)**

**HINT:**

If the voltage is below the specification, recharge the battery.

d. Check the electrolyte quantity of each cell.

i. For maintenance-free batteries:

- If the electrolyte quantity is below the lower line, replace the battery.
- If the electrolyte quantity is above the lower line, check the battery voltage when cranking the engine. If the voltage is below 9.6 V, recharge or replace the battery.

**HINT:**

Before checking the battery voltage, turn off all the electrical systems (headlights, blower motor, rear defogger, etc.).

ii. For non-maintenance-free batteries:

- If the electrolyte quantity is below the lower line, add distilled water to each cell. Then, recharge the battery and check the electrolyte specific gravity.

**Standard specific gravity:**
**1.25 to 1.29 at 20°C (68°F)**

- If the electrolyte quantity is above the lower line, check the battery voltage when cranking the engine. If the voltage is below 9.6 V, recharge or replace the battery.

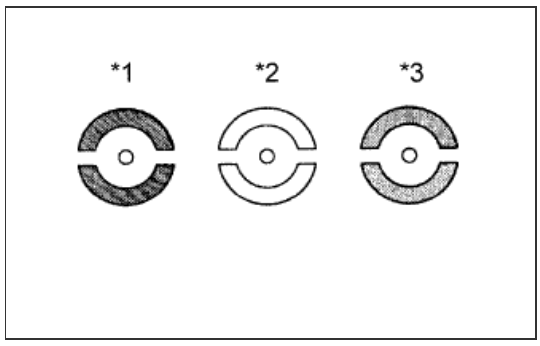
**HINT:**

Before checking the battery voltage, turn off all the electrical systems (headlights, blower motor, rear defogger, etc.).

e. Reference:
The indicator shows the battery condition.

**Text in Illustration**

| | |
|---|---|
| *1 | Blue |
| *2 | White |
| *3 | Red |




**HINT:**

- **Blue: OK**
- **White: Charging necessary**
- **Red: Insufficient electrolyte**

## 2. INSPECT BATTERY TERMINAL AND FUSE

a. Visually check the battery terminals.

i. Check that the battery terminals are not loose or corroded.

b. Check the H-fuse and fuses.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| ALT H-fuse | Always | Below 1 Ω |
| ALT-S fuse | | |
| MET fuse | | |
| LH-IG fuse | | |

If the result is not as specified, replace the fuses as necessary.

## 3. INSPECT V-RIBBED BELT

a. Check the belt (Click here).

## 4. INSPECT GENERATOR WIRING

a. Visually check the generator wiring.

i. Check that the wiring is in good condition.

## 5. CHECK FOR ABNORMAL NOISES

a. Listen for abnormal noises from the generator.

i. Check that no abnormal noises are heard from the generator while the engine is running.

## 6. INSPECT CHARGE WARNING LIGHT CIRCUIT

a. Turn the engine switch on (IG). Check that the charge warning light comes on.

b. Start the engine and check that the light goes off.
If the light does not operate as specified, troubleshoot the charge warning light circuit.

## 7. INSPECT CHARGING CIRCUIT WITHOUT LOAD

a. Connect a voltmeter and ammeter to the charging circuit as follows:

i. Disconnect the wire from terminal B of the generator, then connect it to the negative (-) lead of an ammeter.

ii. Connect the positive (+) lead of the ammeter to terminal B of the generator.

iii. Connect the positive (+) lead of a voltmeter to the positive (+) terminal of the battery.

iv. Ground the negative (-) lead of the voltmeter.

b. Check the charging circuit.

i. Keep the engine speed at 2000 rpm and check the reading on the ammeter and voltmeter.

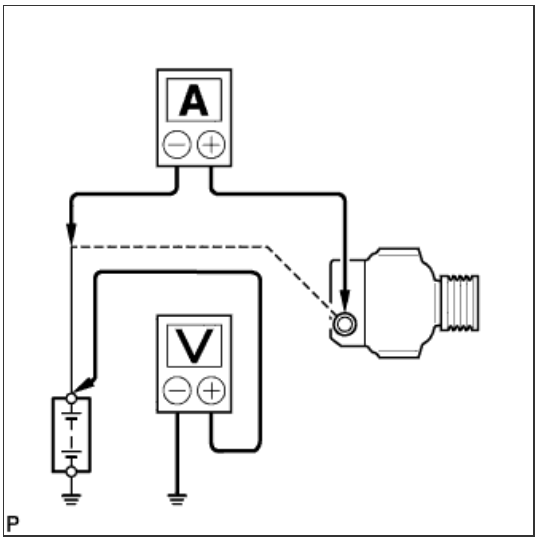
**Standard current:**
**10 A or less**

**Standard voltage:**
**13.2 to 14.8 V**

If the voltmeter reading is more than the standard voltage, replace the voltage regulator.

**HINT:**

If the battery is not fully charged, the ammeter reading will sometimes be higher than the standard amperage.




## 8. INSPECT CHARGING CIRCUIT WITH LOAD

a. With the engine running at 2000 rpm, turn the high beam headlights on and turn the heater blower switch to the "HI" position.

b. Check the reading on the ammeter.

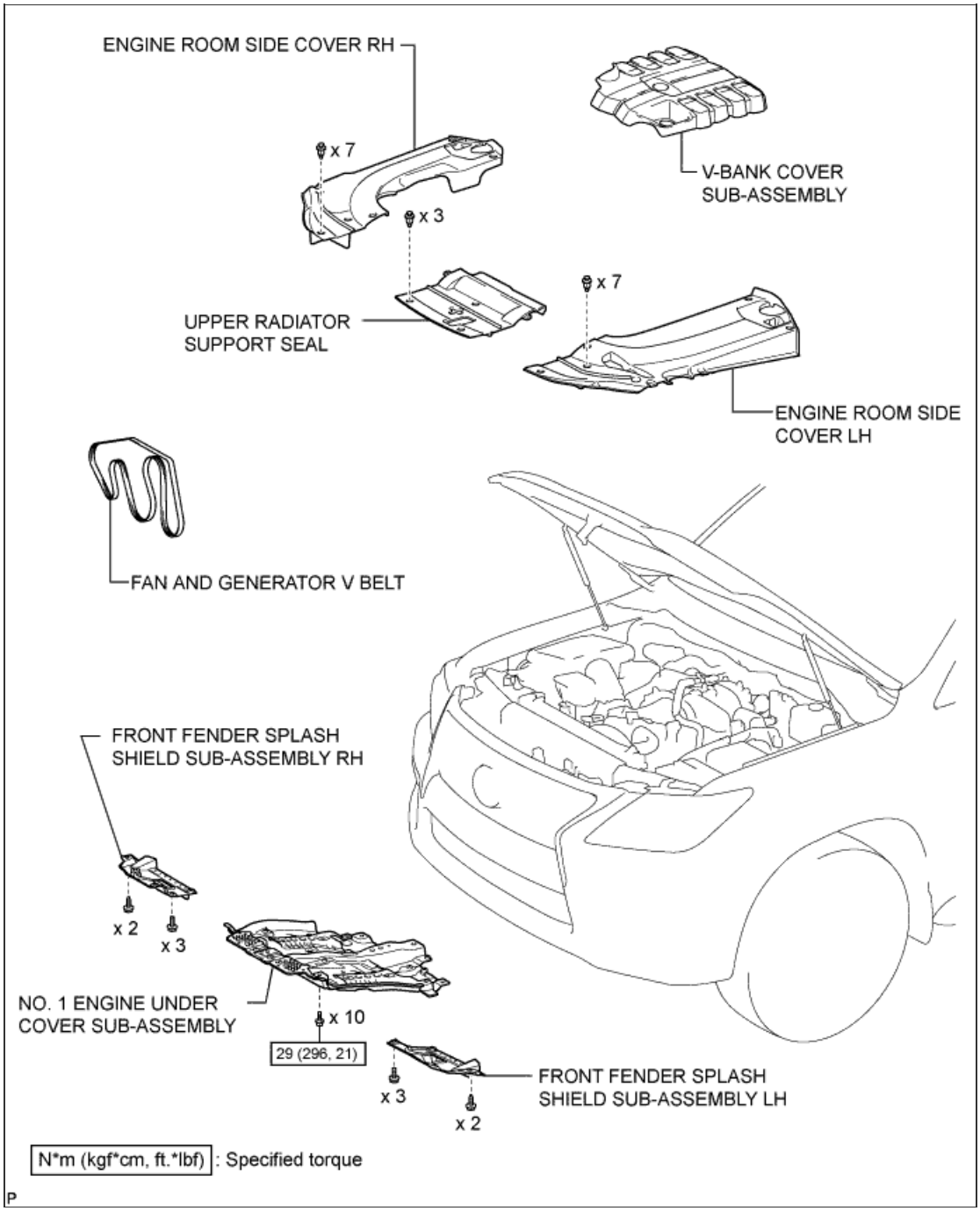
**Standard current:**
**30 A or higher**

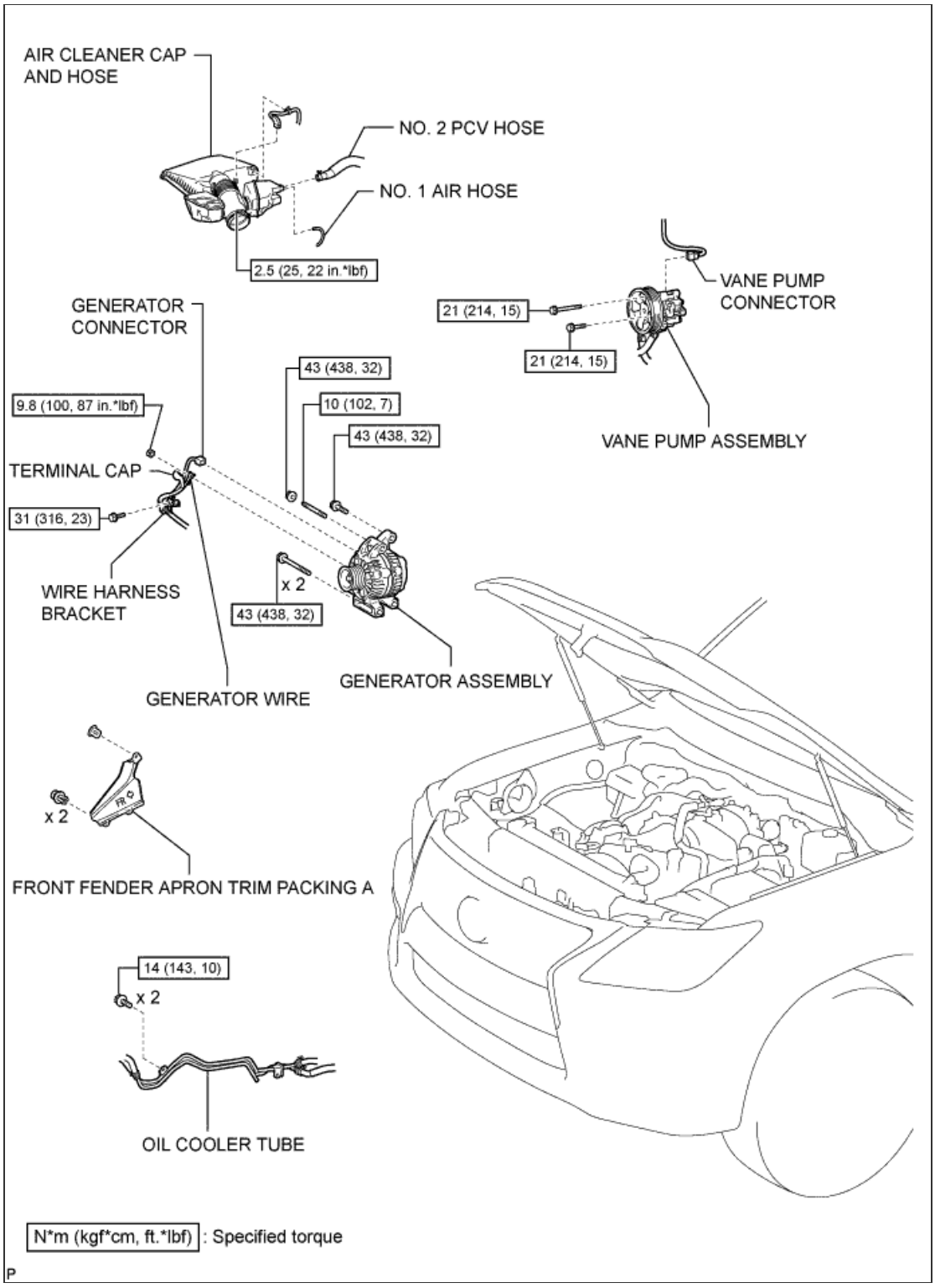
If the ammeter reading is below the standard amperage, repair the generator.

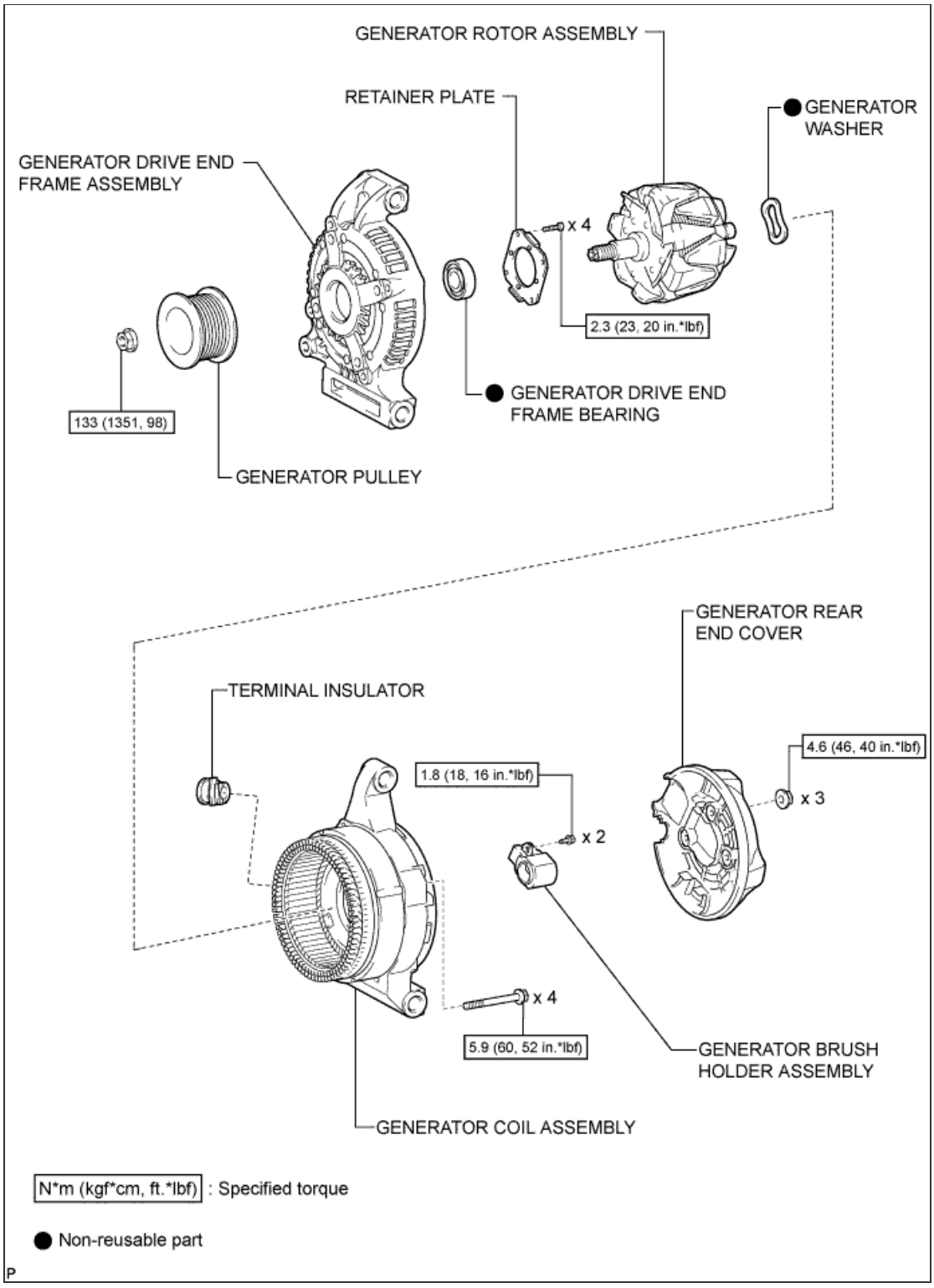
**HINT:**

If the battery is fully charged, the indication will sometimes be below the standard amperage. If this is the case, add more electrical load (operate the wipers, rear window defogger, etc.) and check the reading on the ammeter again.

**for Preparation** Click here



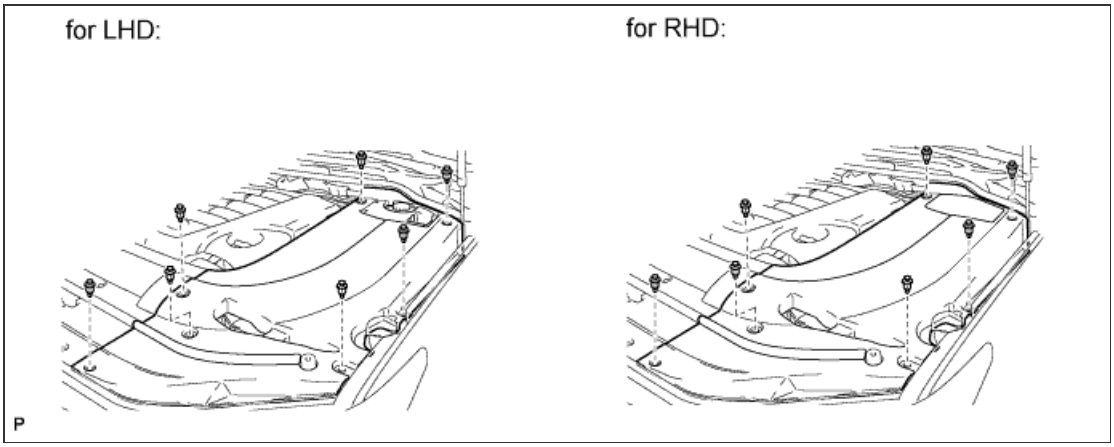

AIR CLEANER CAP AND HOSE
NO. 2 PCV HOSE
NO. 1 AIR HOSE
2.5 (25, 22 in.*lbf)
GENERATOR CONNECTOR
21 (214, 15)
21 (214, 15)
VANE PUMP CONNECTOR
VANE PUMP ASSEMBLY
43 (438, 32)
10 (102, 7)
43 (438, 32)
9.8 (100, 87 in.*lbf)
TERMINAL CAP
31 (316, 23)
WIRE HARNESS BRACKET
x 2
43 (438, 32)
GENERATOR ASSEMBLY
GENERATOR WIRE
x 2
FRONT FENDER APRON TRIM PACKING A
14 (143, 10)
x 2
OIL COOLER TUBE
N*m (kgf*cm, ft.*lbf) : Specified torque
P


GENERATOR ROTOR ASSEMBLY
RETAINER PLATE
GENERATOR WASHER
GENERATOR DRIVE END FRAME ASSEMBLY
x 4
2.3 (23, 20 in.*lbf)
133 (1351, 98)
GENERATOR DRIVE END FRAME BEARING
GENERATOR PULLEY
GENERATOR REAR END COVER
TERMINAL INSULATOR
4.6 (46, 40 in.*lbf)
x 3
1.8 (18, 16 in.*lbf)
x 2
x 4
5.9 (60, 52 in.*lbf)
GENERATOR BRUSH HOLDER ASSEMBLY
GENERATOR COIL ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
P

**for Preparation** Click here

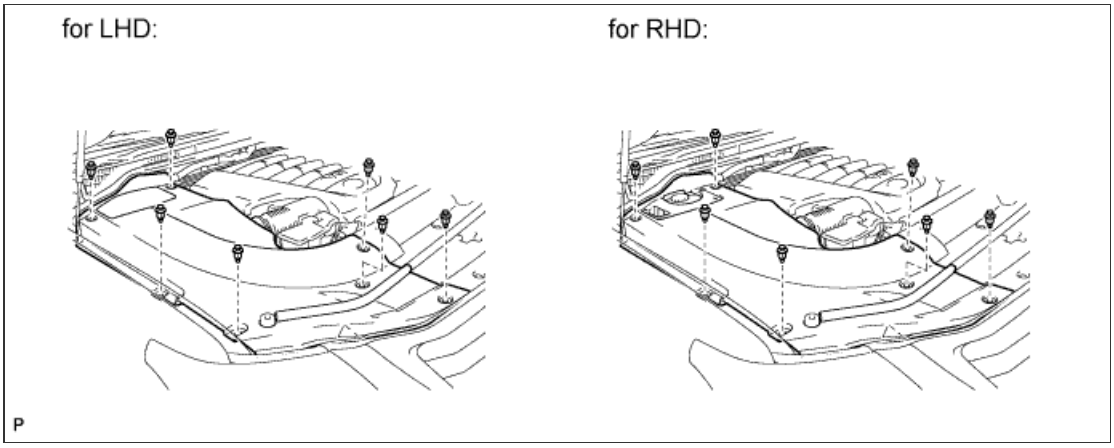
## 1. REMOVE ENGINE ROOM SIDE COVER LH

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



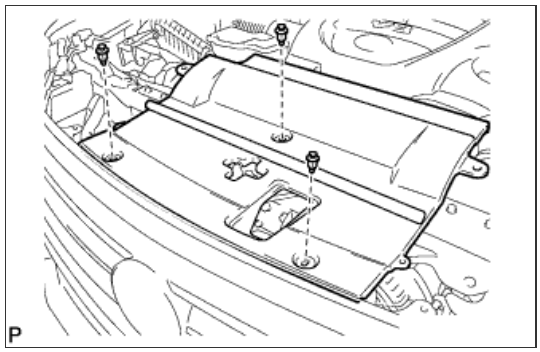

## 2. REMOVE ENGINE ROOM SIDE COVER RH

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




## 3. REMOVE UPPER RADIATOR SUPPORT SEAL

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

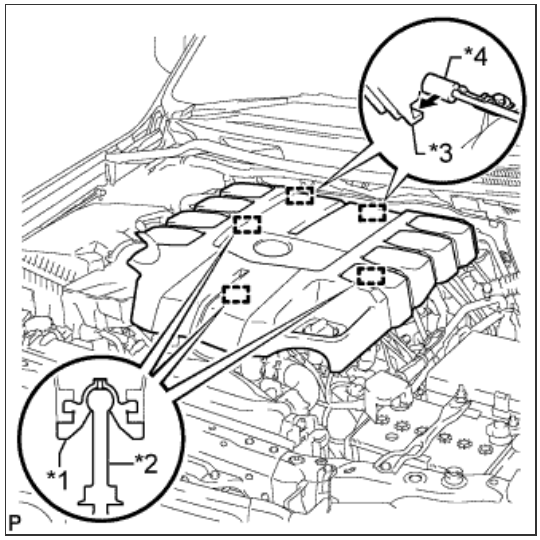


## 4. REMOVE V-BANK COVER SUB-ASSEMBLY

a. Raise the front of the V-bank cover to detach the 3 pins. Then remove the 2 V-bank cover hooks from the bracket, and remove the V-bank cover.

**Text in Illustration**

| | |
|---|---|
| *1 | Grommet |
| *2 | Pin |
| *3 | Hook |
| *4 | Bracket |




## 5. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

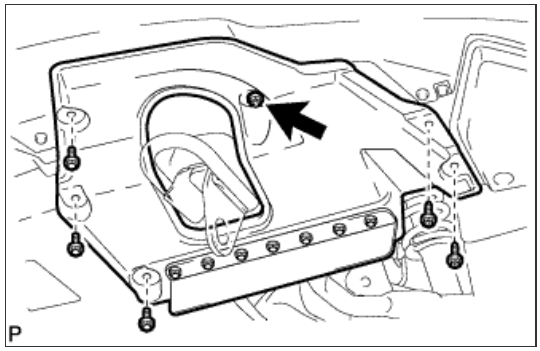
**NOTICE:**

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

## 6. 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 front fender splash shield sub-assembly LH.



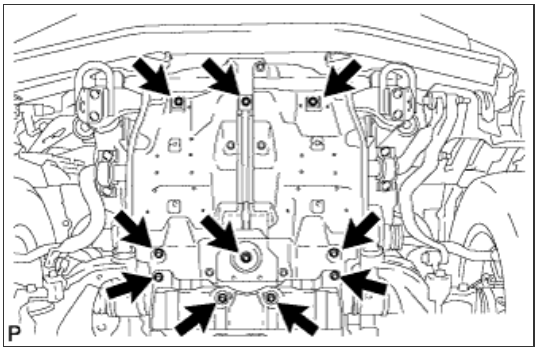
## 7. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

**HINT:**

Use the same procedure described for the LH side.

## 8. REMOVE NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. Remove the 10 bolts and No. 1 engine under cover sub-assembly.




## 9. REMOVE FAN AND GENERATOR V BELT

a. While turning the belt tensioner counterclockwise, align the service hole for the belt tensioner and the belt tensioner fixing position, and then insert a bar with a diameter of 5 mm (0.197 in.) into the service hole to fix the belt tensioner in place.

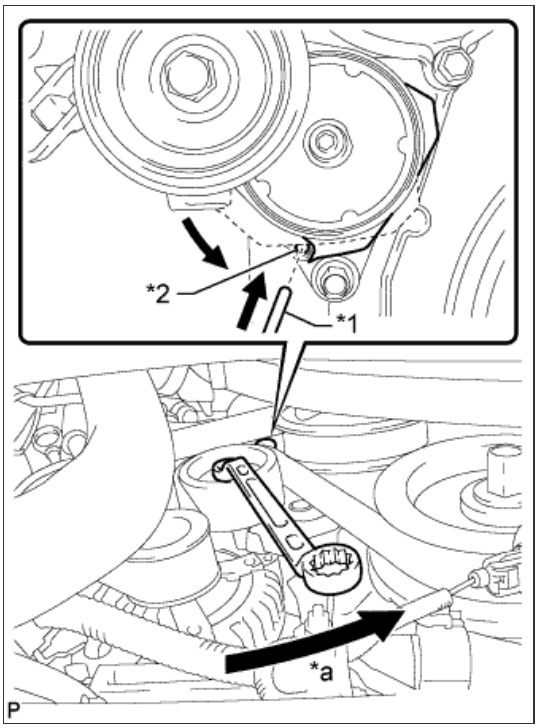
**Text in Illustration**

| | |
|---|---|
| *1 | Bar |
| *2 | Service Hole |
| *a | Turn |

**HINT:**

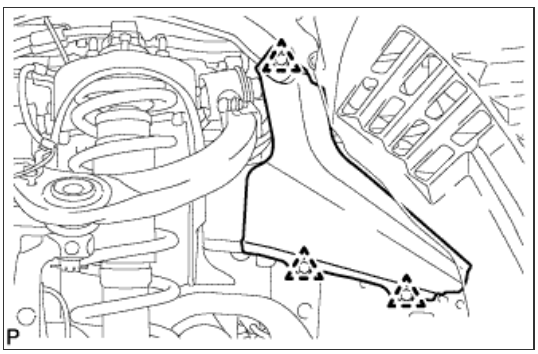
The pulley bolt for the belt tensioner has a left-hand thread.

b. Remove the fan and generator V belt.




## 10. REMOVE FRONT FENDER APRON TRIM PACKING A

a. Remove the 3 clips and front fender apron trim packing A.



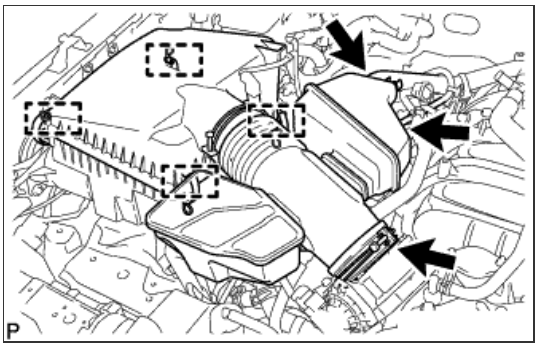
## 11. REMOVE AIR CLEANER CAP AND HOSE

a. Disconnect the No. 2 PCV hose and No. 1 air hose.

b. Disconnect the mass air flow meter connector and detach the clamp.

c. Detach the 4 clamps.

d. Loosen the hose clamp and remove the air cleaner cap and hose.



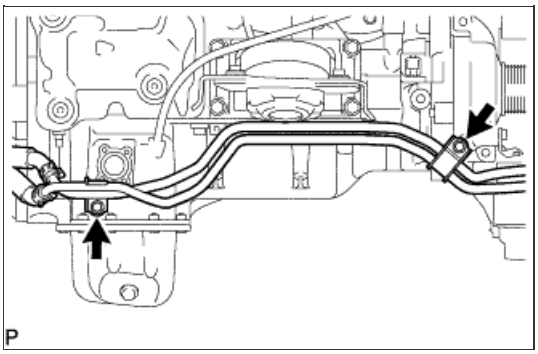

## 12. DISCONNECT VANE PUMP ASSEMBLY

a. Disconnect the connector.

b. Remove the 2 bolts and disconnect the vane pump.

## 13. DISCONNECT OIL COOLER TUBE

a. Remove the 2 bolts and disconnect the oil cooler tube.



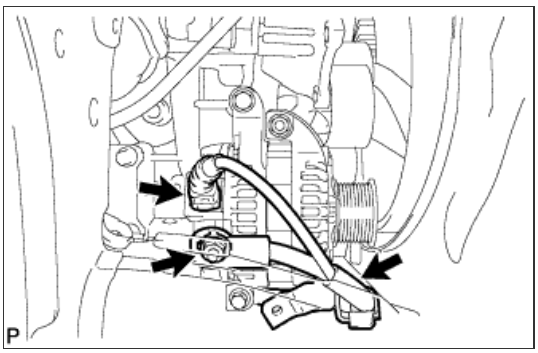

## 14. REMOVE GENERATOR ASSEMBLY

a. Disconnect the generator connector.

b. Open the terminal cap.

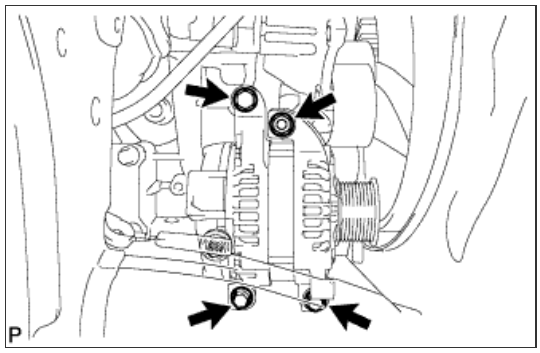
c. Remove the nut and disconnect the generator wire.

d. Remove the bolt and disconnect the wire harness bracket from the generator.




e. Remove the 3 bolts, nut and generator.

f. Remove the stud bolt.


P

**for Preparation** Click here

## 1. REMOVE GENERATOR PULLEY

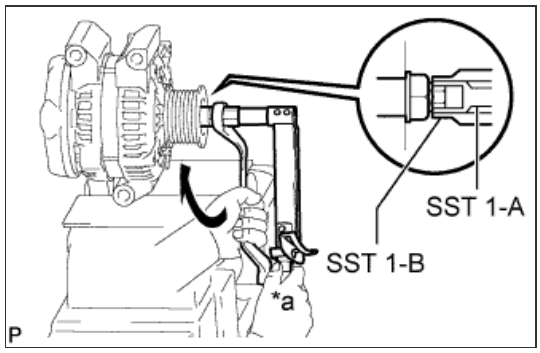
a. Mount the generator in a vise between aluminum plates.

b. Install SST 1-A to the pulley shaft.

*SST*
09820-63011 (09820-06010, 09820-06021)

**HINT:**

| | |
|---|---|
| SST 1-A and B | 09820-06010 |
| SST 2 | 09820-06021 |




c. Insert SST 1-B to SST 1-A.

d. Hold SST 1-A with a torque wrench and turn SST 1-B clockwise with the specified torque.

**Torque:**
**39 N*m{ 398 kgf*cm , 29 ft.*lbf }**

**Text in Illustration**

| | |
|---|---|
| *a | Hold |
| ➡ | Turn |

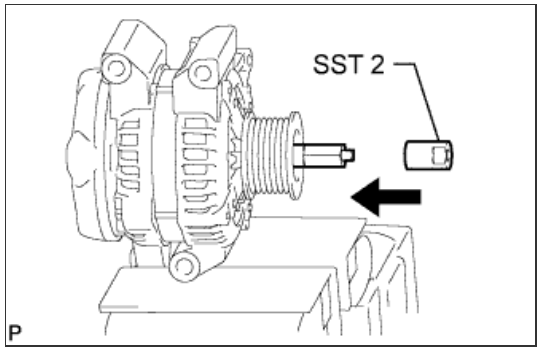
**NOTICE:**

Check that SST is secured on the rotor shaft.

e. Insert SST 2 and attach it to the pulley nut.

**Text in Illustration**

| | |
|---|---|
| ➡ | Insert |



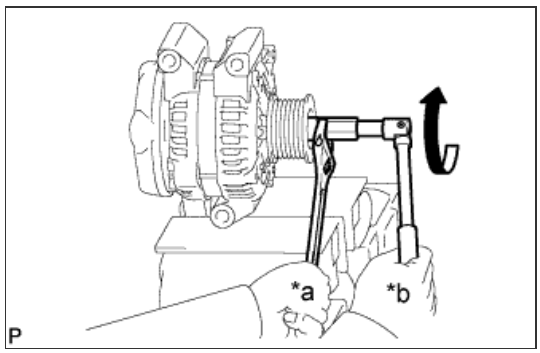

f. To loosen the pulley nut, turn SST 1-A in the direction shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *a | Hold |
| *b | Turn |

**NOTICE:**

To prevent damage to the rotor shaft, do not loosen the pulley nut more than one-half turn.




g. Remove SST 2 from the generator.

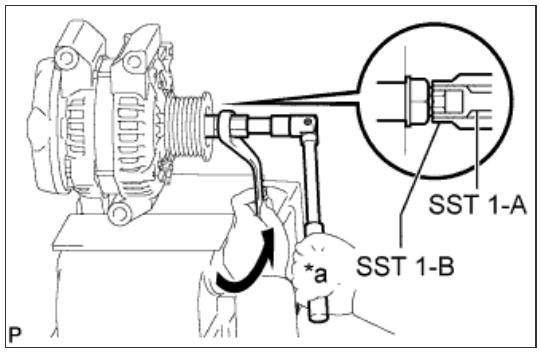
h. Turn SST 1-B in the direction shown in the illustration, and then remove SST 1-

A and SST 1-B.

**Text in Illustration**

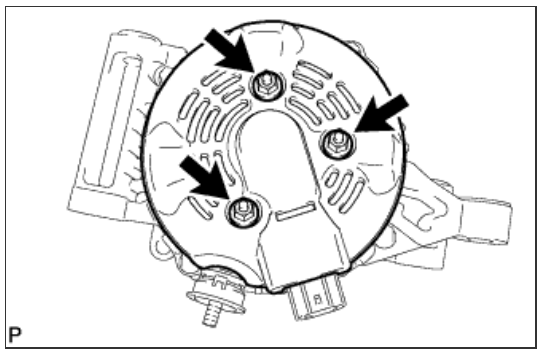
| | |
|---|---|
| *a | Hold |
| ➡ | Turn |

i. Remove the pulley nut and generator pulley.

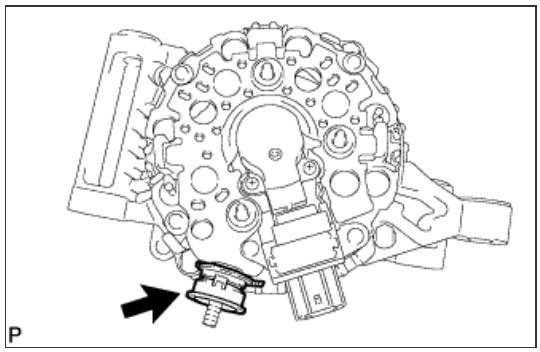



## 2. REMOVE GENERATOR REAR END COVER

a. Remove the 3 nuts and generator rear end cover.

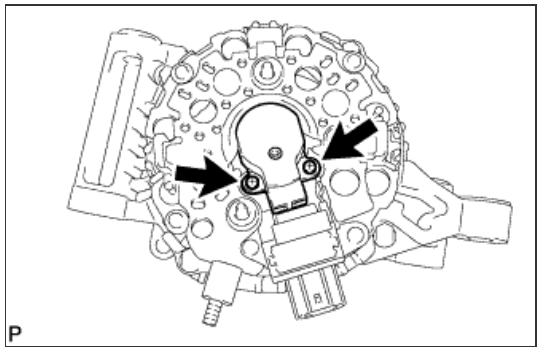



## 3. REMOVE TERMINAL INSULATOR



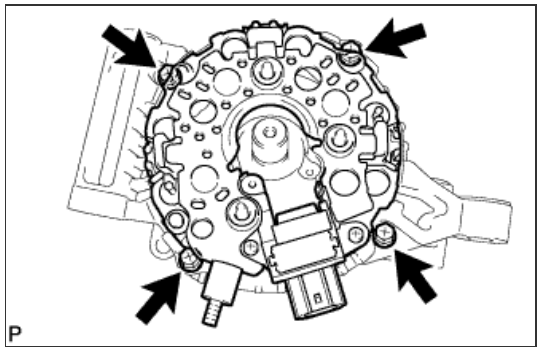

## 4. REMOVE GENERATOR BRUSH HOLDER ASSEMBLY

a. Remove the 2 screws and brush holder.




## 5. REMOVE GENERATOR COIL ASSEMBLY

a. Remove the 4 bolts.

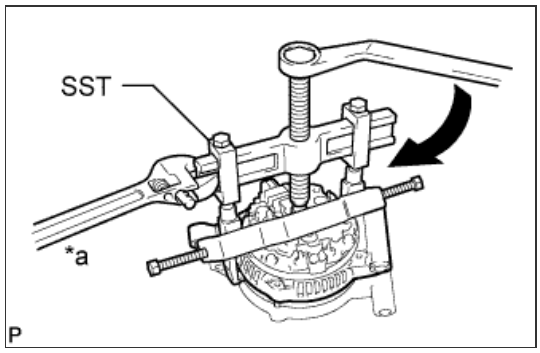



b. Using SST, remove the generator coil.

*SST*
09950-40011 (09951-04020, 09952-04010, 09953-04020, 09954-04010, 09955-04071, 09957-04010, 09958-04011)

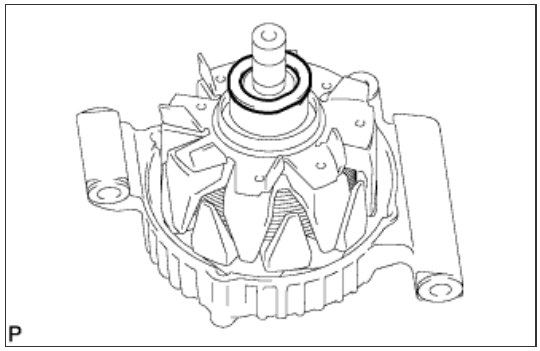
**Text in Illustration**

| | |
|---|---|
| *a | Hold |
| ➡ | Turn |

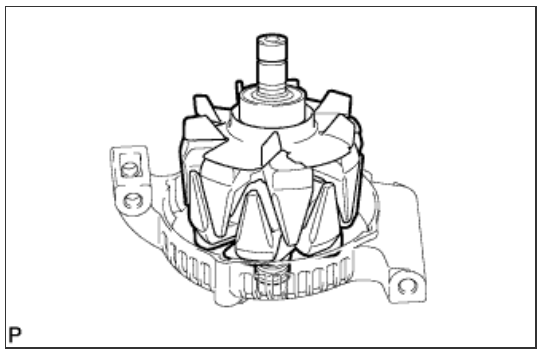



## 6. REMOVE GENERATOR ROTOR ASSEMBLY

a. Remove the generator washer.

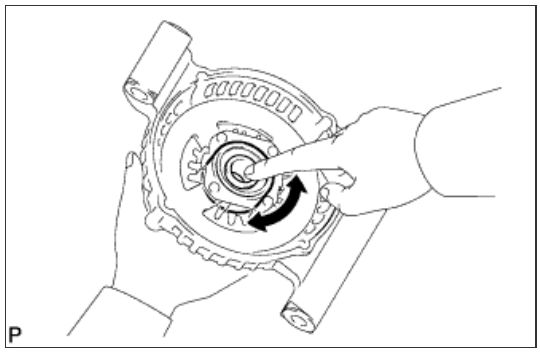



b. Remove the generator rotor.



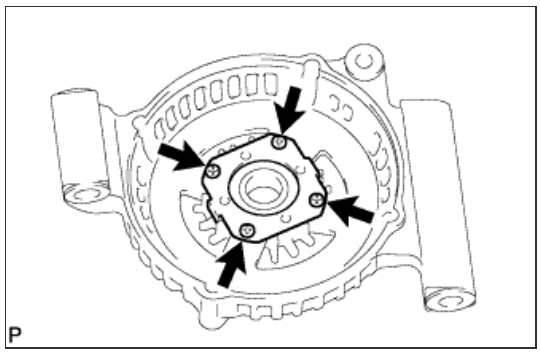

## 7. INSPECT GENERATOR DRIVE END FRAME BEARING

a. Check that the drive end frame bearing is not rough or worn.
If necessary, replace the generator drive end frame bearing.




## 8. REMOVE GENERATOR DRIVE END FRAME BEARING

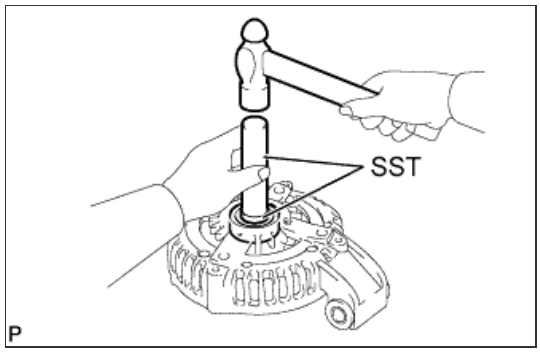
a. Remove the 4 screws and retainer plate.




b. Using SST and a hammer, tap out the drive end frame bearing.

*SST*

09950-60010 (09951-00250)
09950-70010 (09951-07100)



**for Preparation** Click here

## 1. INSPECT GENERATOR ROTOR ASSEMBLY

a. Check the resistance.

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

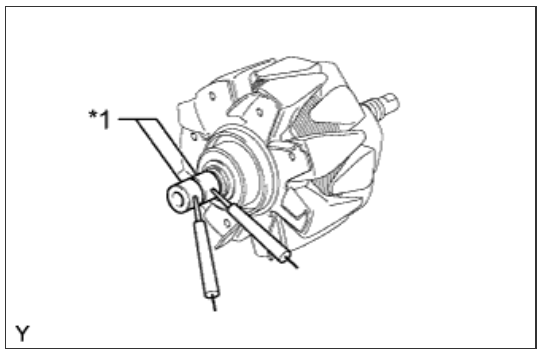
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Slip ring - Slip ring | 20°C (68°F) | 1.5 to 1.9 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Slip Ring |

If the result is not as specified, replace the generator rotor assembly.




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

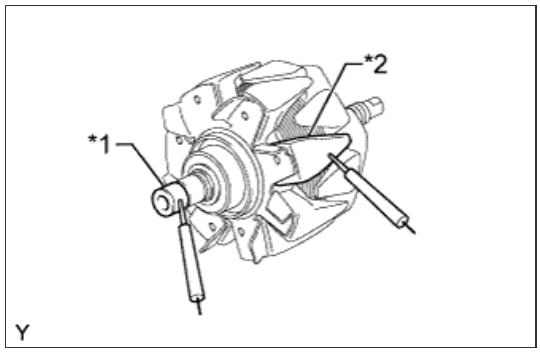
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Slip ring - Rotor core | Always | 10 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Slip Ring |
| *2 | Rotor Core |

If the result is not as specified, replace the generator rotor assembly.




b. Using a vernier caliper, measure the slip ring diameter.

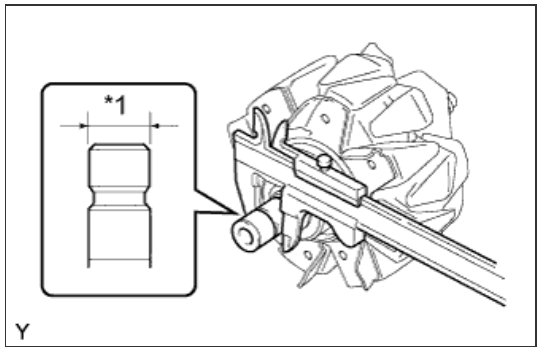
**Standard diameter:**
**14.2 to 14.8 mm (0.559 to 0.583 in.)**

**Minimum diameter:**
**14.0 mm (0.551 in.)**

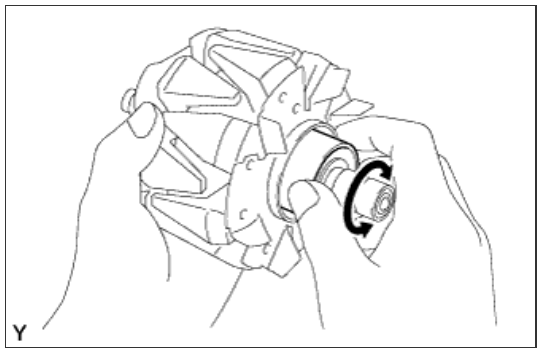
**Text in Illustration**

| | |
|---|---|
| *1 | Diameter |

If the diameter is less than the minimum, replace the generator rotor assembly.




c. Check that the generator rotor bearing is not rough or worn.
If necessary, replace the generator rotor assembly.

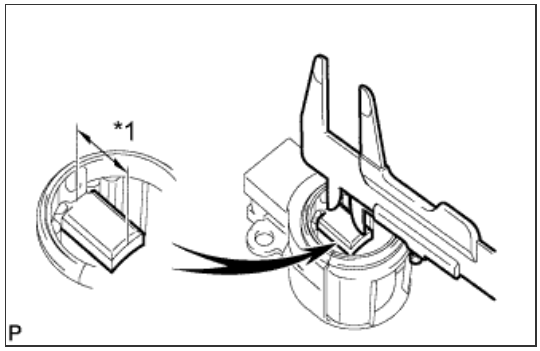



## 2. INSPECT GENERATOR BRUSH HOLDER ASSEMBLY

a. Using a vernier caliper, measure the brush length.

**Standard exposed length:**
**9.5 to 11.5 mm (0.374 to 0.453 in.)**

**Minimum exposed length:**
**4.5 mm (0.177 in.)**




**Text in Illustration**

| | |
|---|---|
| *1 | Length |

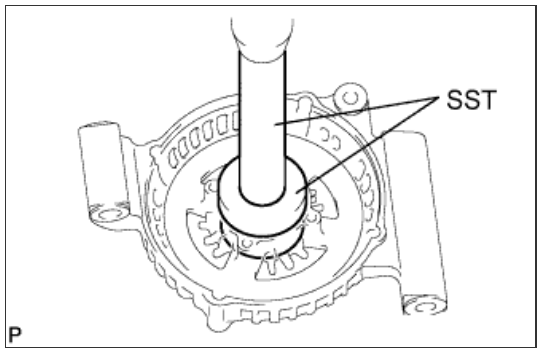
If the brush length is less than the minimum, replace the generator brush holder assembly.

**for Preparation** Click here

## 1. INSTALL GENERATOR DRIVE END FRAME BEARING

a. Using SST and a press, press in a new drive end frame bearing.

*SST*
09950-60010 (09951-00500)
09950-70010 (09951-07100)




b. Install the retainer plate with the 4 screws.

**Torque:**
**2.3 N*m{ 23 kgf*cm , 20 in.*lbf }**

## 2. INSTALL GENERATOR ROTOR ASSEMBLY

a. Install the generator rotor to the drive end frame.

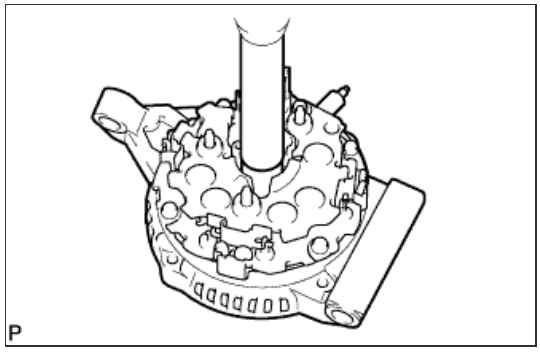
b. Place a new generator washer on the generator rotor.

## 3. INSTALL GENERATOR COIL ASSEMBLY

a. Using a 22 mm socket wrench and press, slowly press in the generator coil.

b. Install the 4 bolts.

**Torque:**
**5.9 N*m{ 60 kgf*cm , 52 in.*lbf }**

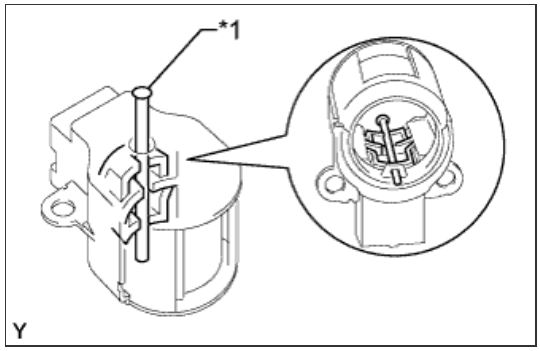



## 4. INSTALL GENERATOR BRUSH HOLDER ASSEMBLY

a. While pushing the 2 brushes into the brush holder, insert a pin with a diameter of 1.0 mm (0.0394 in.) into the brush holder hole.

**Text in Illustration**

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



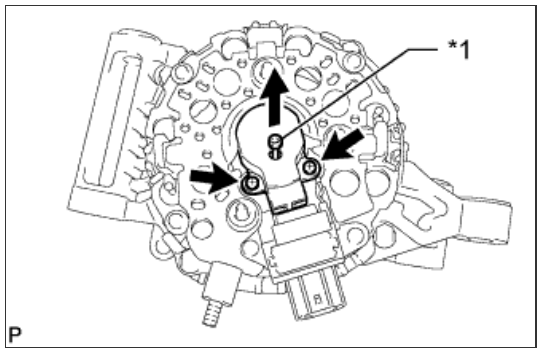

b. Install the brush holder with the 2 screws.

**Torque:**
**1.8 N*m{ 18 kgf*cm , 16 in.*lbf }**

c. Pull out the pin from the brush holder.

**Text in Illustration**

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




## 5. INSTALL TERMINAL INSULATOR

a. Install the terminal insulator to the generator coil.

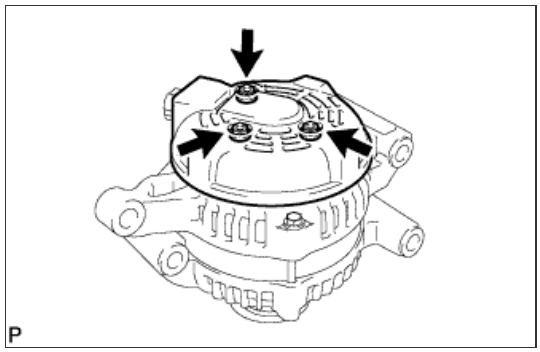
**NOTICE:**

Pay attention to the mounting orientation of the terminal insulator.

## 6. INSTALL GENERATOR REAR END COVER

a. Install the generator rear end cover with the 3 nuts.

**Torque:**
**4.6 N*m{ 46 kgf*cm , 40 in.*lbf }**




## 7. INSTALL GENERATOR PULLEY

a. Temporarily install the generator pulley with the pulley nut by hand.

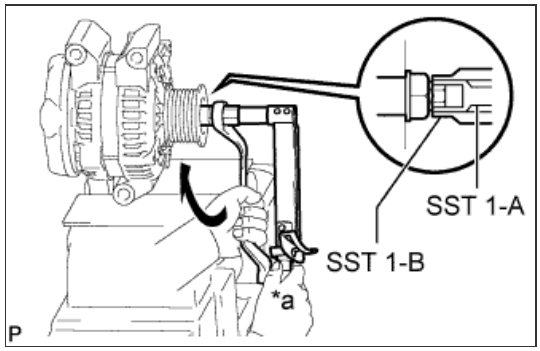
b. Mount the generator in a vise between aluminum plates.

c. Install SST 1-A to the pulley shaft.

***SST***
**09820-63011 (09820-06010, 09820-06021)**

**HINT:**

| | |
|---|---|
| SST 1-A and B | 09820-06010 |
| SST 2 | 09820-06021 |




d. Install SST 1-B to SST 1-A.

e. Hold SST 1-A with a torque wrench and turn SST 1-B clockwise with the specified torque.

**Torque:**
**39 N*m{ 398 kgf*cm , 29 ft.*lbf }**

**Text in Illustration**

| | |
|---|---|
| *a | Hold |
| ➡ | Turn |

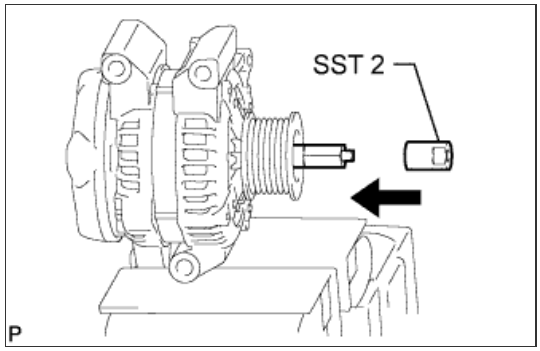
**NOTICE:**

Check that SST is secured to the rotor shaft.

f. Insert SST 2 and attach it to the pulley nut.

**Text in Illustration**

| | |
|---|---|
| ➡ | Insert |




g. Tighten the pulley nut by turning SST 1-A in the direction shown in the illustration.

**Torque:**

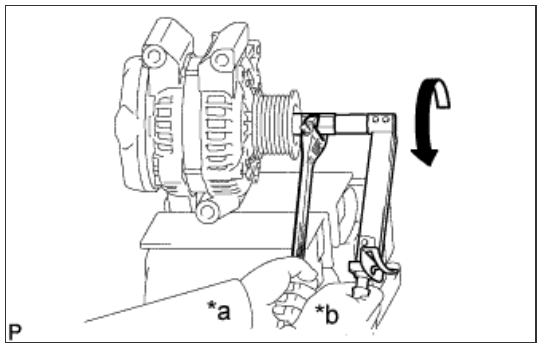
**133 N*m{ 1351 kgf*cm , 98 ft.*lbf }**

**Text in Illustration**

| | |
|---|---|
| *a | Hold |
| *b | Turn |

**HINT:**

Hold the adjustable wrench against the vise and tighten the nut securely.



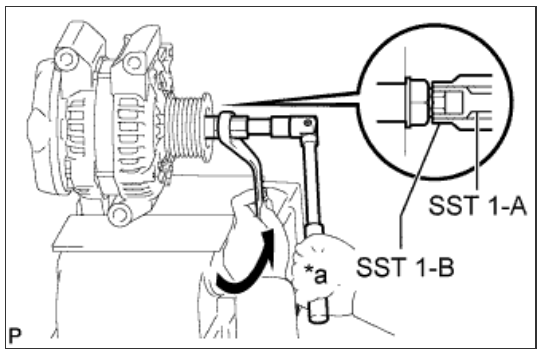

h. Remove SST 2 from the generator.

i. Turn SST 1-B, and then remove SST 1-A and B.

**Text in Illustration**

| | |
|---|---|
| *a | Hold |
| ➡ | Turn |

j. Turn the generator pulley and check that the pulley moves smoothly.



**for Preparation** Click here

## 1. INSTALL GENERATOR ASSEMBLY

a. Install the stud bolt.

**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**

b. Install the generator with the 3 bolts and nut.

**Torque:**
**43 N*m{ 438 kgf*cm , 32 ft.*lbf }**

c. Connect the harness bracket to the generator with the bolt.

**Torque:**
**31 N*m{ 316 kgf*cm , 23 ft.*lbf }**

d. Connect the generator wire with the nut.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**

e. Close the terminal cap.

f. Connect the generator connector.

## 2. CONNECT OIL COOLER TUBE

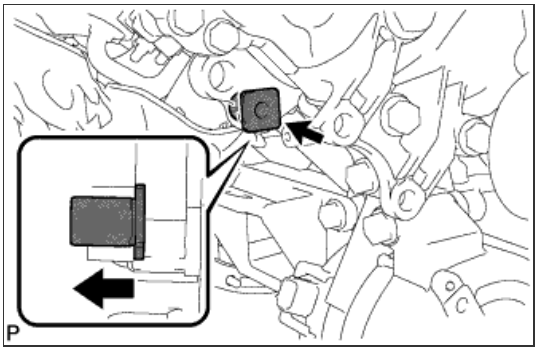
a. Connect the oil cooler tube with the 2 bolts.

**Torque:**
**14 N*m{ 143 kgf*cm , 10 ft.*lbf }**

## 3. CONNECT VANE PUMP ASSEMBLY

**HINT:**

Before performing the following procedures, move the spacer until the vane pump can be installed.




**Text in Illustration**

| | |
|---|---|
| | Spacer |

a. Connect the vane pump to the timing chain cover with the 2 bolts.

**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**

b. Connect the connector.

## 4. INSTALL AIR CLEANER CAP AND HOSE

a. Install the air cleaner cap and hose, and then tighten the hose clamp.

**Torque:**
**2.5 N*m{ 25 kgf*cm , 22 in.*lbf }**

b. Attach the 4 clamps.

c. Connect the mass air flow meter connector and attach the clamp.

d. Connect the No. 2 PCV hose and No. 1 air hose.

## 5. INSTALL FRONT FENDER APRON TRIM PACKING A

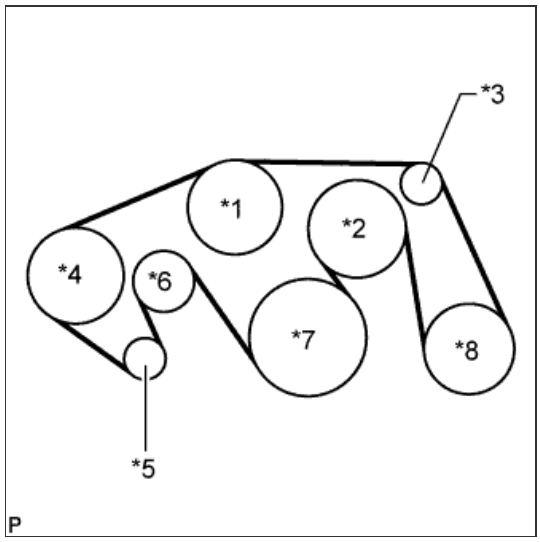
a. Install the front fender apron trim packing A with the 3 clips.

## 6. INSTALL FAN AND GENERATOR V BELT

a. Set the fan and generator V belt onto every part.

**Text in Illustration**

| | |
|---|---|
| *1 | Water Pump Pulley |
| *2 | Fan Pulley |
| *3 | No. 1 Idler Pulley |
| *4 | Vane Pump Pulley |
| *5 | Generator Pulley |
| *6 | V-ribbed Belt Tensioner |
| *7 | Crankshaft Pulley |
| *8 | Cooler Compressor Pulley |




b. While turning the belt tensioner counterclockwise, remove the pin.

**NOTICE:**

Make sure that the fan and generator V belt is properly set on each pulley.

c. Check that the belt fits properly in the ribbed grooves.

**HINT:**

Make sure to check by hand that the belt has not slipped out of the grooves on the bottom of the pulley.

## 7. INSTALL NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. Install the No. 1 engine under cover sub-assembly with the 10 bolts.

**Torque:**
**29 N*m{ 296 kgf*cm , 21 ft.*lbf }**

## 8. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. Push in the clip to install the front fender splash shield sub-assembly LH.

b. Install the 3 bolts and 2 screws.

## 9. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

**HINT:**

Use the same procedure described for the LH side.

## 10. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

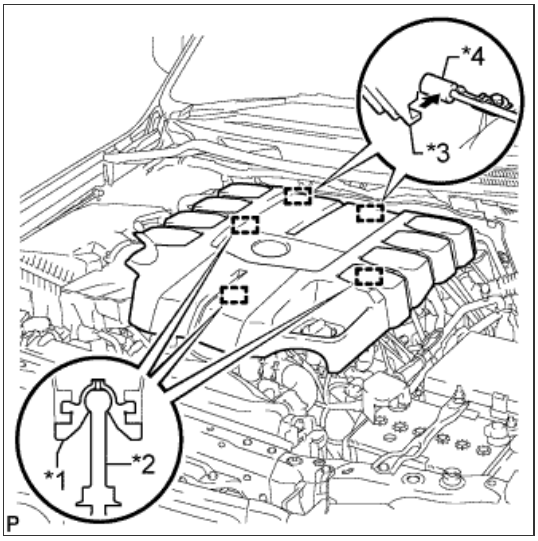
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 11. INSTALL V-BANK COVER SUB-ASSEMBLY

a. Attach the 2 V-bank cover hooks to the bracket. Then align the 3 V-bank cover grommets with the 3 pins, and press down on the V-bank cover to attach the pins.

**Text in Illustration**

| | |
|---|---|
| *1 | Grommet |
| *2 | Pin |
| *3 | Hook |
| *4 | Bracket |




## 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 LH with the 7 clips.

## 14. INSTALL ENGINE ROOM SIDE COVER RH

a. Install the engine room side cover RH with the 7 clips.

**for Preparation** Click here

## 1.PRECAUTION

a. Check that the battery cables are connected to the correct terminals.

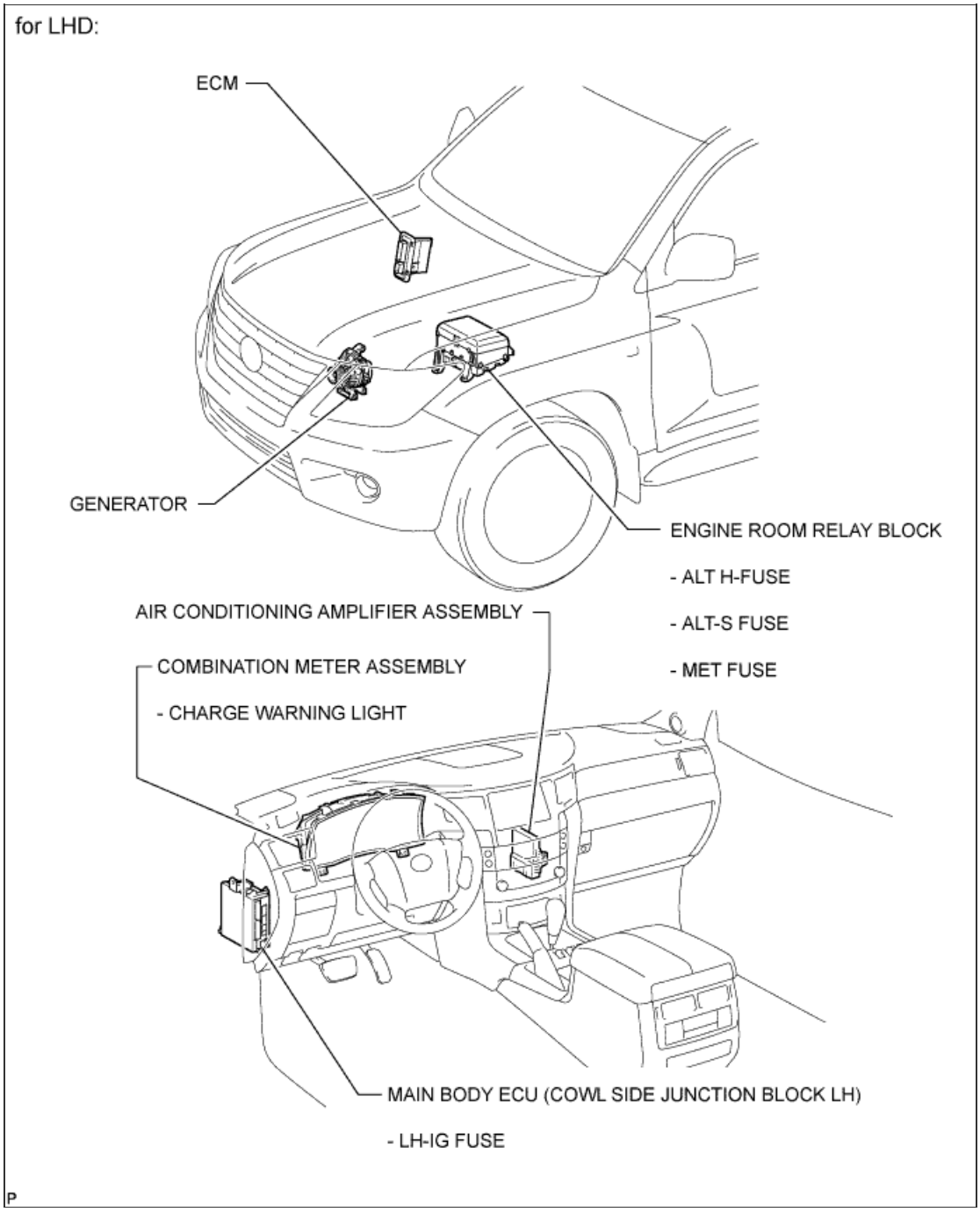
b. Disconnect the battery cables when the battery is given a quick charge.

c. Do not perform tests with a high voltage insulation resistance tester.

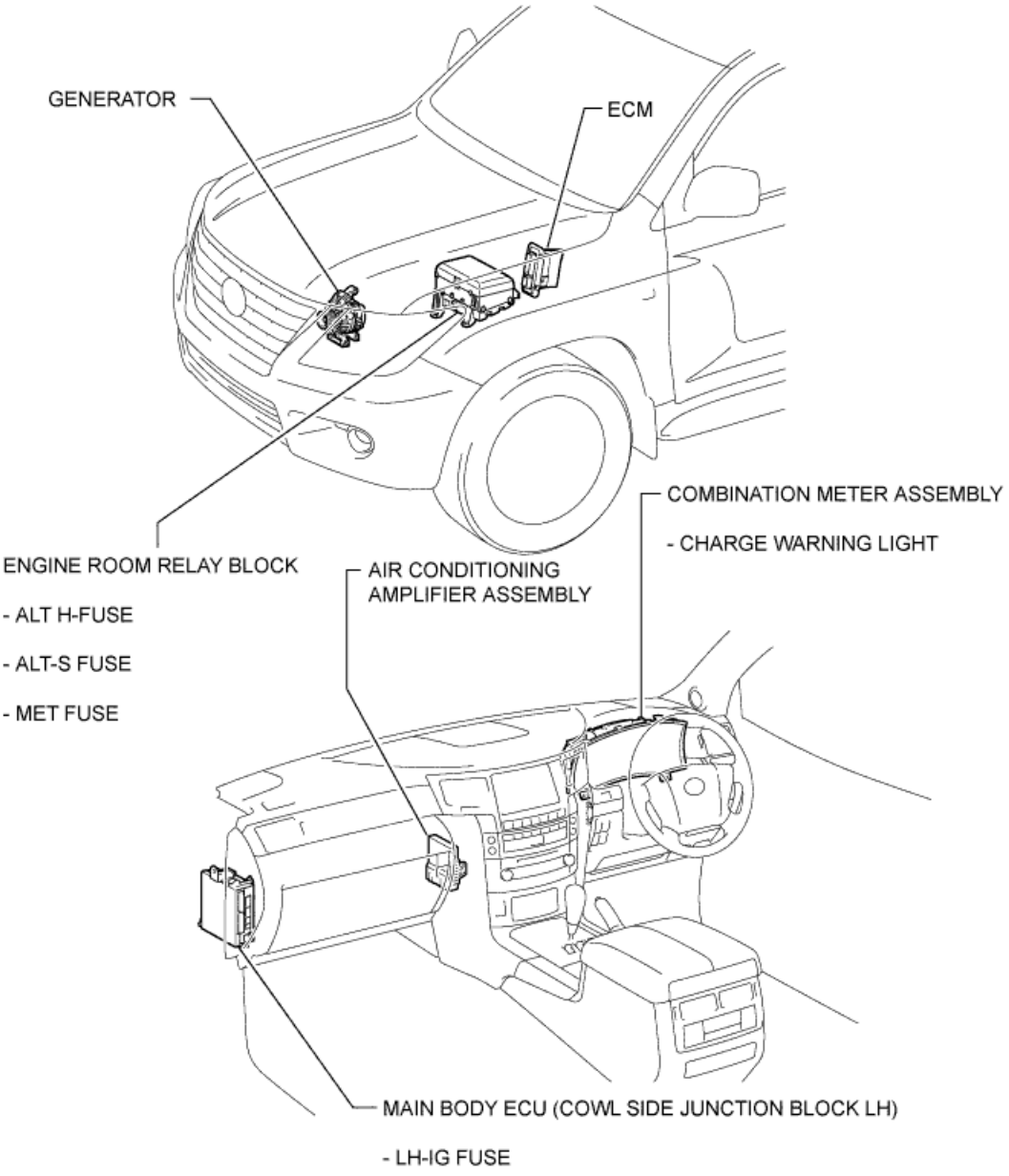
d. Never disconnect the battery while the engine is running.

e. Check that the charging cable nut is securely installed to terminal B of the generator and the fuse box.

**for Preparation** Click here

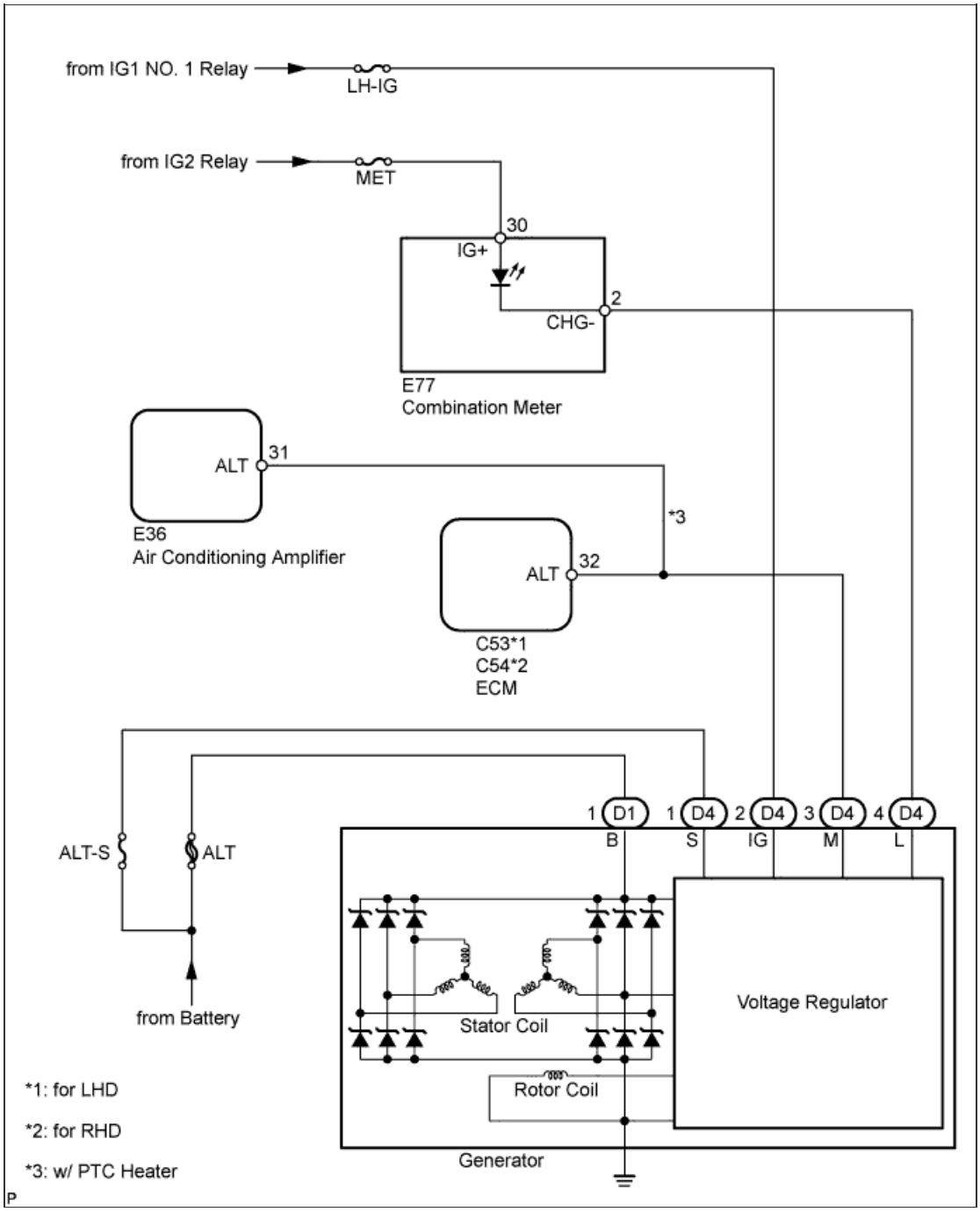


for RHD:

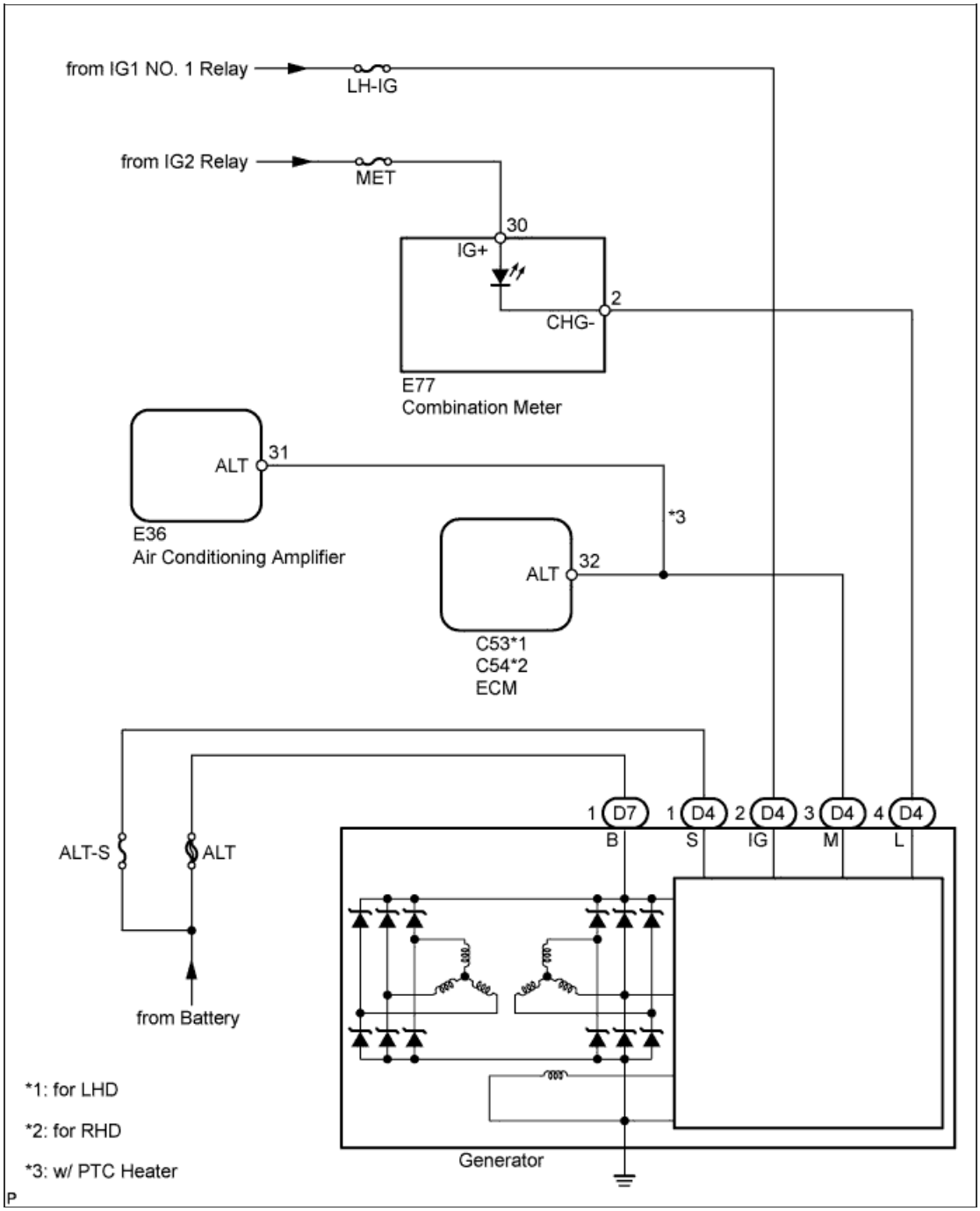

GENERATOR
ECM
COMBINATION METER ASSEMBLY
- CHARGE WARNING LIGHT
ENGINE ROOM RELAY BLOCK
- ALT H-FUSE
- ALT-S FUSE
- MET FUSE
AIR CONDITIONING
AMPLIFIER ASSEMBLY
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- LH-IG FUSE

P

**for Preparation** Click here



**for Preparation** Click here



**for Preparation** Click here

## 1. CHECK BATTERY CONDITION

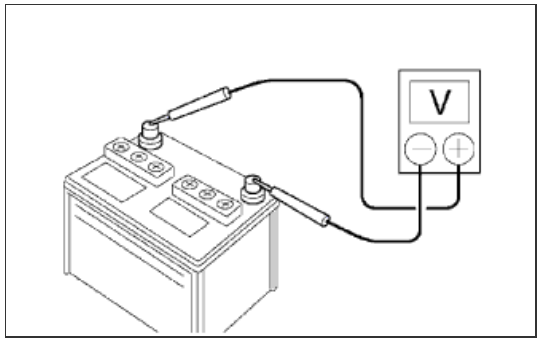
**NOTICE:**

If the battery is weak or if the engine is difficult to start, perform the following procedures.

a. Check the battery for damage and deformation. If severe damage, deformation or leakage is found, replace the battery.

b. Turn the engine switch off and turn on the headlight for 20 to 30 seconds. This will remove the surface charge from the battery.

c. Measure the battery voltage between the negative (-) and positive (+) terminals of the battery.




**Standard voltage:**
**12.5 to 12.9 V at 20°C (68°F)**

**HINT:**

If the voltage is below the specification, recharge the battery.

d. Check the electrolyte quantity of each cell.

i. For maintenance-free batteries:

- If the electrolyte quantity is below the lower line, replace the battery.
- If the electrolyte quantity is above the lower line, check the battery voltage when cranking the engine. If the voltage is below 9.6 V, recharge or replace the battery.

**HINT:**

Before checking the battery voltage, turn off all the electrical systems (headlights, blower motor, rear defogger, etc.).

ii. For non-maintenance-free batteries:

- If the electrolyte quantity is below the lower line, add distilled water to each cell. Then, recharge the battery and check the electrolyte specific gravity.

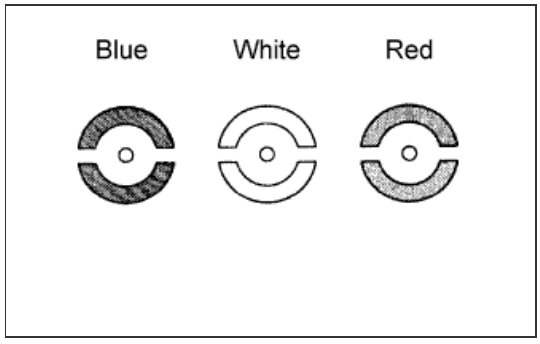
**Standard specific gravity:**
**1.25 to 1.29 at 20°C (68°F)**

- If the electrolyte quantity is above the lower line, check the battery voltage when cranking the engine. If the voltage is below 9.6 V, recharge or replace the battery.

**HINT:**

Before checking the battery voltage, turn off all the electrical systems (headlights, blower motor, rear defogger, etc.).

e. Reference:
The indicator shows the battery condition.




**HINT:**

- **Blue: OK**
- **White: Charging necessary**
- **Red: Insufficient electrolyte**

## 2. INSPECT BATTERY TERMINAL AND FUSE

a. Visually check the battery terminals.

i. Check that the battery terminals are not loose or corroded.

b. Check the H-fuse and fuses.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| ALT H-fuse | Always | Below 1 Ω |
| ALT-S fuse | | |
| MET fuse | | |
| LH-IG fuse | | |

If the result is not as specified, replace the fuses as necessary.

## 3. INSPECT V-RIBBED BELT

a. Check the belt (Click here).

## 4. INSPECT GENERATOR WIRING

a. Visually check the generator wiring.

i. Check that the wiring is in good condition.

## 5. CHECK FOR ABNORMAL NOISES

a. Listen for abnormal noises from the generator.

i. Check that no abnormal noises are heard from the generator while the engine is running.

## 6. INSPECT CHARGE WARNING LIGHT CIRCUIT

a. Turn the engine switch on (IG). Check that the charge warning light comes on.

b. Start the engine and check that the light goes off.
If the light does not operate as specified, troubleshoot the charge warning light circuit.

## 7. INSPECT CHARGING CIRCUIT WITHOUT LOAD

a. Connect a voltmeter and ammeter to the charging circuit as follows:

i. Disconnect the wire from terminal B of the generator, then connect it to the negative (-) lead of an ammeter.

ii. Connect the positive (+) lead of the ammeter to terminal B of the generator.

iii. Connect the positive (+) lead of a voltmeter to the positive (+) terminal of the battery.

iv. Ground the negative (-) lead of the voltmeter.

b. Check the charging circuit.

i. Keep the engine speed at 2000 rpm and check the reading on the

ammeter and voltmeter.

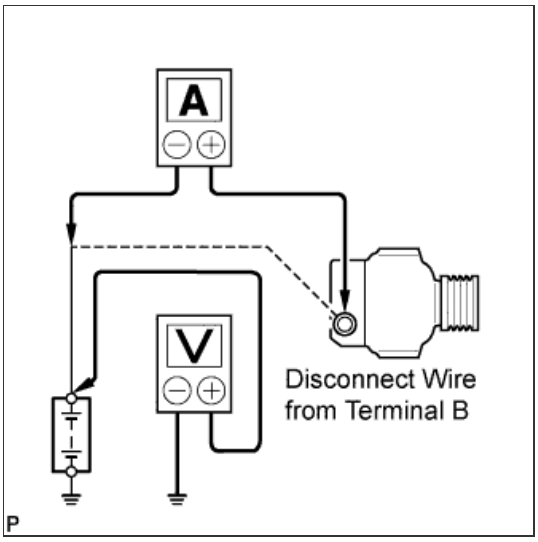
**Standard current:**
**10 A or less**

**Standard voltage:**
**13.2 to 14.8 V**

If the voltmeter reading is more than the standard voltage, replace the voltage regulator.

**HINT:**

If the battery is not fully charged, the ammeter reading will sometimes be higher than the standard amperage.




## 8. INSPECT CHARGING CIRCUIT WITH LOAD

a. With the engine running at 2000 rpm, turn the high beam headlights on and turn the heater blower switch to the "HI" position.

b. Check the reading on the ammeter.

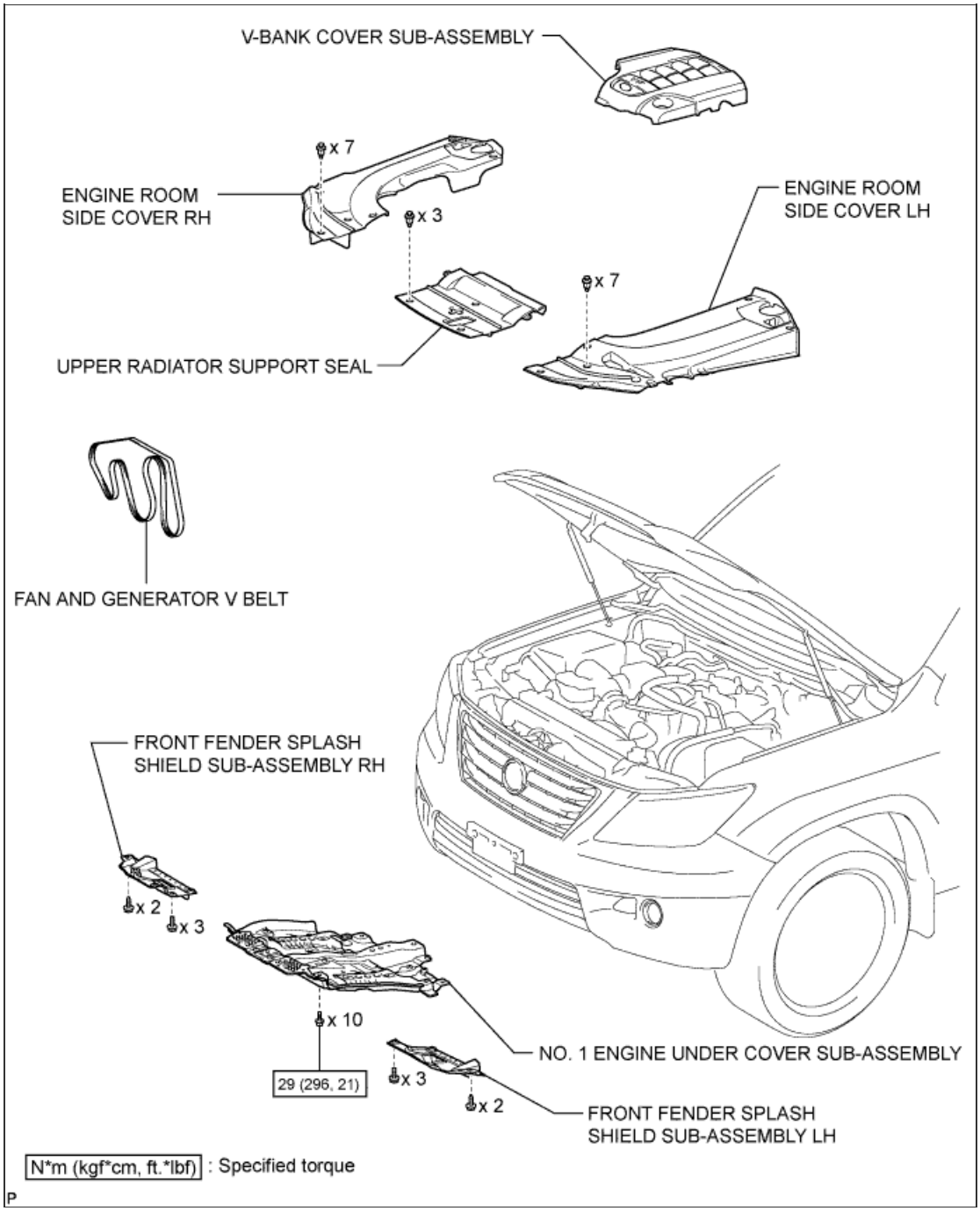
**Standard current:**
**30 A or higher**

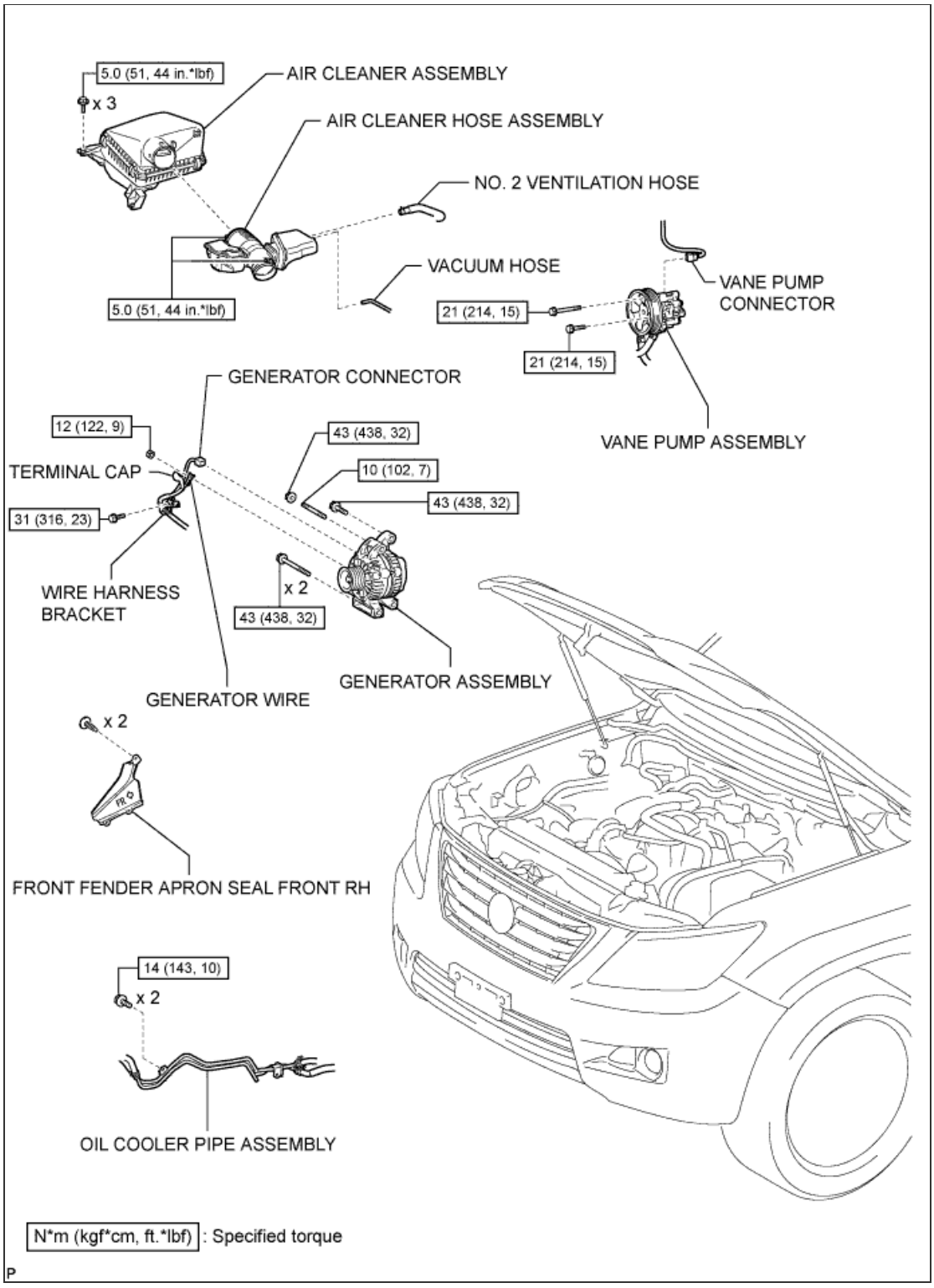
If the ammeter reading is below the standard amperage, repair the generator.

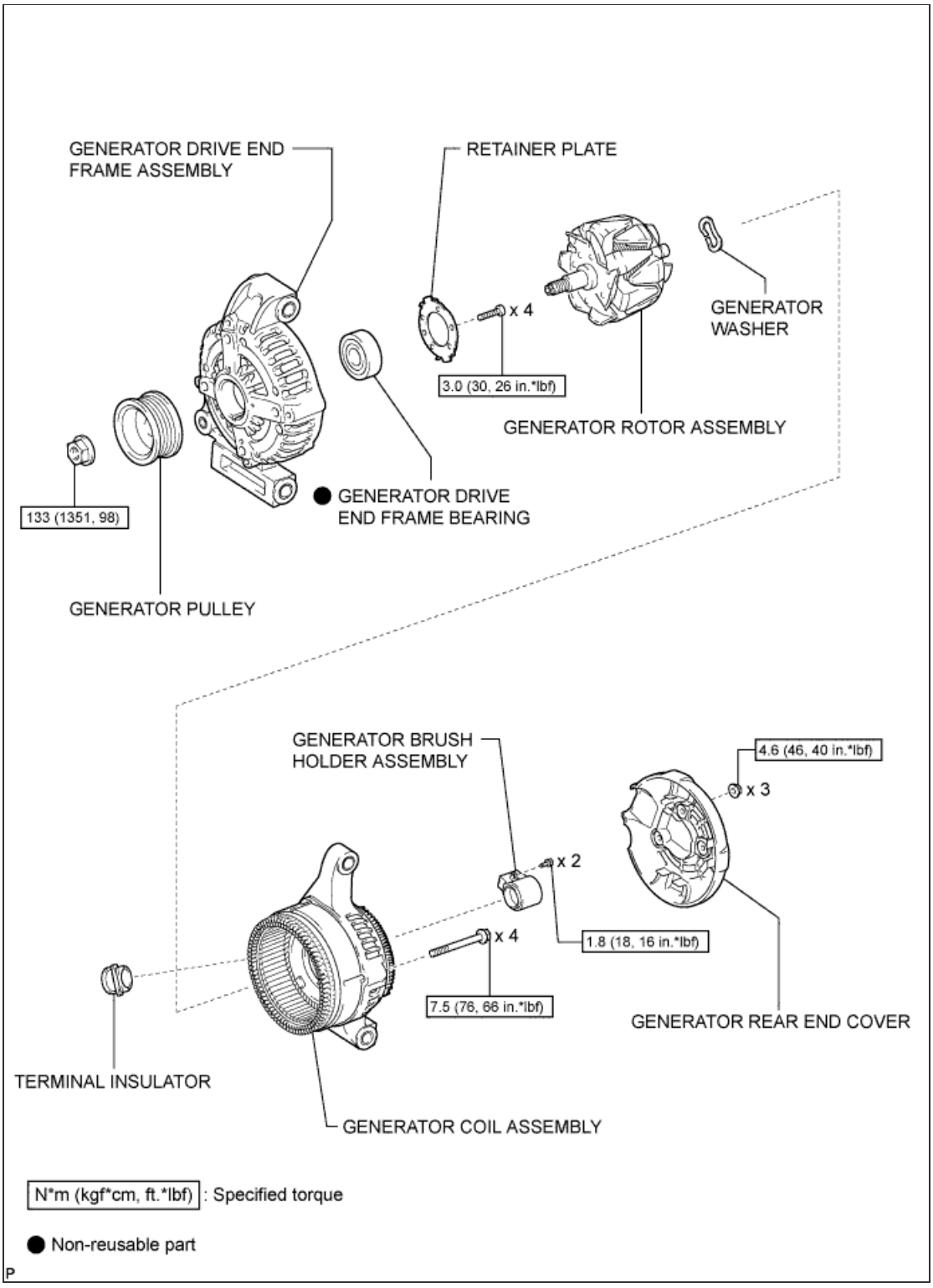
**HINT:**

If the battery is fully charged, the indication will sometimes be below the standard amperage. If this is the case, add more electrical load (operate the wipers, rear window defogger, etc.) and check the reading on the ammeter again.

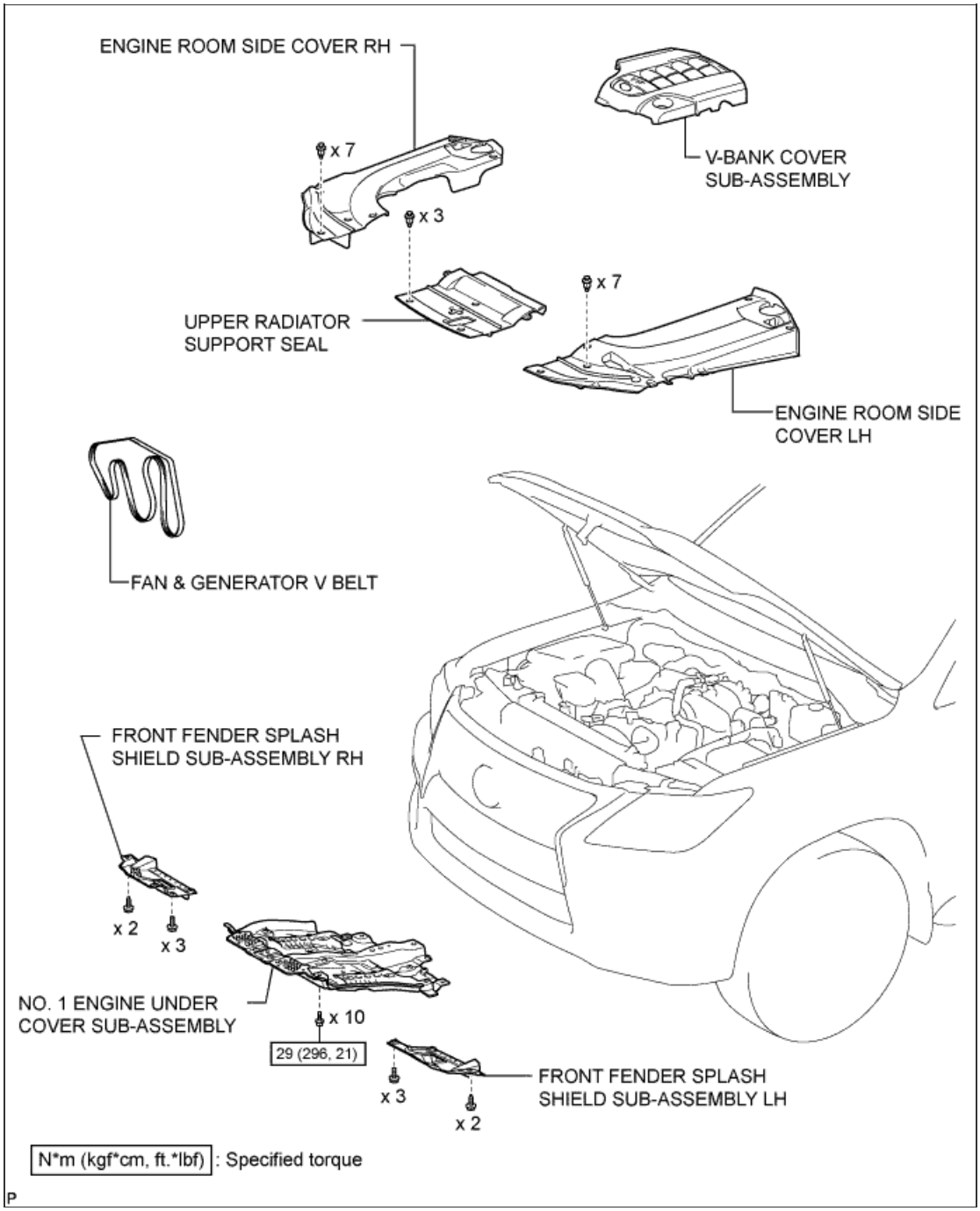
**for Preparation** [Click here]

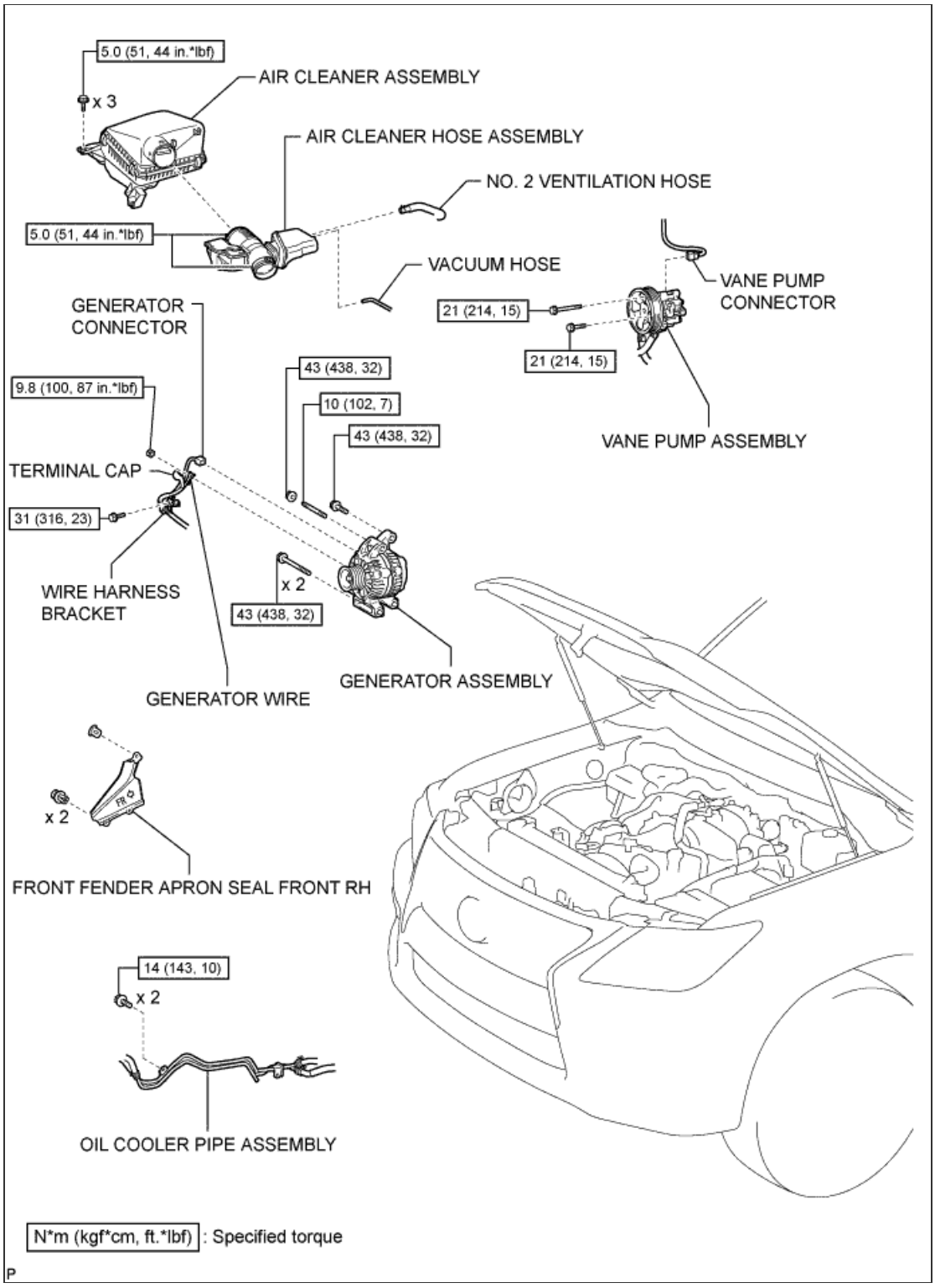


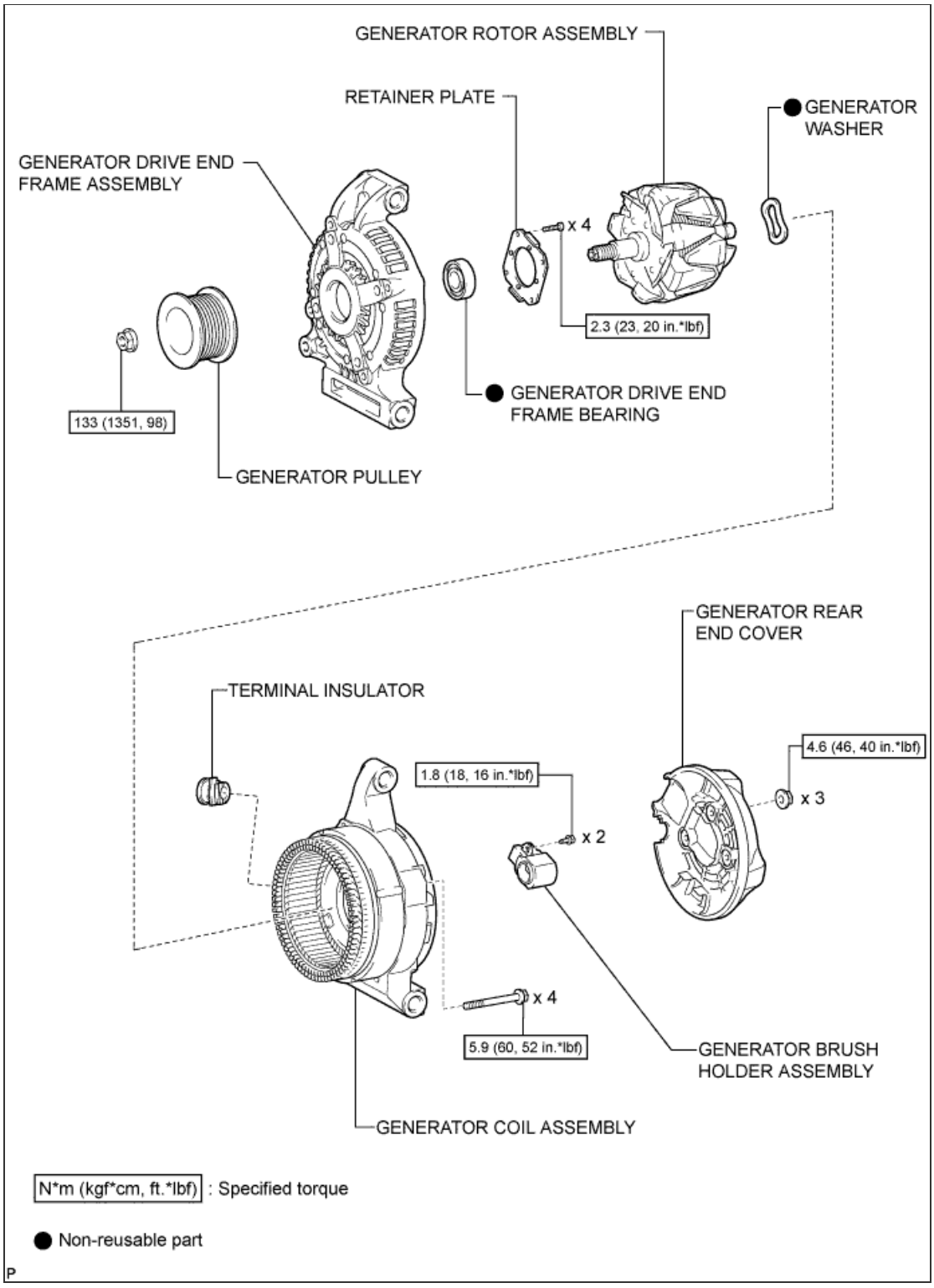

5.0 (51, 44 in.*lbf)
x 3
AIR CLEANER ASSEMBLY
AIR CLEANER HOSE ASSEMBLY
NO. 2 VENTILATION HOSE
VACUUM HOSE
5.0 (51, 44 in.*lbf)
21 (214, 15)
21 (214, 15)
VANE PUMP CONNECTOR
VANE PUMP ASSEMBLY
GENERATOR CONNECTOR
12 (122, 9)
TERMINAL CAP
31 (316, 23)
43 (438, 32)
10 (102, 7)
43 (438, 32)
WIRE HARNESS BRACKET
x 2
43 (438, 32)
GENERATOR ASSEMBLY
GENERATOR WIRE
x 2
FRONT FENDER APRON SEAL FRONT RH
14 (143, 10)
x 2
OIL COOLER PIPE ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
P


GENERATOR DRIVE END FRAME ASSEMBLY
RETAINER PLATE
x 4
3.0 (30, 26 in.*lbf)
GENERATOR WASHER
GENERATOR ROTOR ASSEMBLY
133 (1351, 98)
GENERATOR DRIVE END FRAME BEARING
GENERATOR PULLEY
GENERATOR BRUSH HOLDER ASSEMBLY
4.6 (46, 40 in.*lbf)
x 3
x 2
x 4
1.8 (18, 16 in.*lbf)
7.5 (76, 66 in.*lbf)
GENERATOR REAR END COVER
TERMINAL INSULATOR
GENERATOR COIL ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
P

**for Preparation** Click here



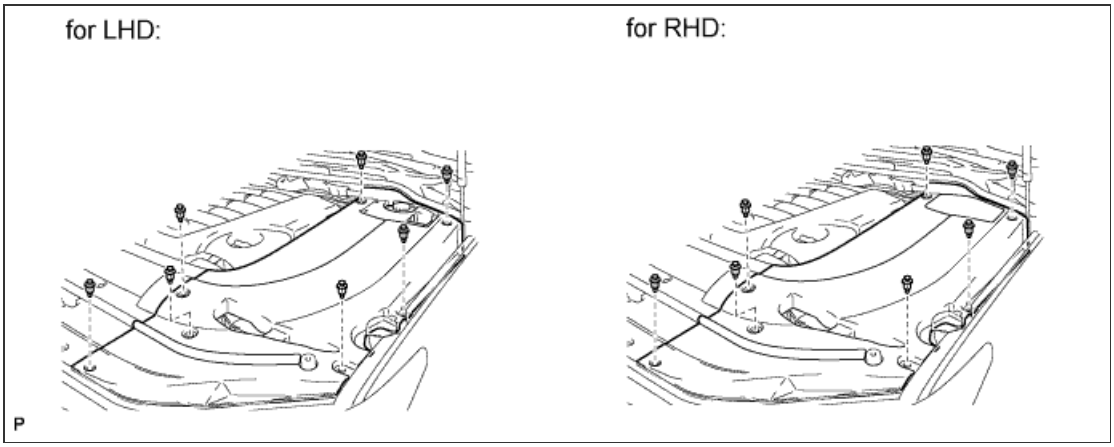

5.0 (51, 44 in.*lbf)
x 3
AIR CLEANER ASSEMBLY
AIR CLEANER HOSE ASSEMBLY
NO. 2 VENTILATION HOSE
5.0 (51, 44 in.*lbf)
VACUUM HOSE
VANE PUMP CONNECTOR
21 (214, 15)
21 (214, 15)
GENERATOR CONNECTOR
43 (438, 32)
10 (102, 7)
43 (438, 32)
9.8 (100, 87 in.*lbf)
VANE PUMP ASSEMBLY
TERMINAL CAP
31 (316, 23)
x 2
43 (438, 32)
WIRE HARNESS BRACKET
GENERATOR ASSEMBLY
GENERATOR WIRE
x 2
FRONT FENDER APRON SEAL FRONT RH
14 (143, 10)
x 2
OIL COOLER PIPE ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
P


GENERATOR ROTOR ASSEMBLY
RETAINER PLATE
GENERATOR WASHER
GENERATOR DRIVE END FRAME ASSEMBLY
x 4
2.3 (23, 20 in.*lbf)
133 (1351, 98)
GENERATOR DRIVE END FRAME BEARING
GENERATOR PULLEY
GENERATOR REAR END COVER
TERMINAL INSULATOR
4.6 (46, 40 in.*lbf)
x 3
1.8 (18, 16 in.*lbf)
x 2
x 4
5.9 (60, 52 in.*lbf)
GENERATOR BRUSH HOLDER ASSEMBLY
GENERATOR COIL ASSEMBLY
N*m (kgf*cm, ft.*lbf) : Specified torque
Non-reusable part
P

**for Preparation** Click here

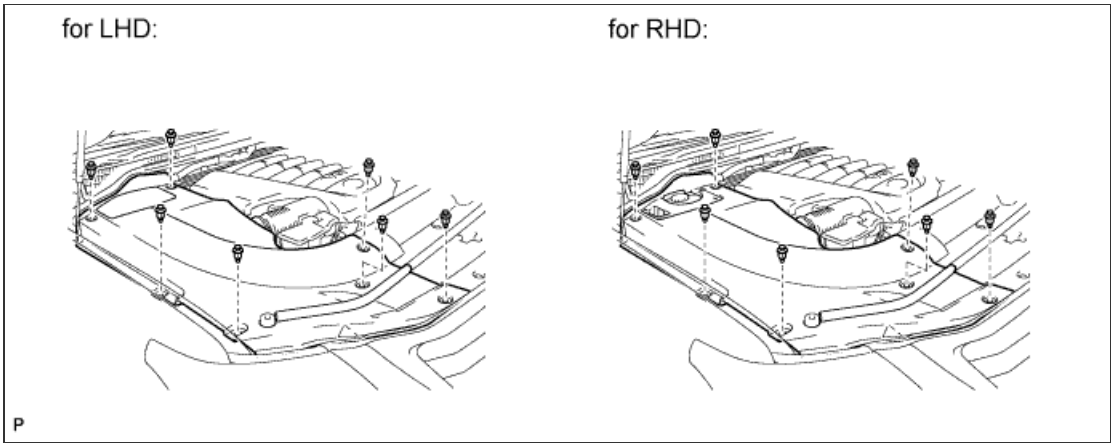
## 1. REMOVE ENGINE ROOM SIDE COVER LH

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



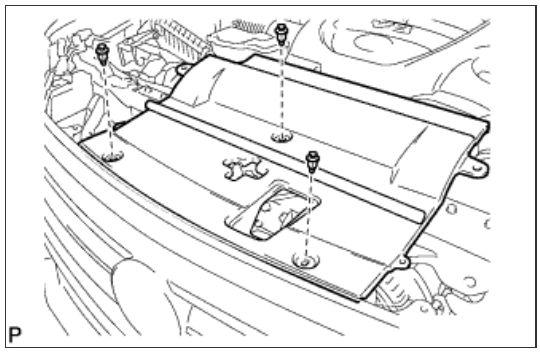

## 2. REMOVE ENGINE ROOM SIDE COVER RH

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



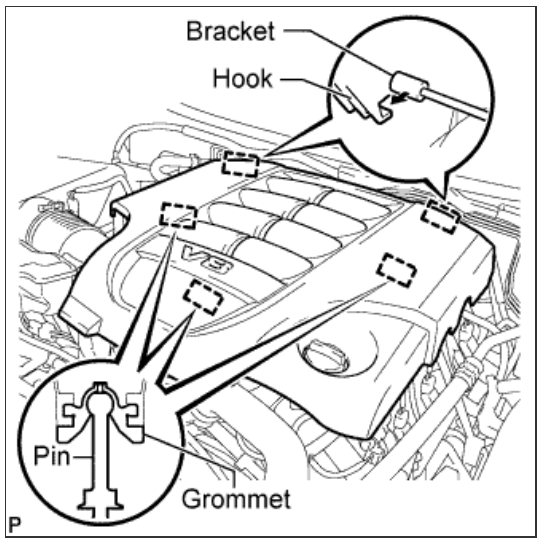

## 3. REMOVE UPPER RADIATOR SUPPORT SEAL

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



## 4. REMOVE V-BANK COVER SUB-ASSEMBLY

a. Raise the front of the V-bank cover to detach the 3 pins. Then remove the 2 V-bank cover hooks from the bracket, and remove the V-bank cover.




## 5. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

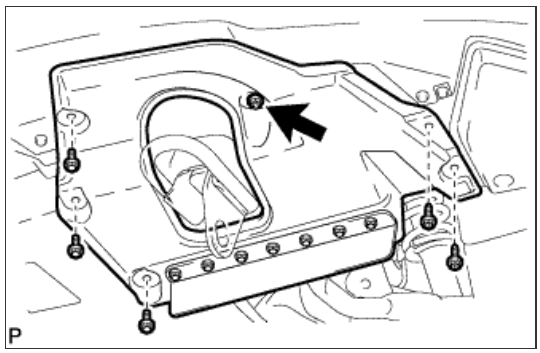
**NOTICE:**

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

## 6. 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.



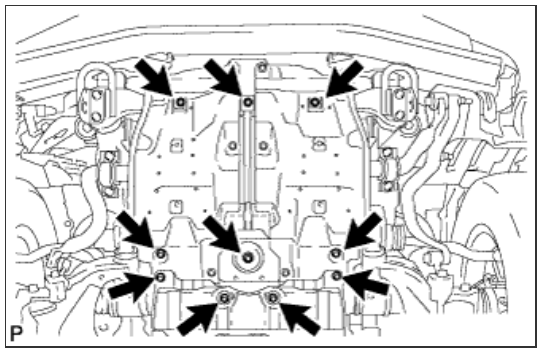
## 7. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

**HINT:**

Use the same procedures described for the LH side.

## 8. REMOVE NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. Remove the 10 bolts and No. 1 engine under cover.



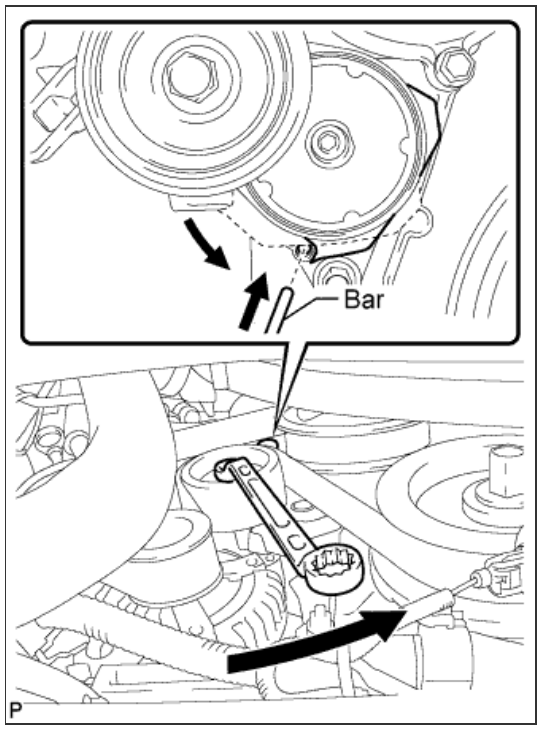

## 9. REMOVE FAN & GENERATOR V BELT

a. While turning the belt tensioner counterclockwise, align the service hole for the belt tensioner and the belt tensioner fixing position, and then insert a bar of φ5 mm (0.197 in.) into the service hole to fix the belt tensioner in place.

**HINT:**

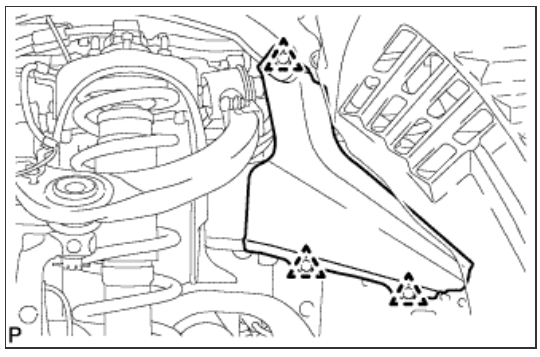
The pulley bolt for the belt tensioner has a left-hand thread.

b. Remove the V belt.




## 10. REMOVE FRONT FENDER APRON SEAL FRONT RH

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

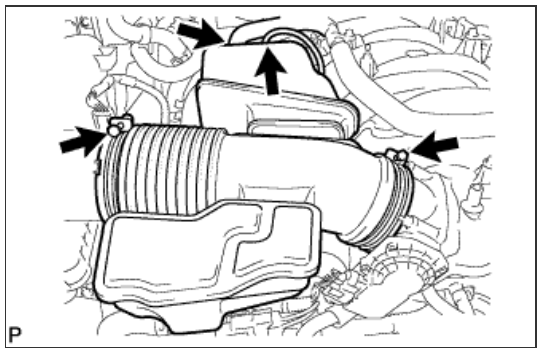



## 11. REMOVE AIR CLEANER HOSE ASSEMBLY

a. Disconnect the vacuum hose and No. 2 ventilation hose.

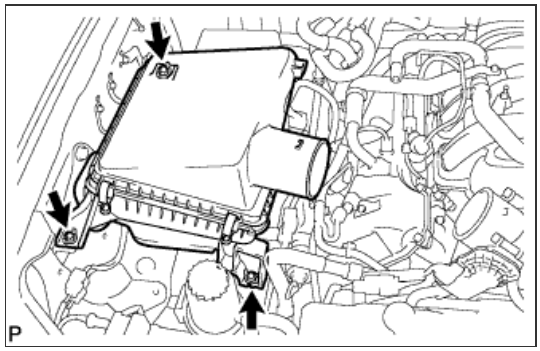
b. Loosen the 2 hose clamps.

c. Remove the air cleaner hose.



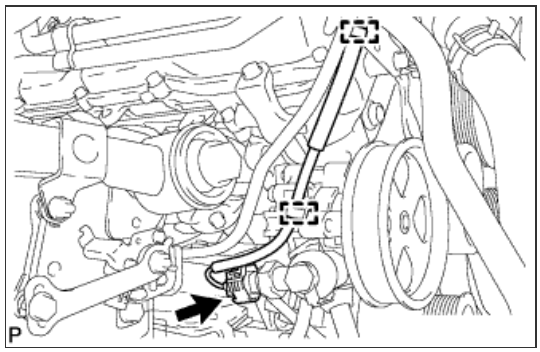

## 12. REMOVE AIR CLEANER ASSEMBLY

a. Remove the 3 bolts and air cleaner.

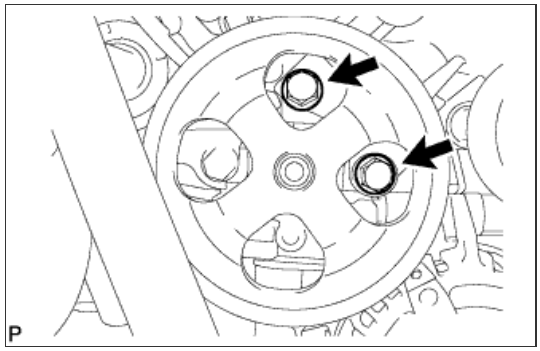



## 13. DISCONNECT VANE PUMP ASSEMBLY

a. Disconnect the 2 clamps and power steering oil pressure switch connector.

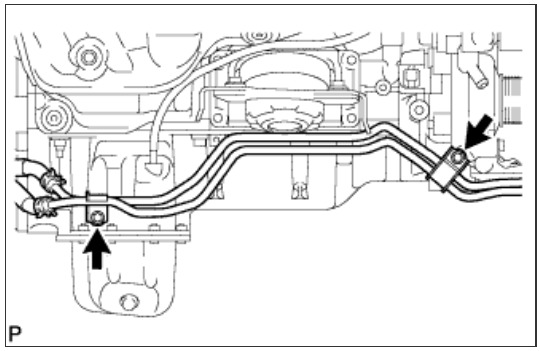



b. Remove the 2 bolts and disconnect the vane pump.




## 14. DISCONNECT OIL COOLER PIPE ASSEMBLY

a. Remove the 2 bolts and disconnect the oil cooler pipe.

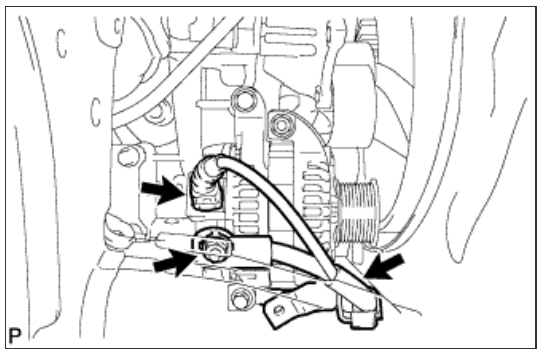



## 15. REMOVE GENERATOR ASSEMBLY

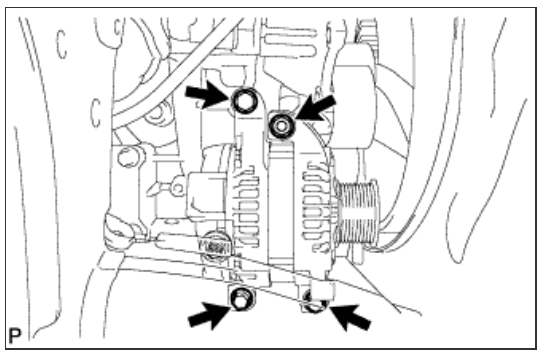
a. Disconnect the generator connector.

b. Remove the terminal cap and nut, and disconnect the generator wire.

c. Remove the bolt and wire harness bracket from the generator.



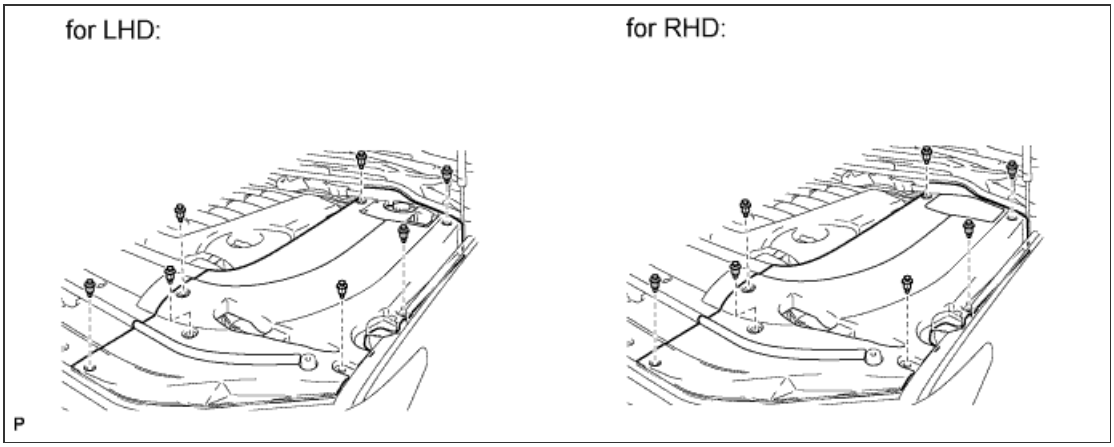

d. Remove the 3 bolts, nut and generator.



**for Preparation** Click here

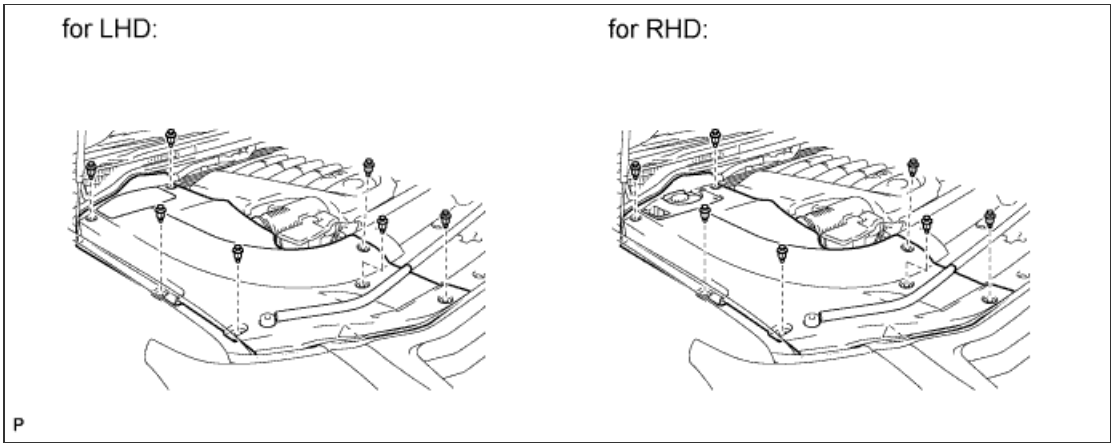
## 1. REMOVE ENGINE ROOM SIDE COVER LH

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



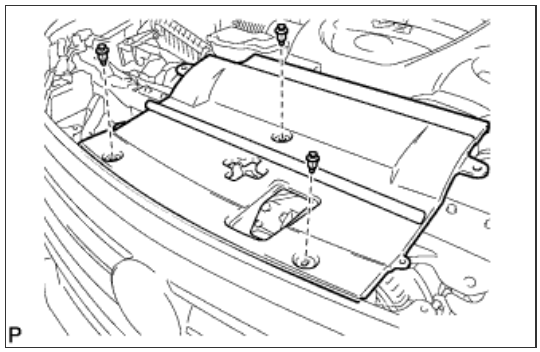

## 2. REMOVE ENGINE ROOM SIDE COVER RH

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



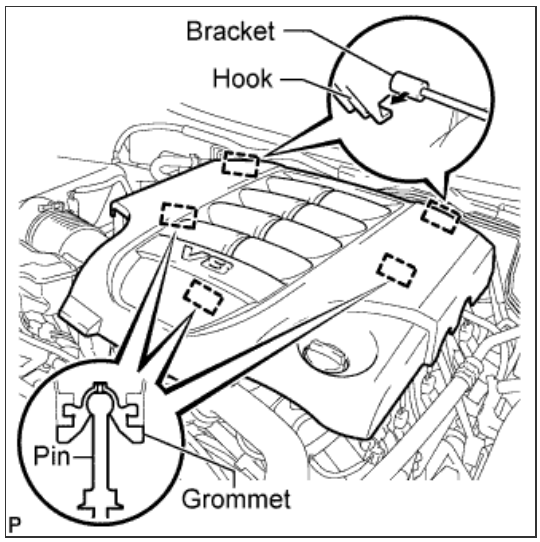

## 3. REMOVE UPPER RADIATOR SUPPORT SEAL

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



## 4. REMOVE V-BANK COVER SUB-ASSEMBLY

a. Raise the front of the V-bank cover to detach the 3 pins. Then remove the 2 V-bank cover hooks from the bracket, and remove the V-bank cover.




## 5. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

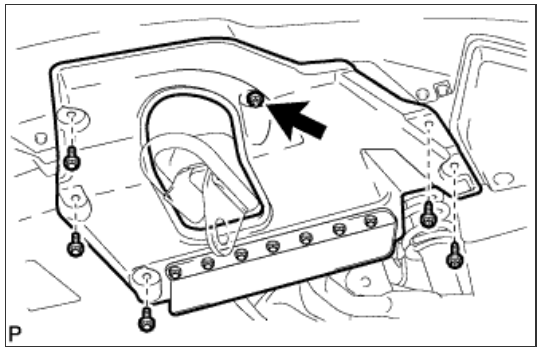
**NOTICE:**

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

## 6. 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 front fender splash shield sub-assembly LH.



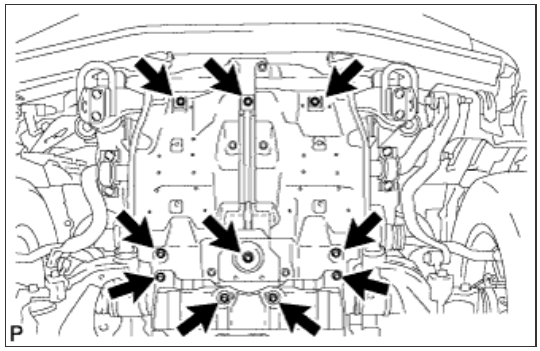
## 7. REMOVE FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

**HINT:**

Use the same procedure described for the LH side.

## 8. REMOVE NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. Remove the 10 bolts and No. 1 engine under cover.



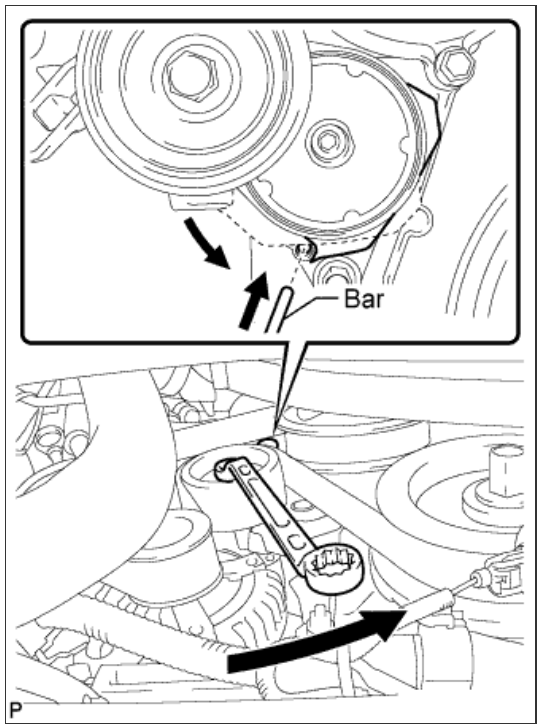

## 9. REMOVE FAN & GENERATOR V BELT

a. While turning the belt tensioner counterclockwise, align the service hole for the belt tensioner and the belt tensioner fixing position, and then insert a bar of φ5 mm (0.197 in.) into the service hole to fix the belt tensioner in place.

**HINT:**

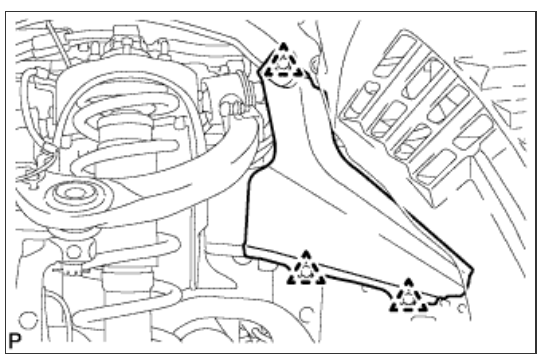
The pulley bolt for the belt tensioner has a left-hand thread.

b. Remove the V belt.




## 10. REMOVE FRONT FENDER APRON SEAL FRONT RH

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

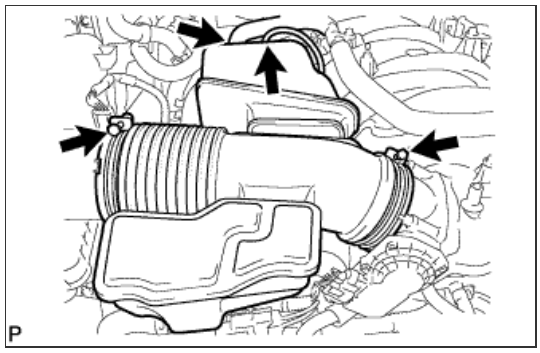


## 11. REMOVE AIR CLEANER HOSE ASSEMBLY

a. Disconnect the vacuum hose and No. 2 ventilation hose.

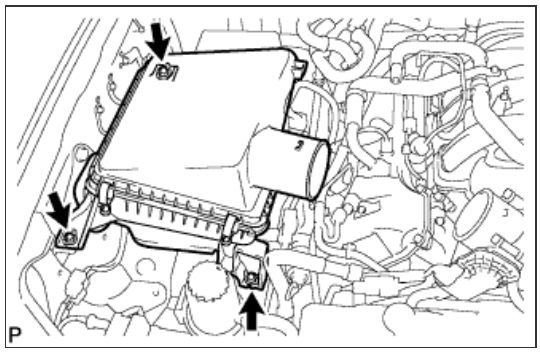
b. Loosen the 2 hose clamps.

c. Remove the air cleaner hose.



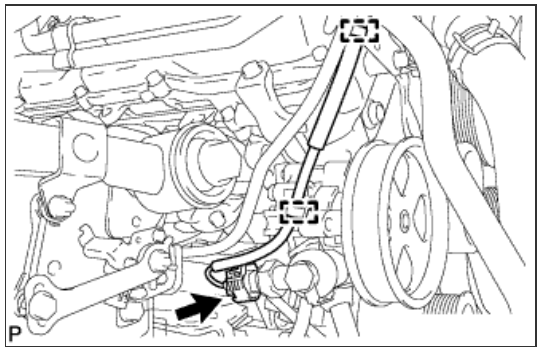

## 12. REMOVE AIR CLEANER ASSEMBLY

a. Remove the 3 bolts and air cleaner.

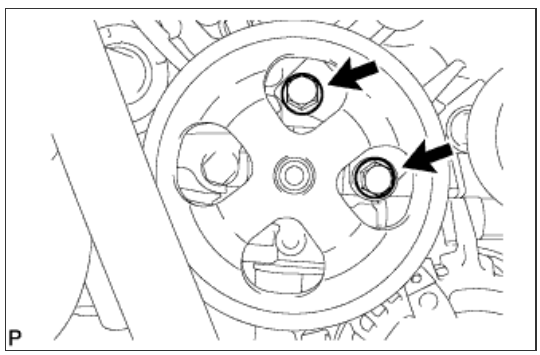



## 13. DISCONNECT VANE PUMP ASSEMBLY

a. Disconnect the 2 clamps and power steering oil pressure switch connector.

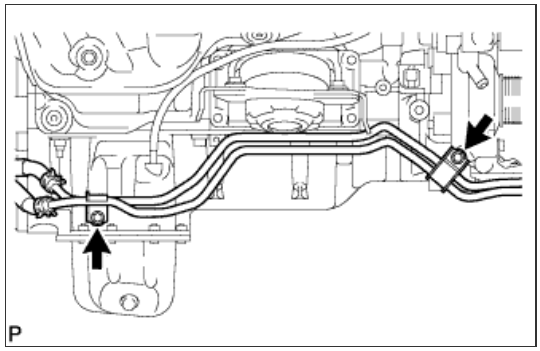



b. Remove the 2 bolts and disconnect the vane pump.




## 14. DISCONNECT OIL COOLER PIPE ASSEMBLY

a. Remove the 2 bolts and disconnect the oil cooler pipe.



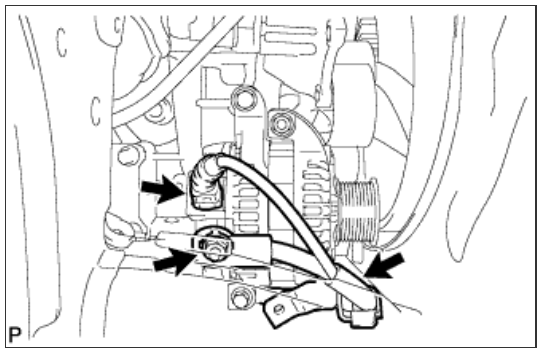

## 15. REMOVE GENERATOR ASSEMBLY

a. Disconnect the generator connector.

b. Open the terminal cap.

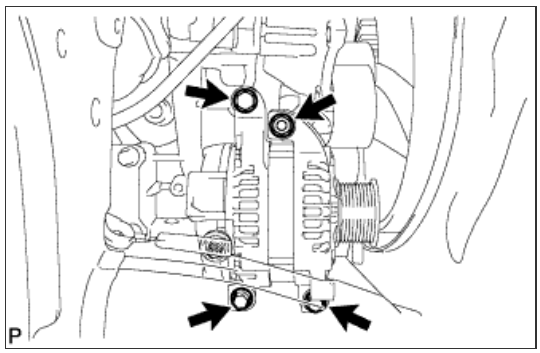
c. Remove the nut and disconnect the generator wire.

d. Remove the bolt and disconnect the wire harness bracket from the generator.




e. Remove the 3 bolts, nut and generator.

f. Remove the stud bolt.



**for Preparation** Click here

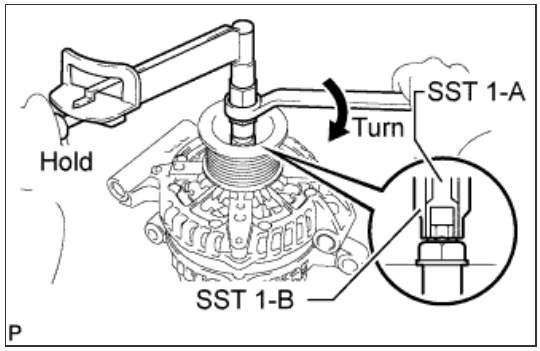
## 1. REMOVE GENERATOR PULLEY

*SST*
09820-63011 (09820-06010, 09820-06021)

**HINT:**

| | |
|---|---|
| SST 1-A and B | 09820-06010 |
| SST 2 | 09820-06021 |

a. Hold SST 1-A with a torque wrench, and tighten SST 1-B clockwise to the specified torque.



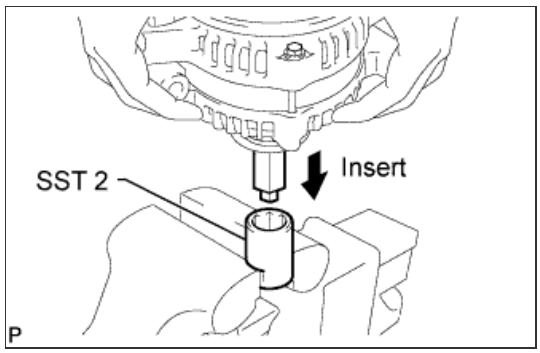

**Torque:**
**39 N*m{ 398 kgf*cm , 29 ft.*lbf }**

**NOTICE:**

Check that SST is secured on the rotor shaft.

b. Mount SST 2 in a vise.

c. Insert SST 1-A and B into SST 2, and attach the pulley nut to SST 2.

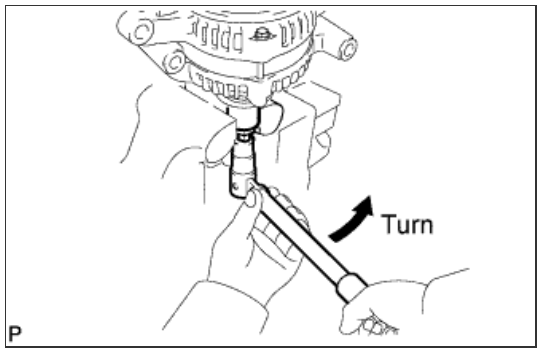



d. To loosen the pulley nut, turn SST 1-A in the direction shown in the illustration.

**NOTICE:**

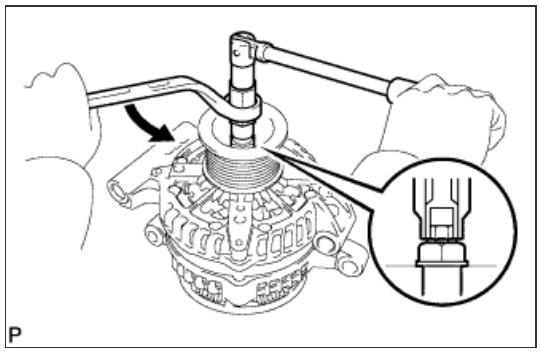
To prevent damage to the rotor shaft, do not loosen the pulley nut more than one-half turn.

e. Remove the generator from SST 2.




f. Turn SST 1-B, and remove SST 1-A and B.

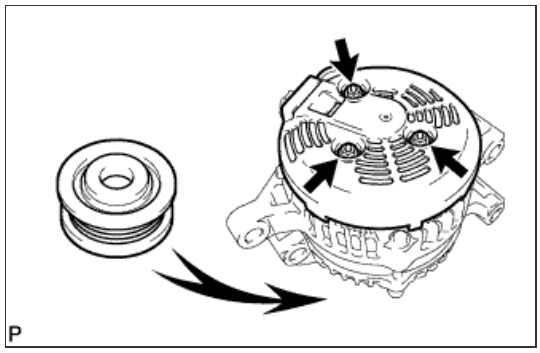
g. Remove the pulley nut and pulley.



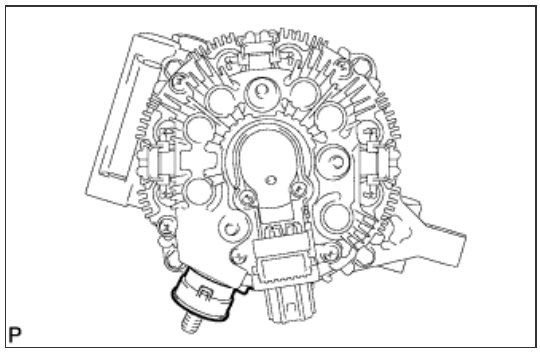
## 2. REMOVE GENERATOR REAR END COVER

a. Place the generator on the pulley.

b. Remove the 3 nuts and end cover.

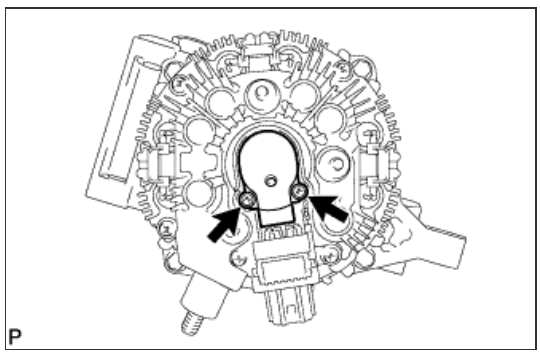



c. Remove the terminal insulator.



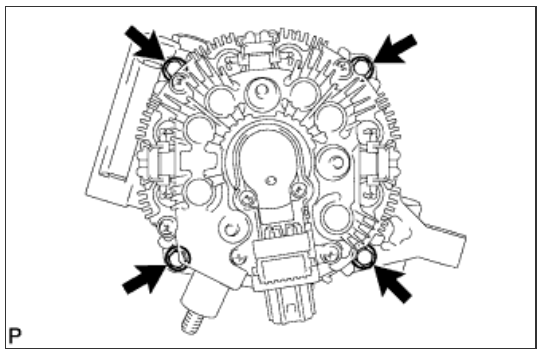

## 3. REMOVE GENERATOR BRUSH HOLDER ASSEMBLY

a. Remove the 2 screws and brush holder.




## 4. REMOVE GENERATOR COIL ASSEMBLY

a. Remove the 4 bolts.

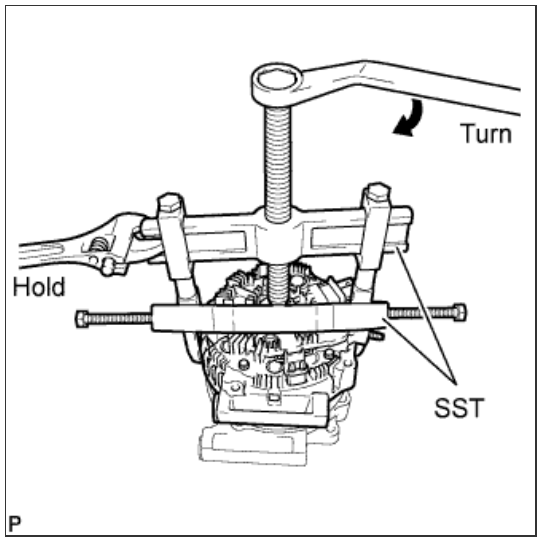



b. Using SST, remove the coil assembly

b. Using SST, remove the coil assembly.

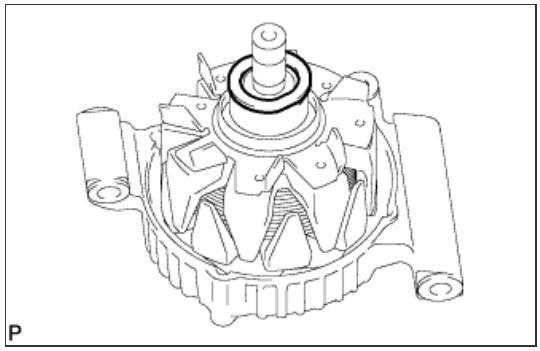
*SST*

09950-40011 (09951-04020, 09952-04010, 09953-04020, 09954-04010, 09955-04071, 09957-04010, 09958-04011)



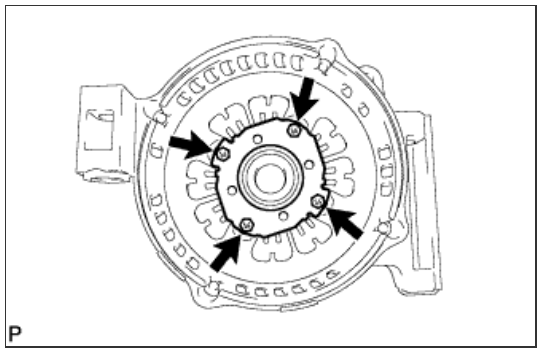

## 5. REMOVE GENERATOR ROTOR ASSEMBLY

a. Remove the generator washer and generator rotor.




## 6. REPLACE GENERATOR DRIVE END FRAME BEARING

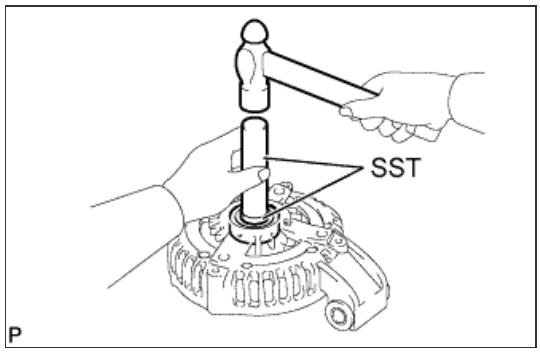
a. Remove the 4 screws and retainer plate.




b. Using SST and a hammer, tap out the bearing.

*SST*

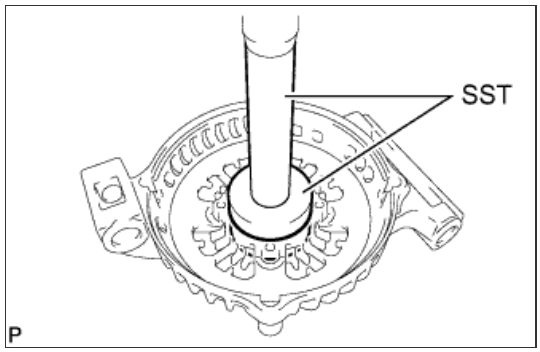
09950-60010 (09951-00250)
09950-70010 (09951-07100)



c. Using SST and a press, press in a new bearing.

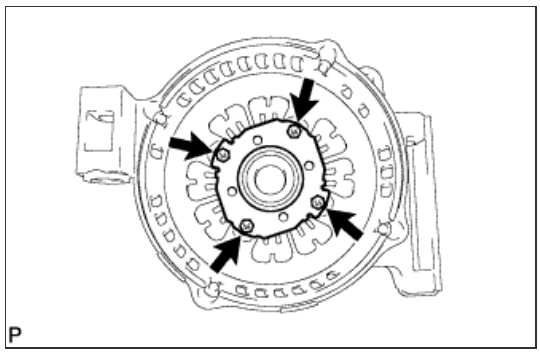
*SST*

09950-60010 (09951-00500)
09950-70010 (09951-07100)




d. Install the retainer plate with the 4 screws.

**Torque:**
**3.0 N*m{ 30 kgf*cm , 26 in.*lbf }**



**for Preparation** Click here

## 1. REMOVE GENERATOR PULLEY

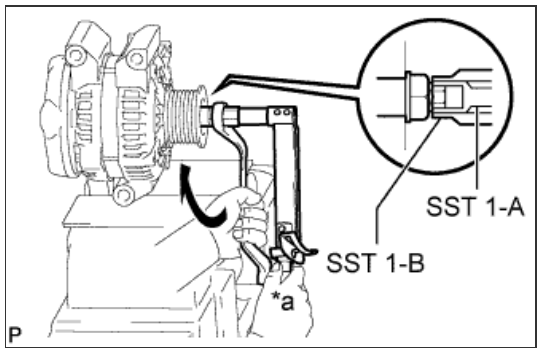
a. Mount the generator in a vise between aluminum plates.

b. Install SST 1-A to the pulley shaft.

*SST*
09820-63011 (09820-06010, 09820-06021)

**HINT:**

| | |
|---|---|
| SST 1-A and B | 09820-06010 |
| SST 2 | 09820-06021 |




c. Insert SST 1-B to SST 1-A.

d. Hold SST 1-A with a torque wrench and turn SST 1-B clockwise with the specified torque.

**Torque:**
**39 N*m{ 398 kgf*cm , 29 ft.*lbf }**

**Text in Illustration**

| | |
|---|---|
| *a | Hold |
| ➡ | Turn |

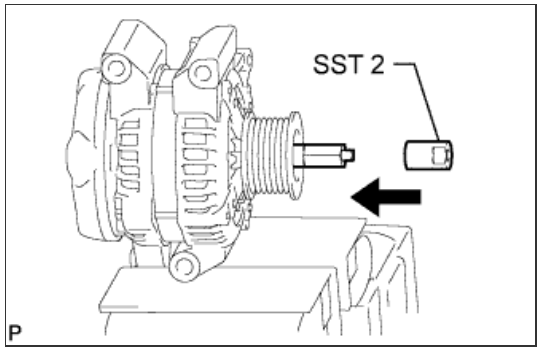
**NOTICE:**

Check that SST is secured on the rotor shaft.

e. Insert SST 2 and attach it to the pulley nut.

**Text in Illustration**

| | |
|---|---|
| ➡ | Insert |



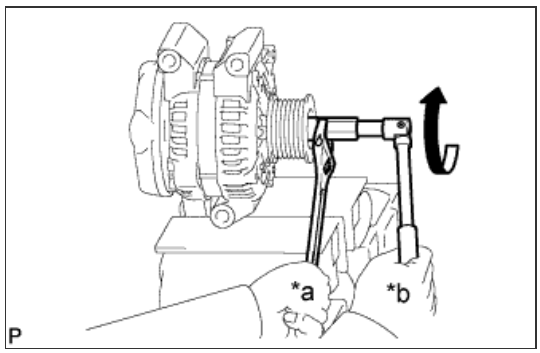

f. To loosen the pulley nut, turn SST 1-A in the direction shown in the illustration.

**Text in Illustration**

| | |
|---|---|
| *a | Hold |
| *b | Turn |

**NOTICE:**

To prevent damage to the rotor shaft, do not loosen the pulley nut more than one-half turn.




g. Remove SST 2 from the generator.

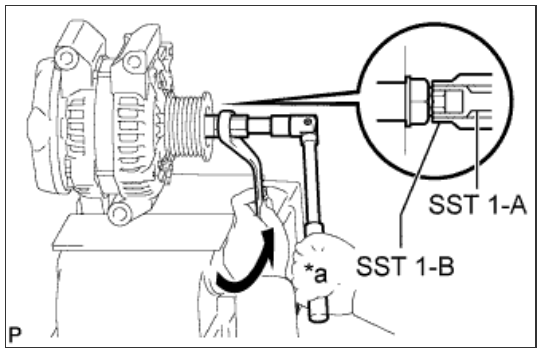
h. Turn SST 1-B in the direction shown in the illustration, and then remove SST 1-

A and SST 1-B.

**Text in Illustration**

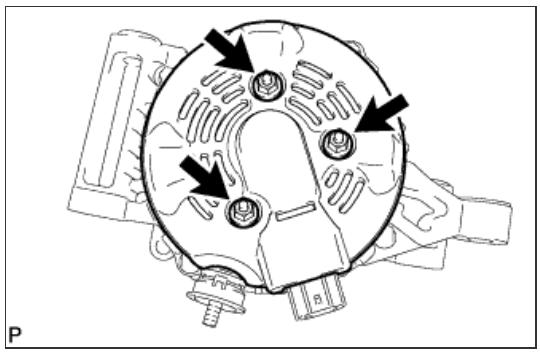
| | |
|---|---|
| *a | Hold |
| ➡ | Turn |

i. Remove the pulley nut and generator pulley.

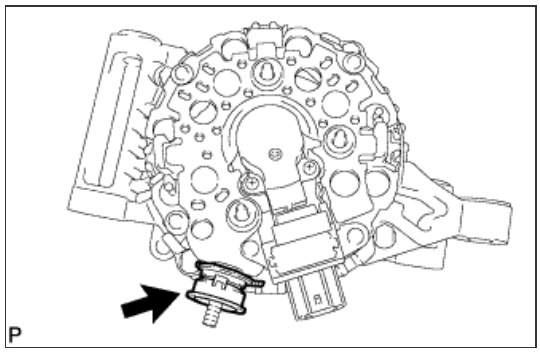



## 2. REMOVE GENERATOR REAR END COVER

a. Remove the 3 nuts and generator rear end cover.

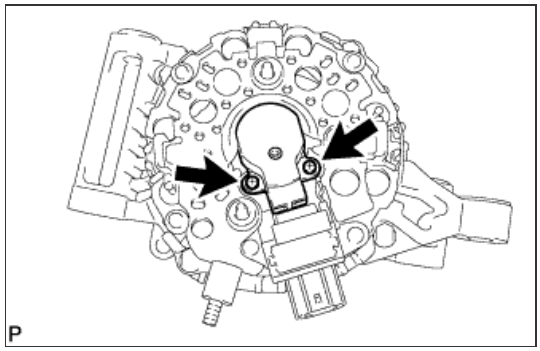



## 3. REMOVE TERMINAL INSULATOR



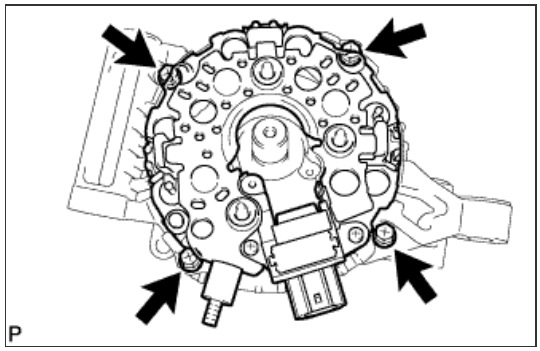

## 4. REMOVE GENERATOR BRUSH HOLDER ASSEMBLY

a. Remove the 2 screws and brush holder.




## 5. REMOVE GENERATOR COIL ASSEMBLY

a. Remove the 4 bolts.

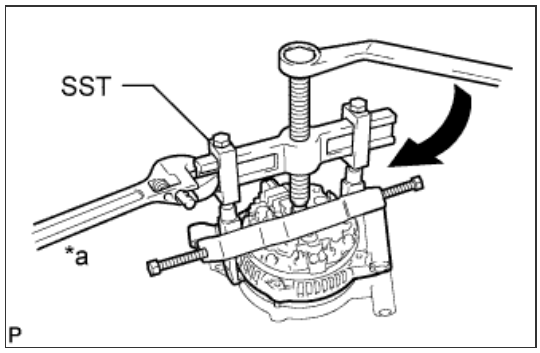



b. Using SST, remove the generator coil.

*SST*
09950-40011 (09951-04020, 09952-04010, 09953-04020, 09954-04010, 09955-04071, 09957-04010, 09958-04011)

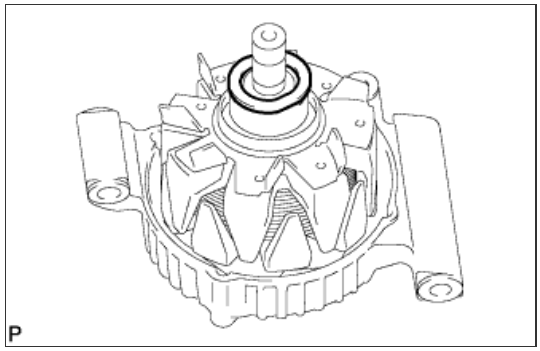
**Text in Illustration**

| | |
|---|---|
| *a | Hold |
| ➡ | Turn |

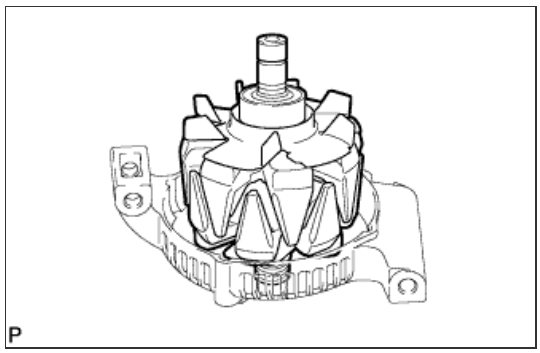



## 6. REMOVE GENERATOR ROTOR ASSEMBLY

a. Remove the generator washer.

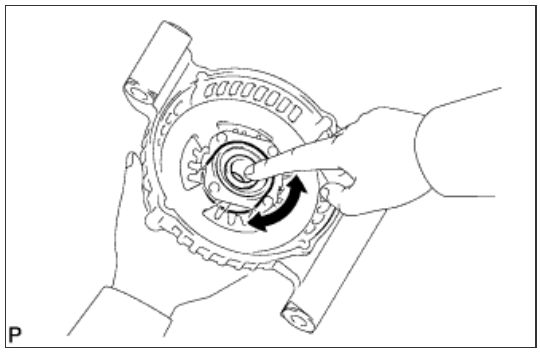



b. Remove the generator rotor.



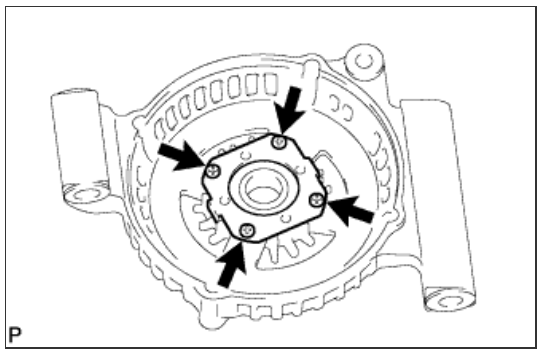

## 7. INSPECT GENERATOR DRIVE END FRAME BEARING

a. Check that the drive end frame bearing is not rough or worn.
If necessary, replace the generator drive end frame bearing.




## 8. REMOVE GENERATOR DRIVE END FRAME BEARING

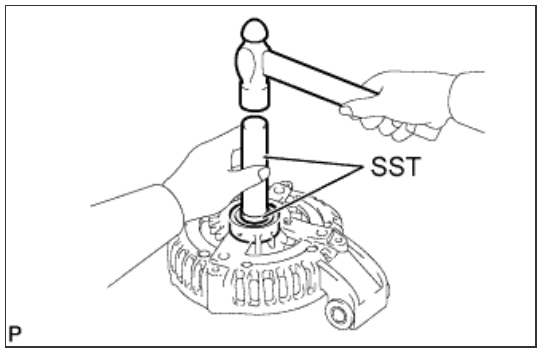
a. Remove the 4 screws and retainer plate.




b. Using SST and a hammer, tap out the drive end frame bearing.

*SST*

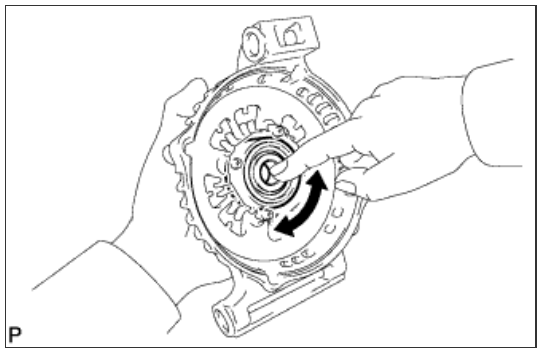
09950-60010 (09951-00250)
09950-70010 (09951-07100)



**for Preparation** Click here

## 1. INSPECT GENERATOR DRIVE END FRAME BEARING

a. Rotate the bearing and check that there is no abnormal noise and that it rotates smoothly.
If necessary, replace the bearing (Click here).




## 2. INSPECT GENERATOR ROTOR ASSEMBLY

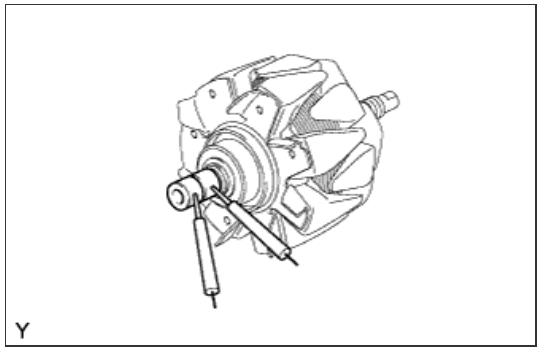
a. Check the rotor for an open circuit.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Slip ring - Slip ring | 20°C (68°F) | 1.36 to 1.76 Ω |

If the result is not as specified, replace the rotor assembly.



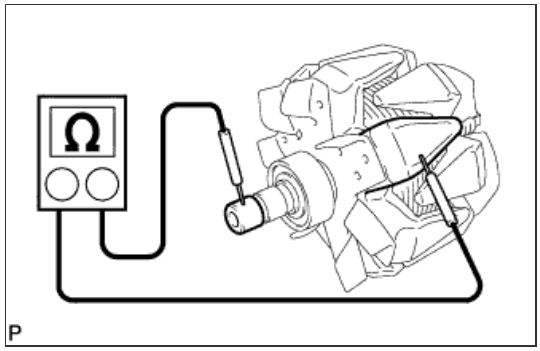

b. Check if the rotor is grounded.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Slip ring - Rotor | Always | 1 MΩ or higher |

If the result is not as specified, replace the rotor assembly.



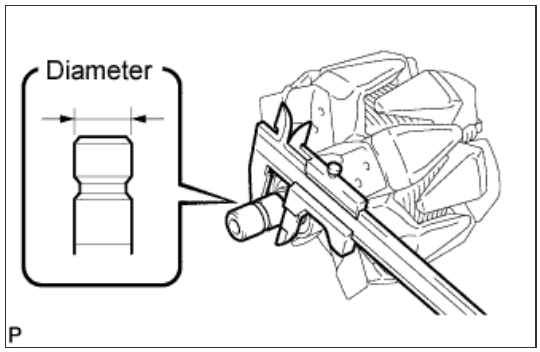

c. Check that the slip rings are not rough or scored.
If rough or scored, replace the rotor assembly.

d. Using a vernier caliper, measure the slip ring diameter.

**Standard diameter:**
**14.2 to 14.4 mm (0.559 to 0.567 in.)**

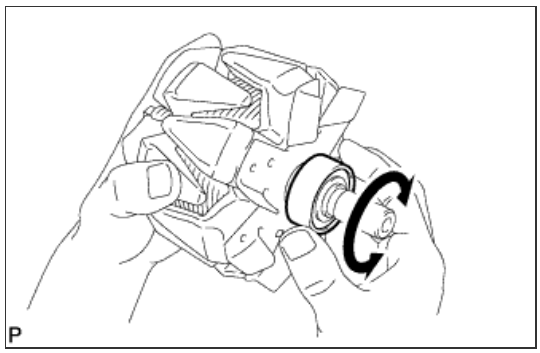
**Minimum diameter:**
**14.0 mm (0.551 in.)**

If the diameter is less than the minimum, replace the rotor assembly.




### 3. INSPECT GENERATOR ROTOR BEARING

a. Rotate the bearing and check that there is no abnormal noise and that it rotates smoothly.
If necessary, replace the generator rotor.



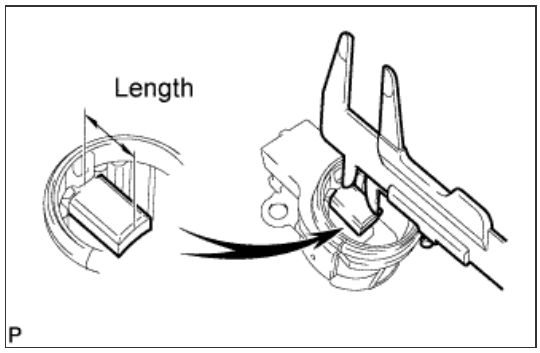

### 4. INSPECT GENERATOR BRUSH HOLDER ASSEMBLY

a. Using a vernier caliper, measure the exposed brush length.

**Standard exposed length:**
**10.5 mm (0.413 in.)**

**Minimum exposed length:**
**4.5 mm (0.177 in.)**

If the exposed length is less than the minimum, replace the brush holder assembly.



**for Preparation** Click here

## 1. INSPECT GENERATOR ROTOR ASSEMBLY

a. Check the resistance.

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

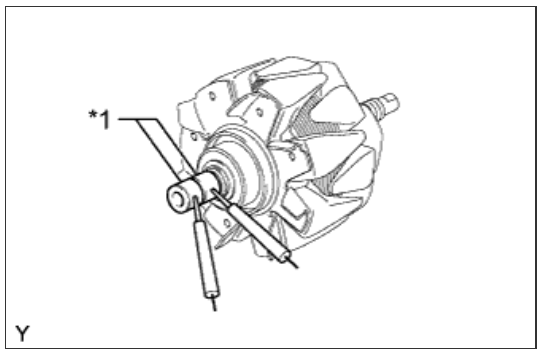
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Slip ring - Slip ring | 20°C (68°F) | 1.5 to 1.9 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Slip Ring |

If the result is not as specified, replace the generator rotor assembly.




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

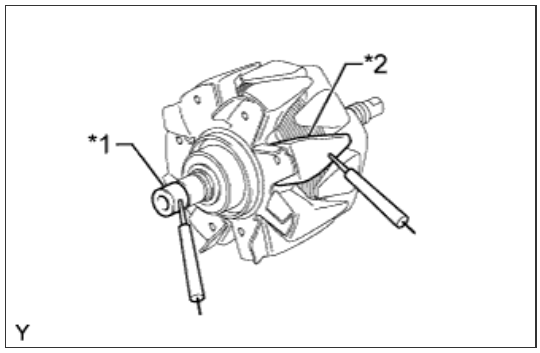
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| Slip ring - Rotor core | Always | 10 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Slip Ring |
| *2 | Rotor Core |

If the result is not as specified, replace the generator rotor assembly.




b. Using a vernier caliper, measure the slip ring diameter.

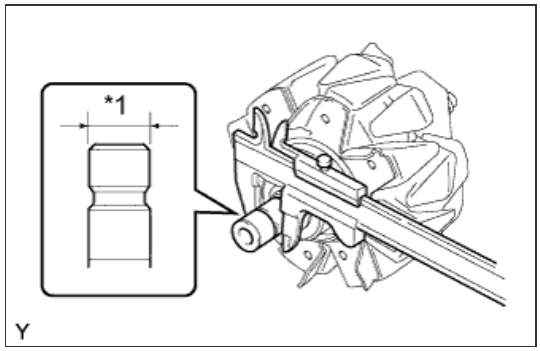
**Standard diameter:**
**14.2 to 14.8 mm (0.559 to 0.583 in.)**

**Minimum diameter:**
**14.0 mm (0.551 in.)**

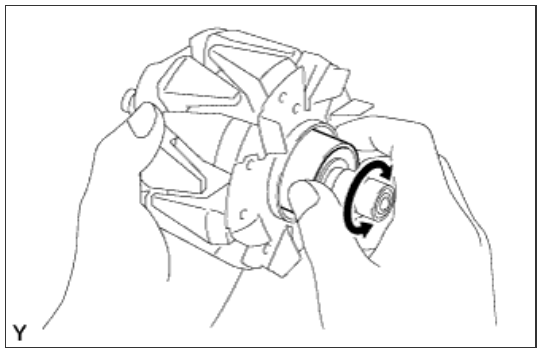
**Text in Illustration**

| | |
|---|---|
| *1 | Diameter |

If the diameter is less than the minimum, replace the generator rotor assembly.




c. Check that the generator rotor bearing is not rough or worn.
If necessary, replace the generator rotor assembly.

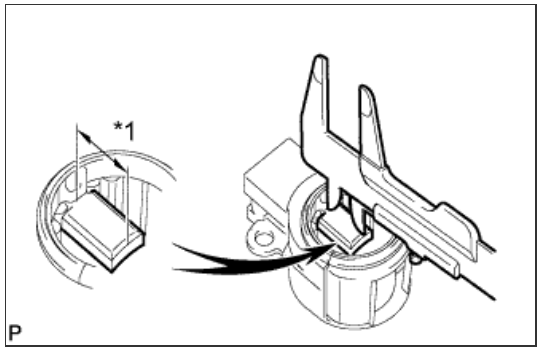



## 2. INSPECT GENERATOR BRUSH HOLDER ASSEMBLY

a. Using a vernier caliper, measure the brush length.

**Standard exposed length:**
**9.5 to 11.5 mm (0.374 to 0.453 in.)**

**Minimum exposed length:**
**4.5 mm (0.177 in.)**




**Text in Illustration**

| | |
|---|---|
| *1 | Length |

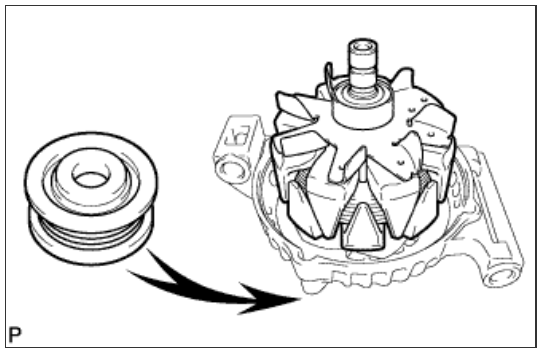
If the brush length is less than the minimum, replace the generator brush holder assembly.

**for Preparation** Click here

## 1. INSTALL GENERATOR ROTOR ASSEMBLY

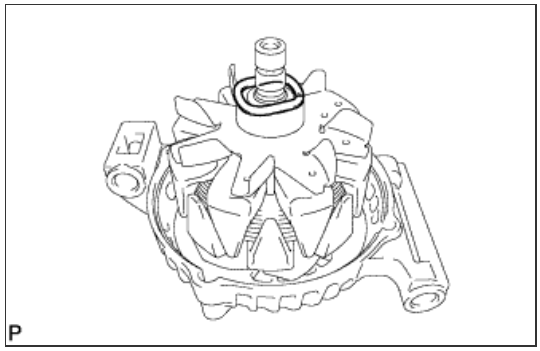
a. Place the drive end frame on the pulley.

b. Install the rotor to the drive end frame.

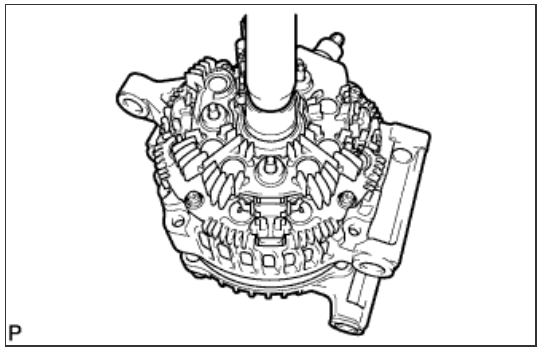



## 2. INSTALL GENERATOR COIL ASSEMBLY

a. Place the generator washer on the rotor.

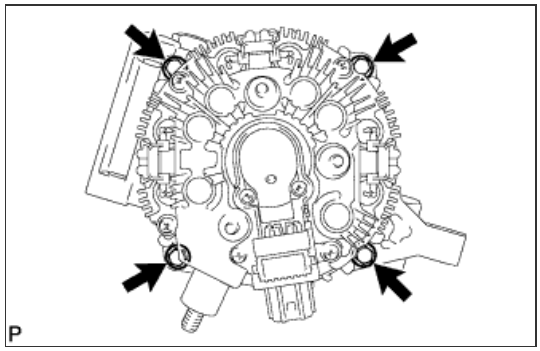



b. Using a 21 mm socket wrench and a press, slowly press in the coil assembly.



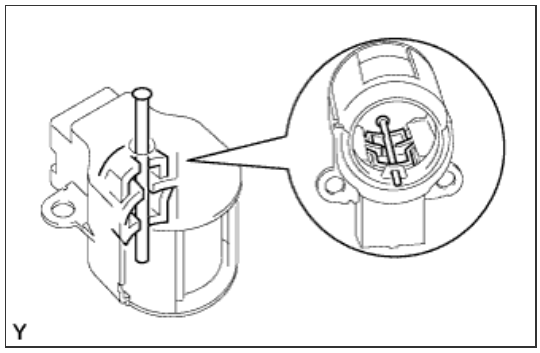

c. Install the 4 bolts.

**Torque:**
**7.5 N*m{ 76 kgf*cm , 66 in.*lbf }**



## 3. INSTALL GENERATOR BRUSH HOLDER ASSEMBLY

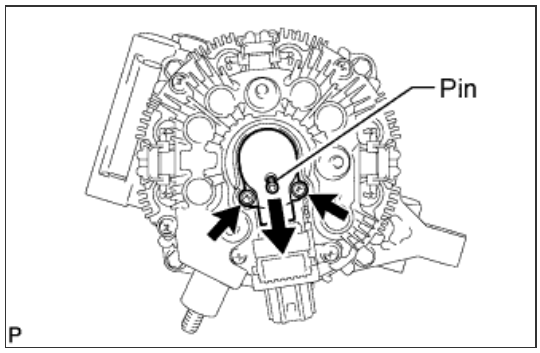
a. While pushing the 2 brushes toward the inside of the brush holder, insert a pin (diameter: 1.0 mm (0.0394 in.)) into the brush holder hole.




b. Install the generator brush holder with the 2 screws.

**Torque:**
**1.8 N*m{ 18 kgf*cm , 16 in.*lbf }**

c. Pull out the pin from the generator brush holder.

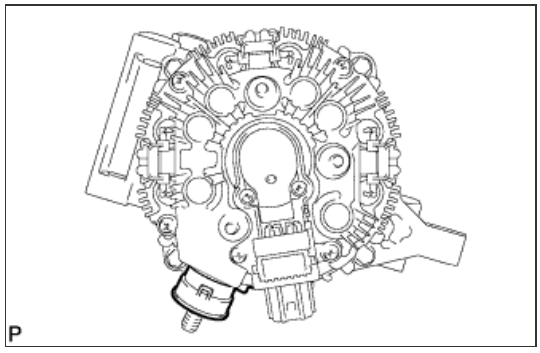



## 4. INSTALL GENERATOR REAR END COVER

a. Install the terminal insulator to the generator rectifier end frame.

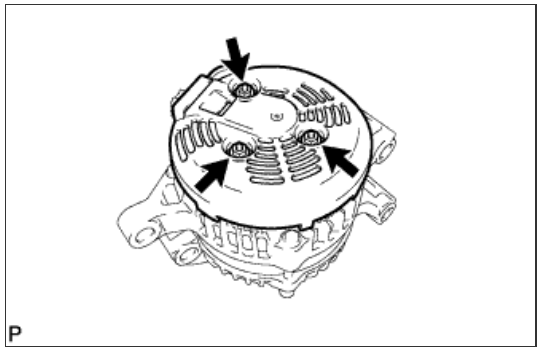
**NOTICE:**

Pay attention to the mounting orientation of the terminal insulator.




b. Install the end cover with the 3 nuts.

**Torque:**
**4.6 N*m{ 46 kgf*cm , 40 in.*lbf }**




## 5. INSTALL GENERATOR PULLEY

*SST*

09820-63011 (09820-06010, 09820-06021)

**HINT:**

| | |
|---|---|
| SST 1-A and B | 09820-06010 |
| SST 2 | 09820-06021 |

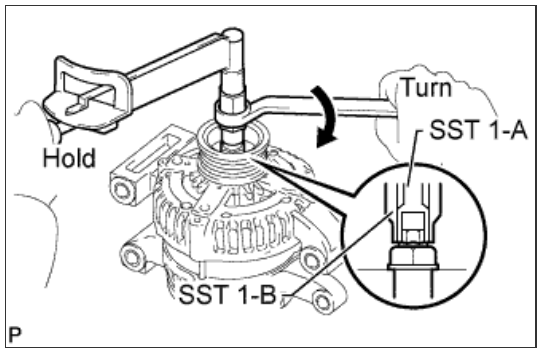
a. Install the pulley onto the rotor shaft by tightening the pulley nut by hand.

b. Hold SST 1-A with a torque wrench, and tighten SST 1-B clockwise to the specified torque.

**Torque:**
**39 N*m{ 398 kgf*cm , 29 ft.*lbf }**

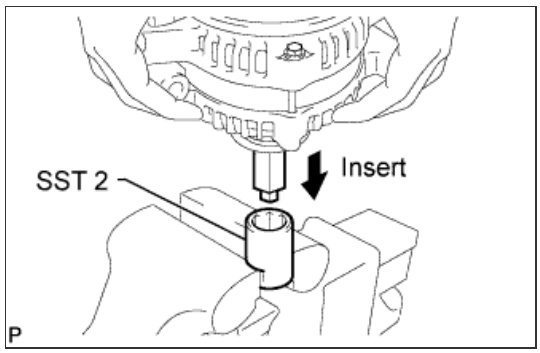
**NOTICE:**

Check that SST is secured to the rotor shaft.




c. Mount SST 2 in a vise.

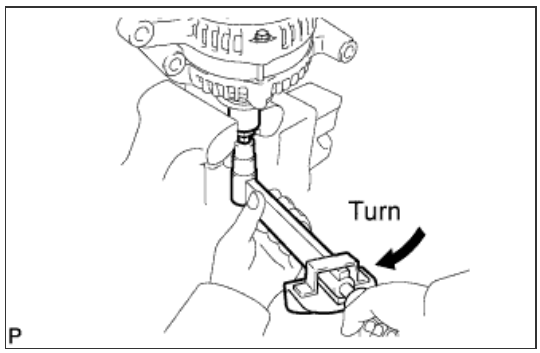
d. Insert SST 1-A and B into SST 2, and attach the pulley nut to SST 2.




e. Tighten the pulley nut by turning SST 1-A in the direction shown in the illustration.

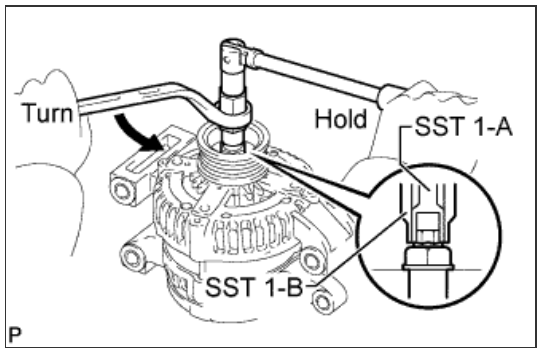
**Torque:**
**133 N*m{ 1351 kgf*cm , 98 ft.*lbf }**

f. Remove the generator from SST 2.




g. Turn SST 1-B, and remove SST 1-A and B.

h. Turn the pulley and check that the pulley moves smoothly.

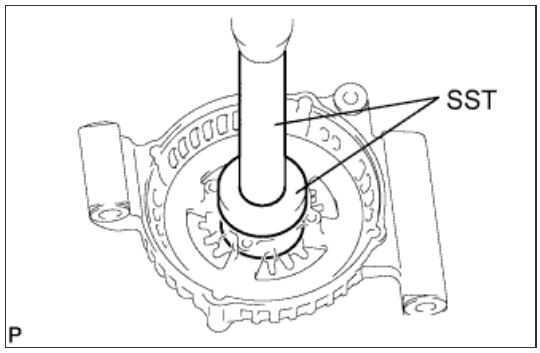


**for Preparation** Click here

## 1. INSTALL GENERATOR DRIVE END FRAME BEARING

a. Using SST and a press, press in a new drive end frame bearing.

*SST*
09950-60010 (09951-00500)
09950-70010 (09951-07100)




b. Install the retainer plate with the 4 screws.

**Torque:**
**2.3 N*m{ 23 kgf*cm , 20 in.*lbf }**

## 2. INSTALL GENERATOR ROTOR ASSEMBLY

a. Install the generator rotor to the drive end frame.

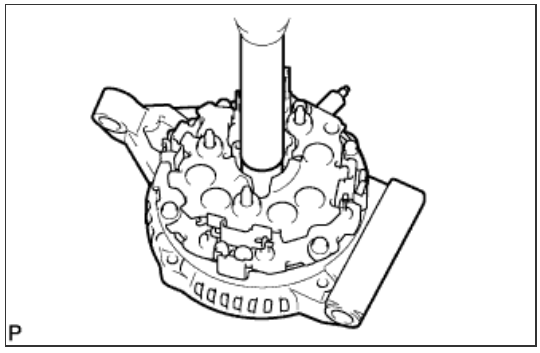
b. Place a new generator washer on the generator rotor.

## 3. INSTALL GENERATOR COIL ASSEMBLY

a. Using a 22 mm socket wrench and press, slowly press in the generator coil.

b. Install the 4 bolts.

**Torque:**
**5.9 N*m{ 60 kgf*cm , 52 in.*lbf }**

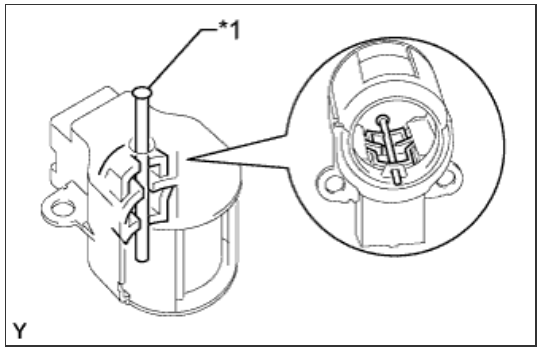



## 4. INSTALL GENERATOR BRUSH HOLDER ASSEMBLY

a. While pushing the 2 brushes into the brush holder, insert a pin with a diameter of 1.0 mm (0.0394 in.) into the brush holder hole.

**Text in Illustration**

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



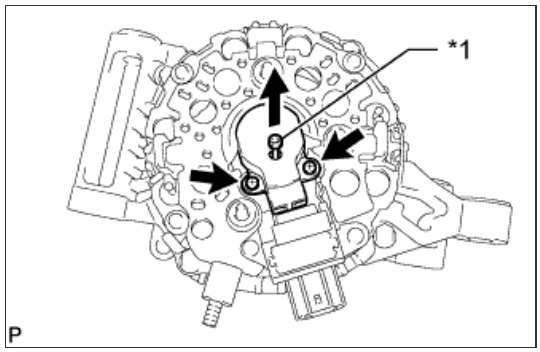

b. Install the brush holder with the 2 screws.

**Torque:**
**1.8 N*m{ 18 kgf*cm , 16 in.*lbf }**

c. Pull out the pin from the brush holder.

**Text in Illustration**

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




## 5. INSTALL TERMINAL INSULATOR

a. Install the terminal insulator to the generator coil.

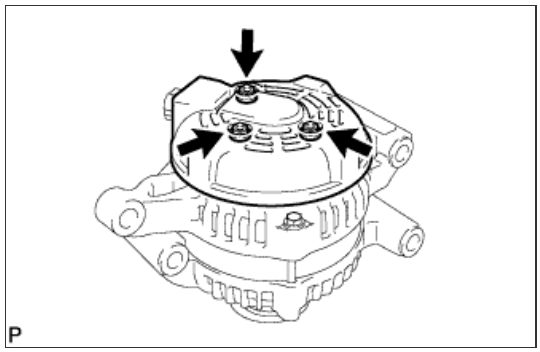
**NOTICE:**

Pay attention to the mounting orientation of the terminal insulator.

## 6. INSTALL GENERATOR REAR END COVER

a. Install the generator rear end cover with the 3 nuts.

**Torque:**
**4.6 N*m{ 46 kgf*cm , 40 in.*lbf }**




## 7. INSTALL GENERATOR PULLEY

a. Temporarily install the generator pulley with the pulley nut by hand.

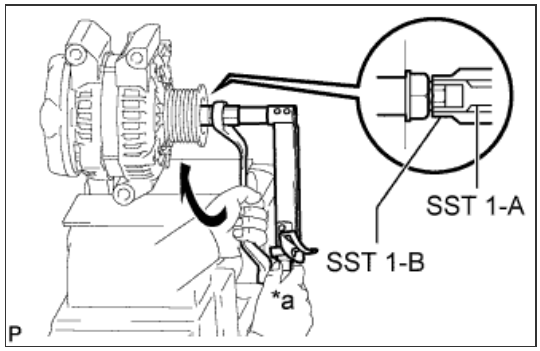
b. Mount the generator in a vise between aluminum plates.

c. Install SST 1-A to the pulley shaft.

***SST***
**09820-63011 (09820-06010, 09820-06021)**

**HINT:**

| | |
|---|---|
| SST 1-A and B | 09820-06010 |
| SST 2 | 09820-06021 |




d. Install SST 1-B to SST 1-A.

e. Hold SST 1-A with a torque wrench and turn SST 1-B clockwise with the specified torque.

**Torque:**
**39 N*m{ 398 kgf*cm , 29 ft.*lbf }**

**Text in Illustration**

| | |
|---|---|
| *a | Hold |
| ➡ | Turn |

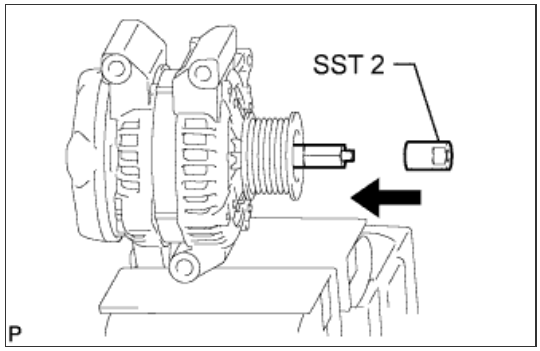
**NOTICE:**

Check that SST is secured to the rotor shaft.

f. Insert SST 2 and attach it to the pulley nut.

**Text in Illustration**

| | |
|---|---|
| ➡ | Insert |




g. Tighten the pulley nut by turning SST 1-A in the direction shown in the illustration.

**Torque:**

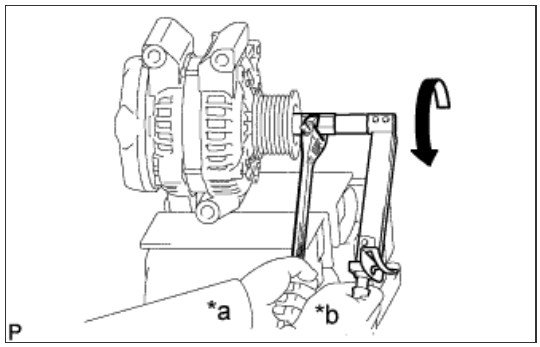
**133 N*m{ 1351 kgf*cm , 98 ft.*lbf }**

**Text in Illustration**

| | |
|---|---|
| *a | Hold |
| *b | Turn |

**HINT:**

Hold the adjustable wrench against the vise and tighten the nut securely.



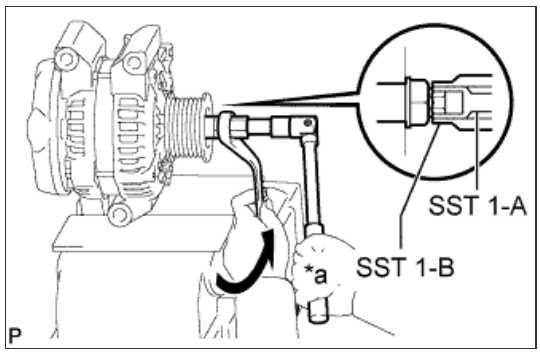

h. Remove SST 2 from the generator.

i. Turn SST 1-B, and then remove SST 1-A and B.

**Text in Illustration**

| | |
|---|---|
| *a | Hold |
| ➡ | Turn |

j. Turn the generator pulley and check that the pulley moves smoothly.

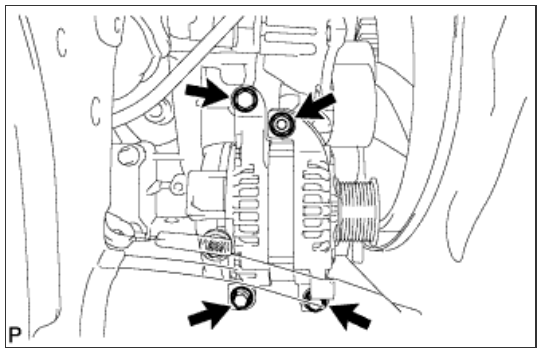


**for Preparation** Click here

## 1. INSTALL GENERATOR ASSEMBLY

a. Install the generator with the 3 bolts and nut.

**Torque:**
**43 N*m{ 438 kgf*cm , 32 ft.*lbf }**




b. Connect the generator connector.

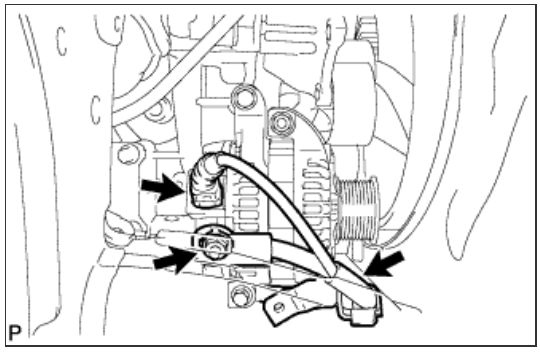
c. Connect the generator wire with the nut.

**Torque:**
**12 N*m{ 122 kgf*cm , 9 ft.*lbf }**

d. Install the terminal cap.

e. Install the harness bracket to the generator with the bolt.

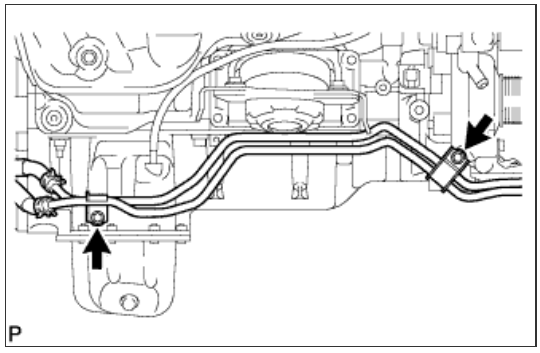
**Torque:**
**31 N*m{ 316 kgf*cm , 23 ft.*lbf }**




## 2. CONNECT OIL COOLER PIPE ASSEMBLY

a. Connect the oil cooler pipe with the 2 bolts.

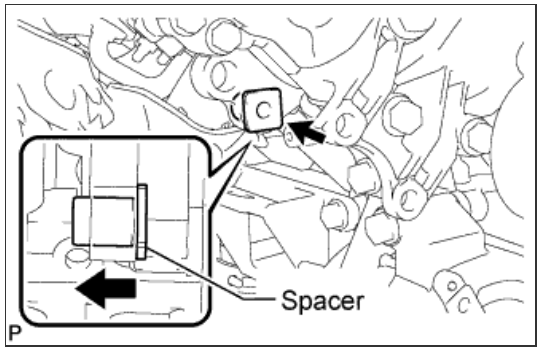
**Torque:**
**14 N*m{ 143 kgf*cm , 10 ft.*lbf }**




## 3. CONNECT VANE PUMP ASSEMBLY

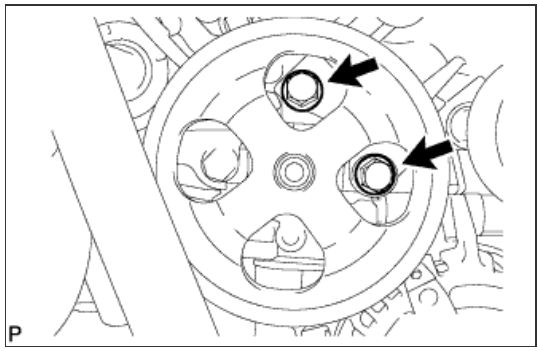
**HINT:**

Before performing the following procedures, move the spacer until the vane pump can be installed.

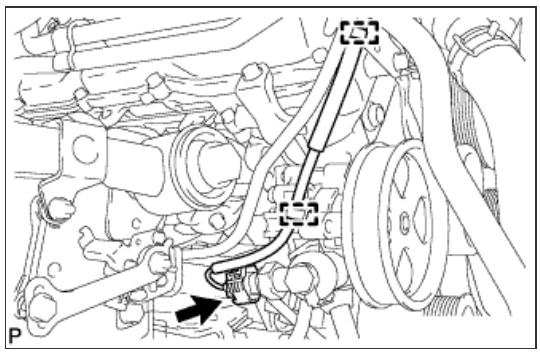



a. Connect the vane pump to the timing chain cover with the 2 bolts.

**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**



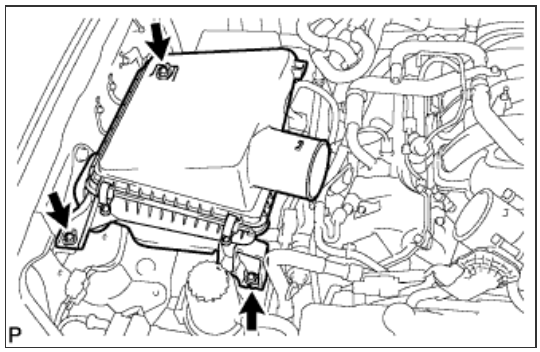

b. Connect the 2 clamps and power steering oil pressure switch connector.




## 4. INSTALL AIR CLEANER ASSEMBLY

a. Install the air cleaner with the 3 bolts.

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




## 5. INSTALL AIR CLEANER HOSE ASSEMBLY

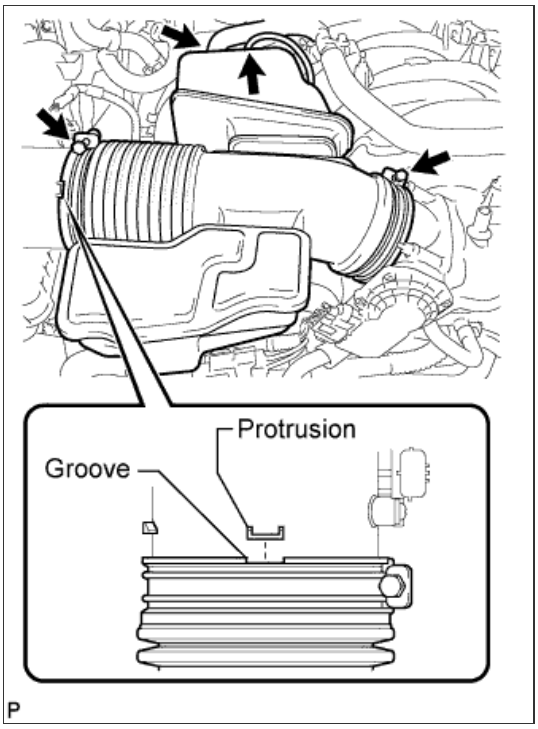
a. Install the air cleaner hose so that the protrusion of the air cleaner cap aligns with the groove of the hose as shown in the illustration.

b. Tighten the 2 clamps.

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

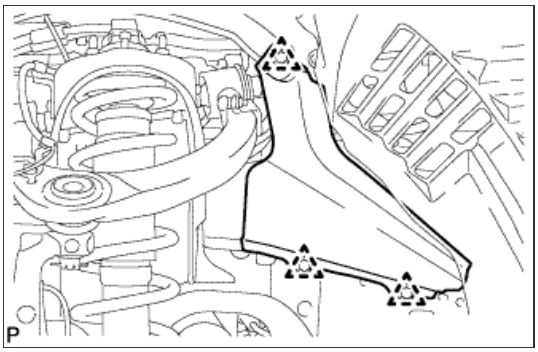
c. Connect the vacuum hose.

d. Connect the No. 2 ventilation hose.




## 6. INSTALL FRONT FENDER APRON SEAL FRONT RH

a. Install the fender apron seal with the 3 clips.



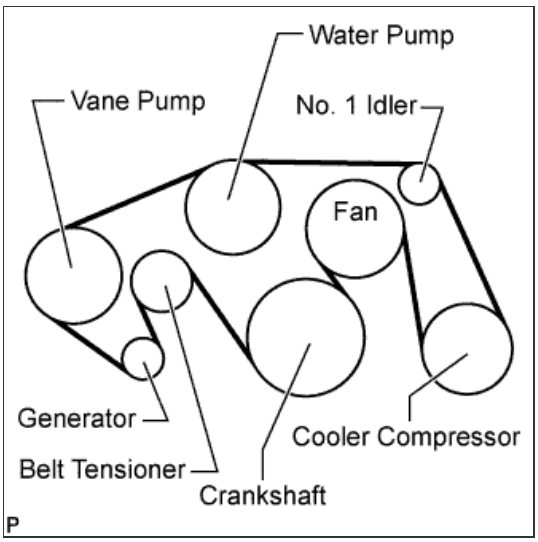

## 7. INSTALL FAN & GENERATOR V BELT

a. Set the V belt onto every part.

b. While turning the belt tensioner counterclockwise, remove the bar.

**NOTICE:**

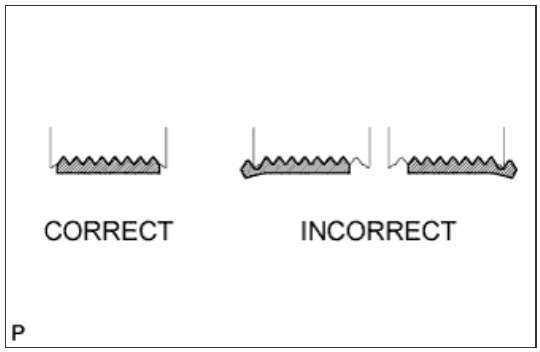
Make sure that the V belt is properly set to each pulley.




c. After installing the belt, check that it fits properly in the ribbed grooves.

**HINT:**

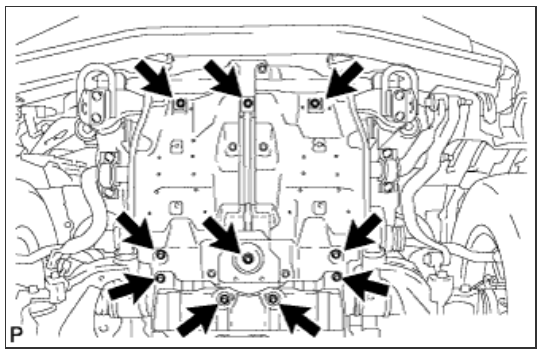
Make sure to check by hand that the belt has not slipped out of the grooves on the bottom of the pulley.




## 8. INSTALL NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. Install the No. 1 engine under cover with the 10 bolts.

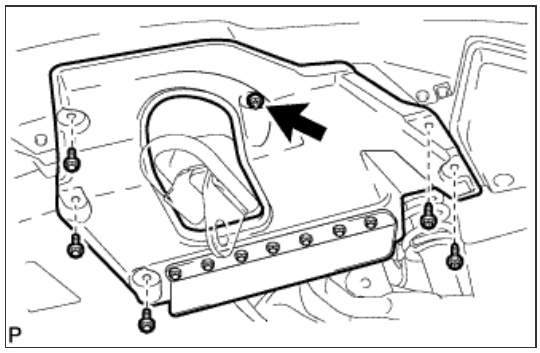
**Torque:**
**29 N*m{ 296 kgf*cm , 21 ft.*lbf }**




## 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.

## 11. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

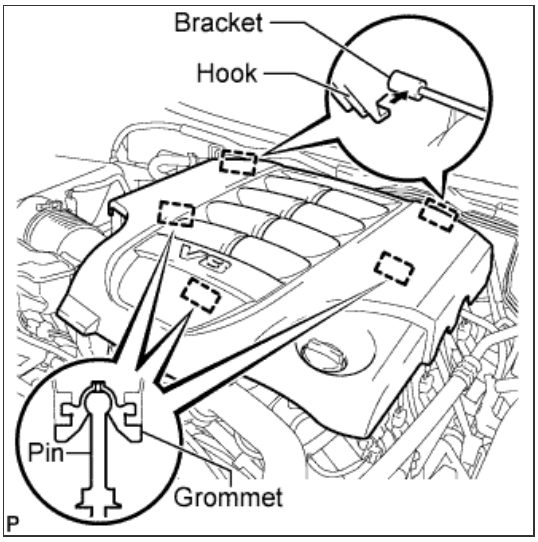
**NOTICE:**

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

## 12. INSTALL V-BANK COVER SUB-ASSEMBLY

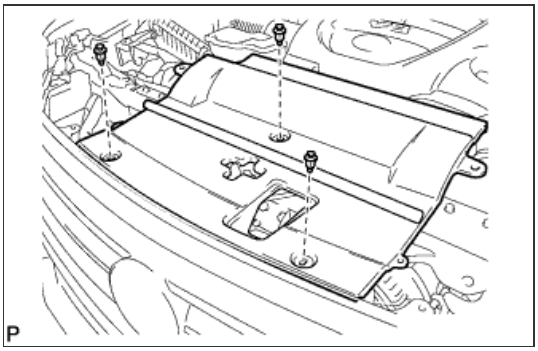
a. Attach the 2 V-bank cover hooks to the bracket. Then align the 3 V-bank cover

grommets with the 3 pins, and press down on the V-bank cover to attach the pins.



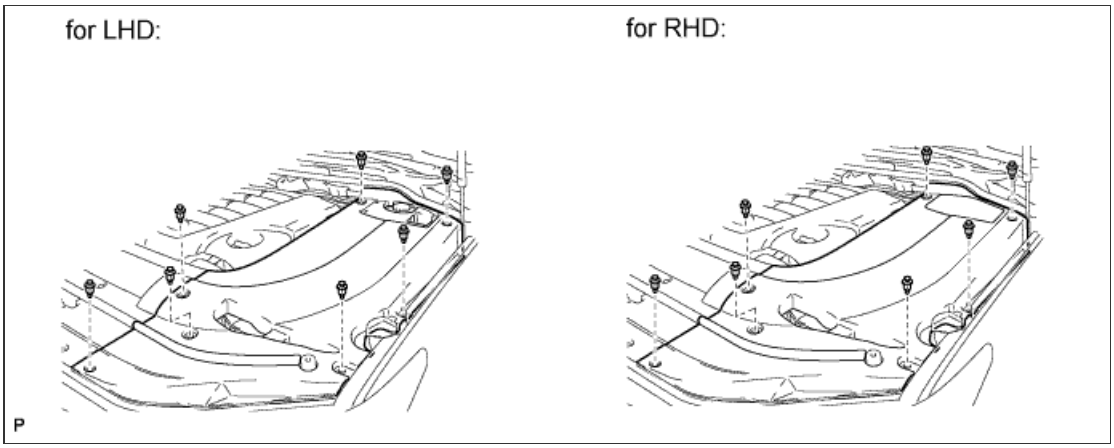

## 13. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the upper radiator support seal with the 3 clips.




## 14. INSTALL ENGINE ROOM SIDE COVER LH

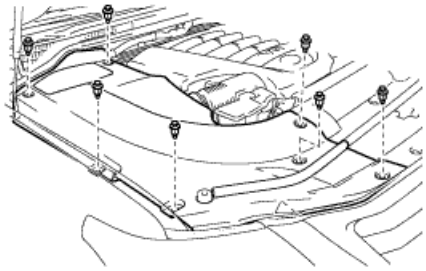
a. Install the engine room side cover with the 7 clips.



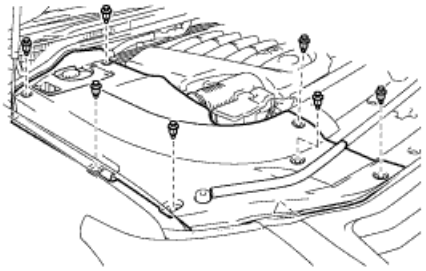

## 15. INSTALL ENGINE ROOM SIDE COVER RH

a. Install the engine room side cover with the 7 clips.

for LHD:



for RHD:



P

**for Preparation** Click here

## 1. INSTALL GENERATOR ASSEMBLY

a. Install the stud bolt.

**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**

b. Install the generator with the 3 bolts and nut.

**Torque:**
**43 N*m{ 438 kgf*cm , 32 ft.*lbf }**

c. Connect the harness bracket to the generator with the bolt.

**Torque:**
**31 N*m{ 316 kgf*cm , 23 ft.*lbf }**

d. Connect the generator wire with the nut.

**Torque:**
**9.8 N*m{ 100 kgf*cm , 87 in.*lbf }**

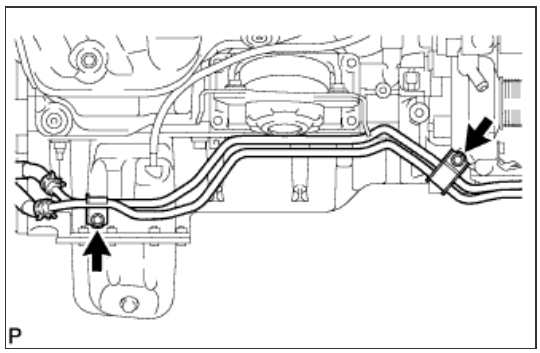
e. Close the terminal cap.

f. Connect the generator connector.

## 2. CONNECT OIL COOLER PIPE ASSEMBLY

a. Connect the oil cooler pipe with the 2 bolts.

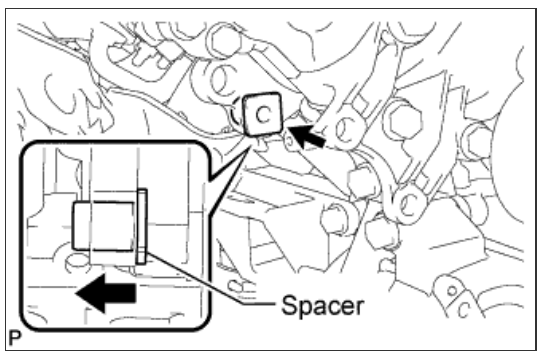
**Torque:**
**14 N*m{ 143 kgf*cm , 10 ft.*lbf }**




## 3. CONNECT VANE PUMP ASSEMBLY

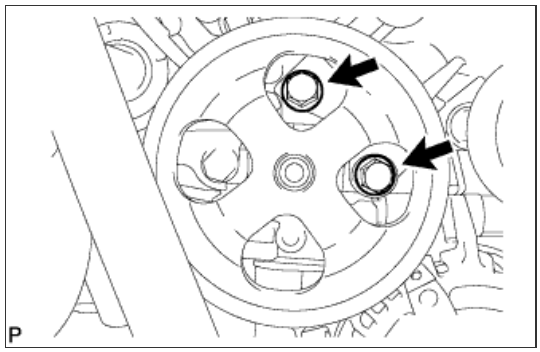
**HINT:**

Before performing the following procedures, move the spacer until the vane pump can be installed.

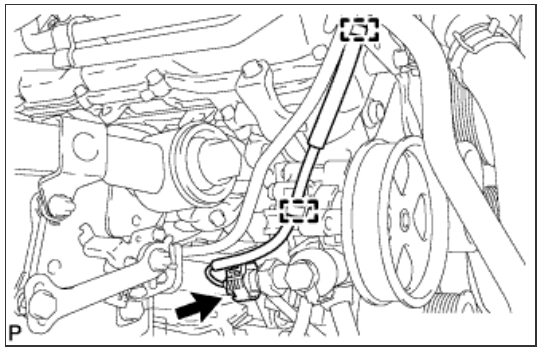



a. Connect the vane pump to the timing chain cover with the 2 bolts.

**Torque:**
**21 N*m{ 214 kgf*cm , 15 ft.*lbf }**



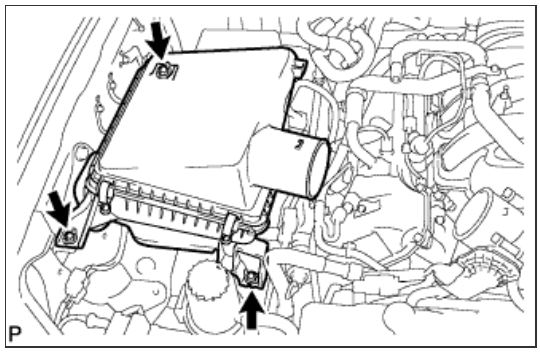

b. Connect the 2 clamps and power steering oil pressure switch connector.




## 4. INSTALL AIR CLEANER ASSEMBLY

a. Install the air cleaner with the 3 bolts.

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




## 5. INSTALL AIR CLEANER HOSE ASSEMBLY

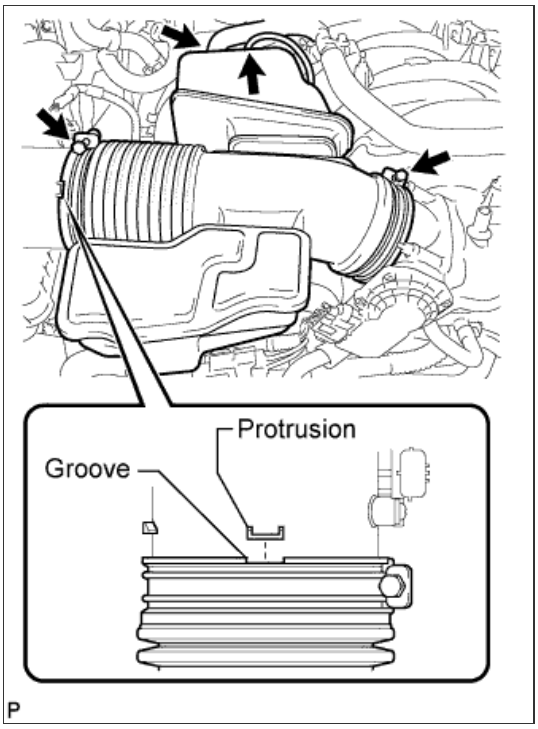
a. Install the air cleaner hose so that the protrusion of the air cleaner cap aligns with the groove of the hose as shown in the illustration.

b. Tighten the 2 clamps.

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

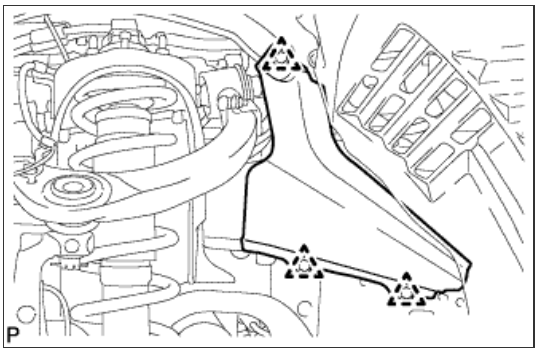
c. Connect the vacuum hose.

d. Connect the No. 2 ventilation hose.




## 6. INSTALL FRONT FENDER APRON SEAL FRONT RH

a. Install the fender apron seal with the 3 clips.



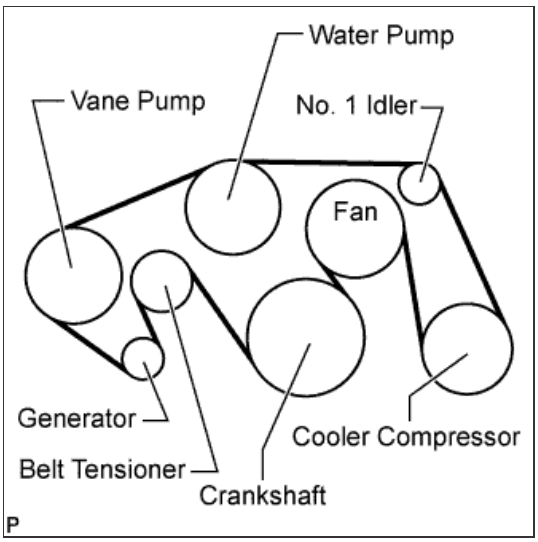

## 7. INSTALL FAN & GENERATOR V BELT

a. Set the V belt onto every part.

b. While turning the belt tensioner counterclockwise, remove the bar.

**NOTICE:**

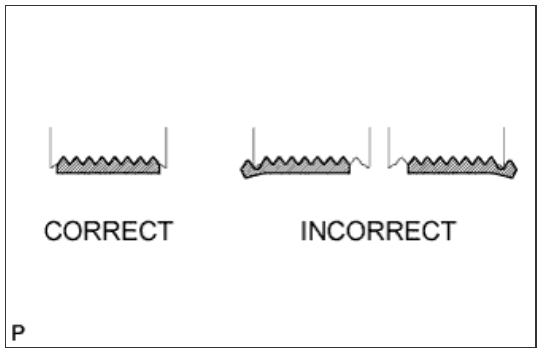
Make sure that the V belt is properly set to each pulley.




c. After installing the belt, check that it fits properly in the ribbed grooves.

**HINT:**

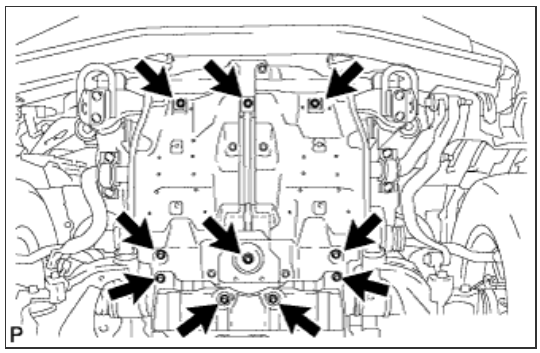
Make sure to check by hand that the belt has not slipped out of the grooves on the bottom of the pulley.




## 8. INSTALL NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

a. Install the No. 1 engine under cover with the 10 bolts.

**Torque:**
**29 N*m{ 296 kgf*cm , 21 ft.*lbf }**




## 9. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY LH

a. Push in the clip to install the front fender splash shield sub-assembly LH.

b. Install the 3 bolts and 2 screws.

## 10. INSTALL FRONT FENDER SPLASH SHIELD SUB-ASSEMBLY RH

**HINT:**

Use the same procedure described for the LH side.

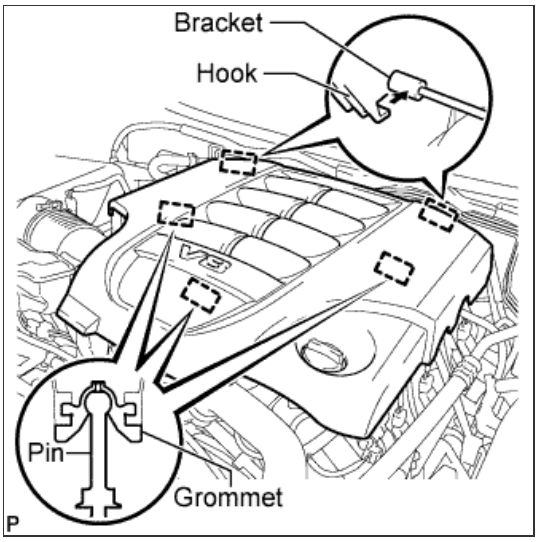
## 11. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

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

## 12. INSTALL V-BANK COVER SUB-ASSEMBLY

a. Attach the 2 V-bank cover hooks to the bracket. Then align the 3 V-bank cover grommets with the 3 pins, and press down on the V-bank cover to attach the pins.




### 13. INSTALL UPPER RADIATOR SUPPORT SEAL

a. Install the upper radiator support seal with the 3 clips.

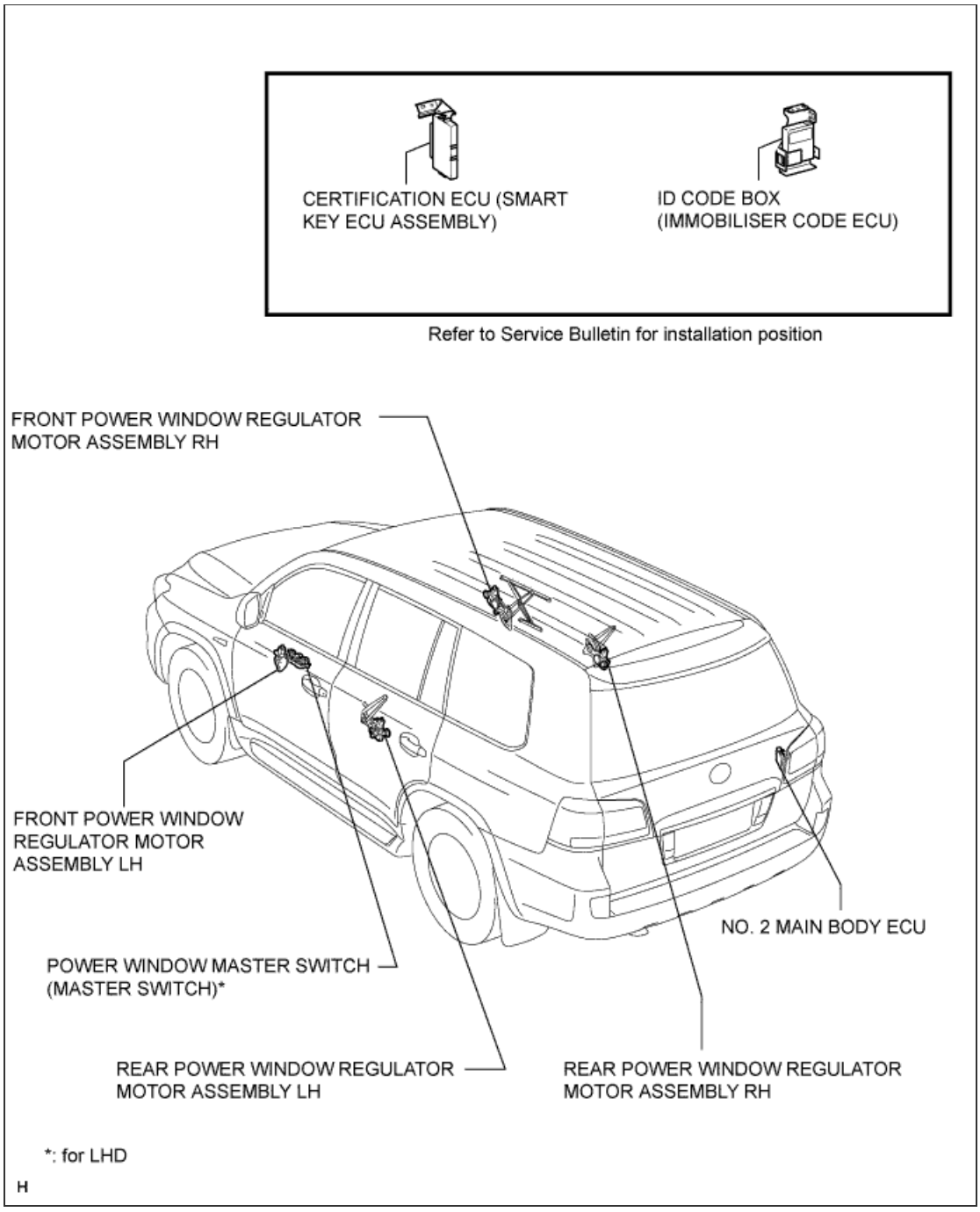
### 14. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover LH with the 7 clips.

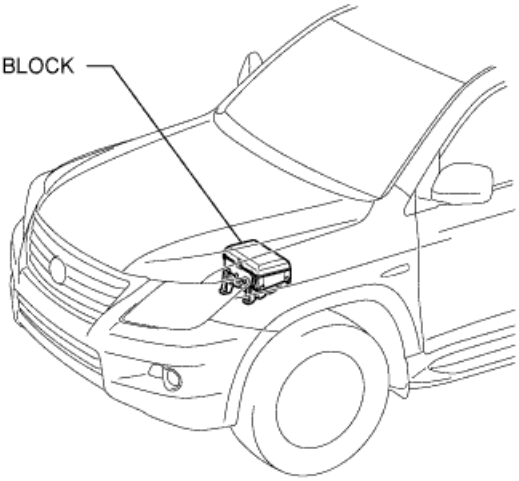
### 15. INSTALL ENGINE ROOM SIDE COVER RH

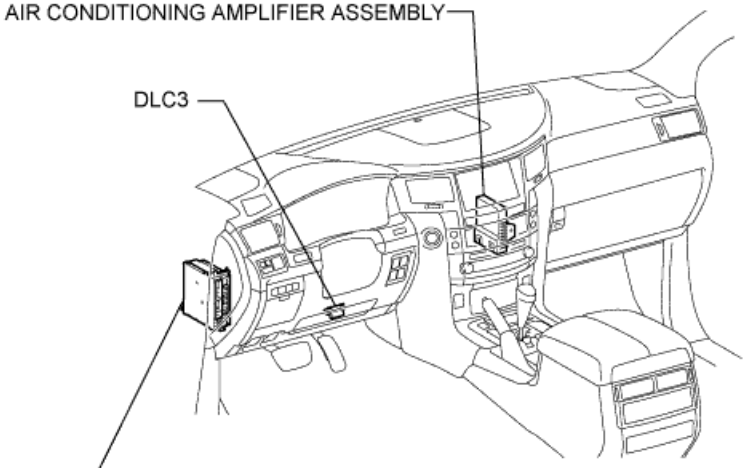
a. Install the engine room side cover RH with the 7 clips.

**for Preparation** Click here



for LHD:



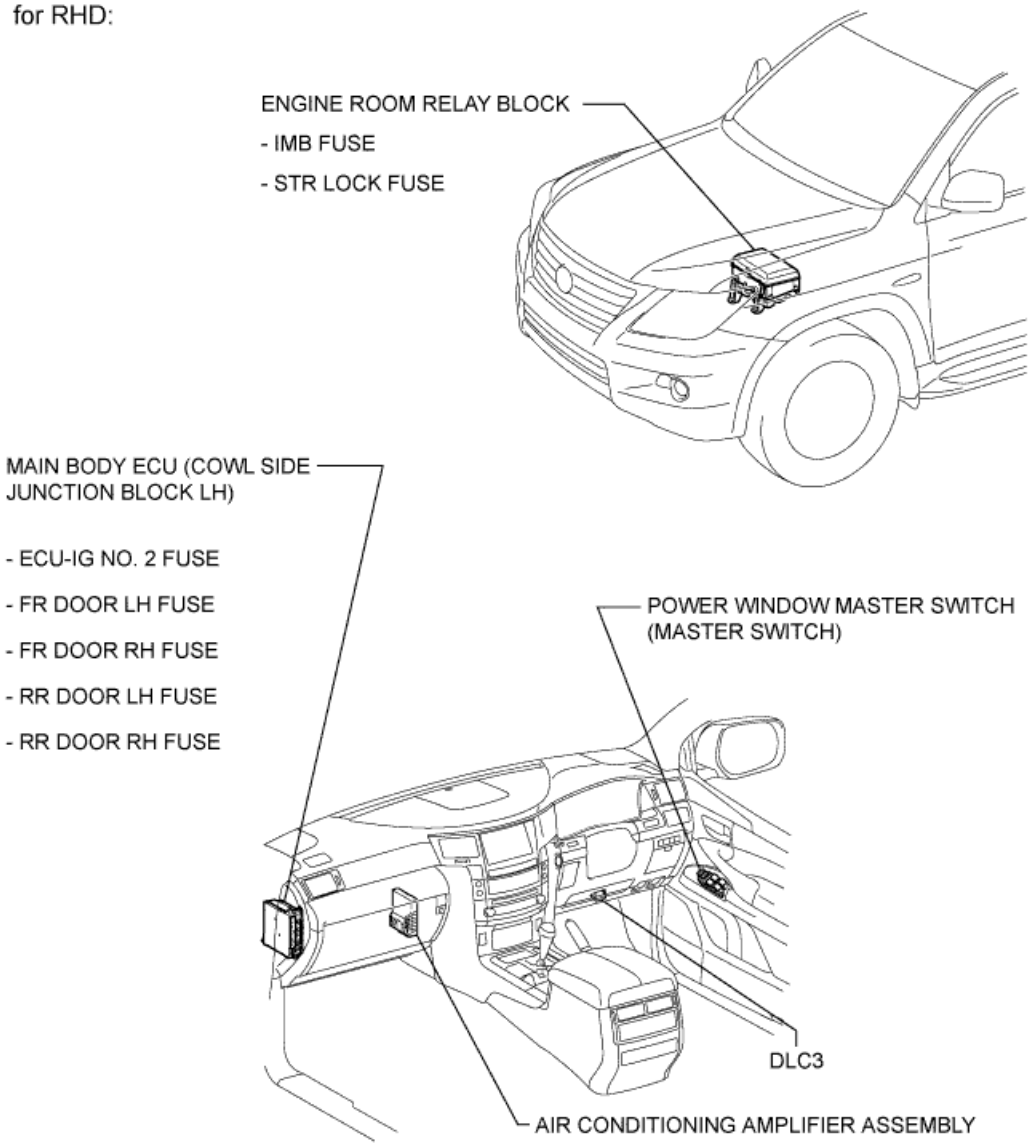



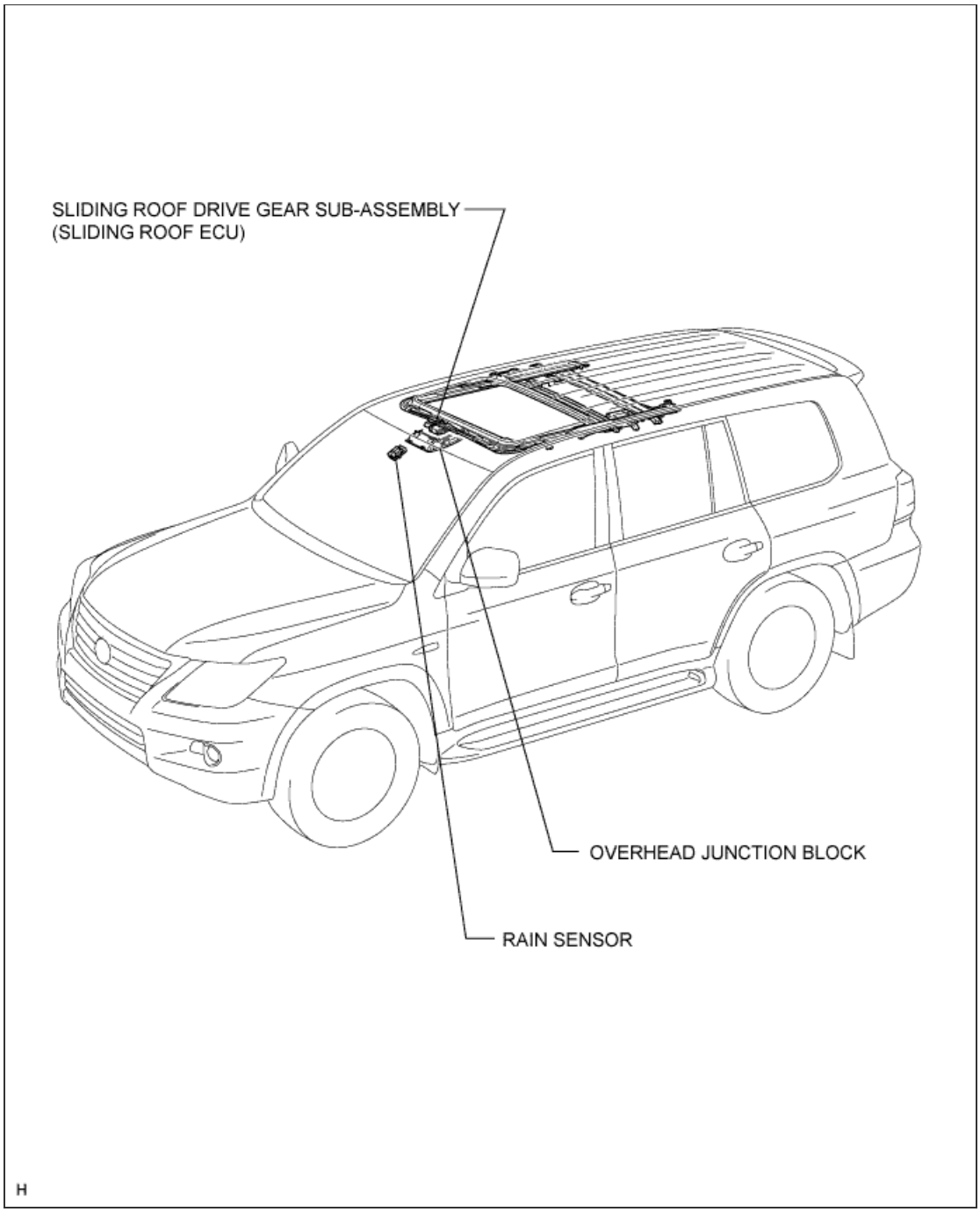

MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

- ECU-IG NO. 2 FUSE
- FR DOOR LH FUSE
- FR DOOR RH FUSE
- RR DOOR LH FUSE
- RR DOOR RH FUSE
- S/ROOF FUSE

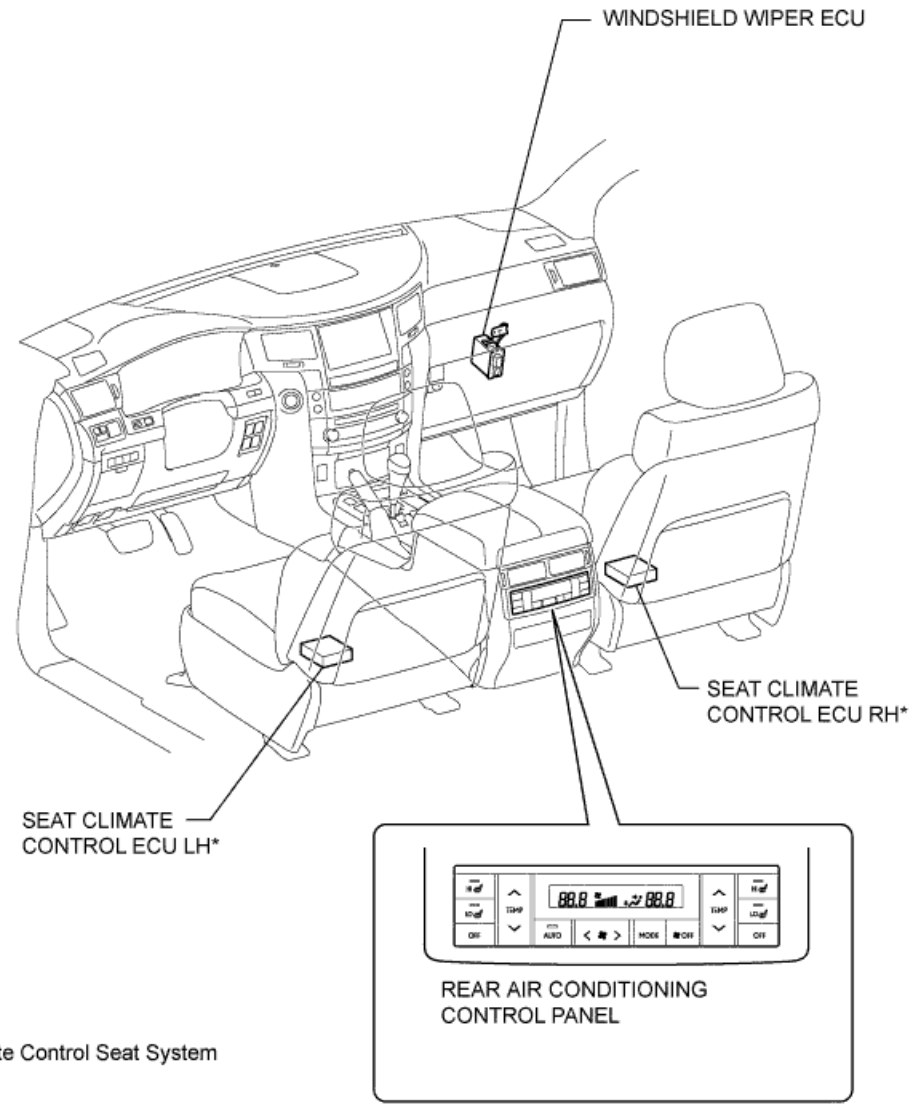
H

for RHD:


ENGINE ROOM RELAY BLOCK
- IMB FUSE
- STR LOCK FUSE
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- ECU-IG NO. 2 FUSE
- FR DOOR LH FUSE
- FR DOOR RH FUSE
- RR DOOR LH FUSE
- RR DOOR RH FUSE
POWER WINDOW MASTER SWITCH (MASTER SWITCH)
DLC3
AIR CONDITIONING AMPLIFIER ASSEMBLY


SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY
(SLIDING ROOF ECU)
OVERHEAD JUNCTION BLOCK
RAIN SENSOR
H

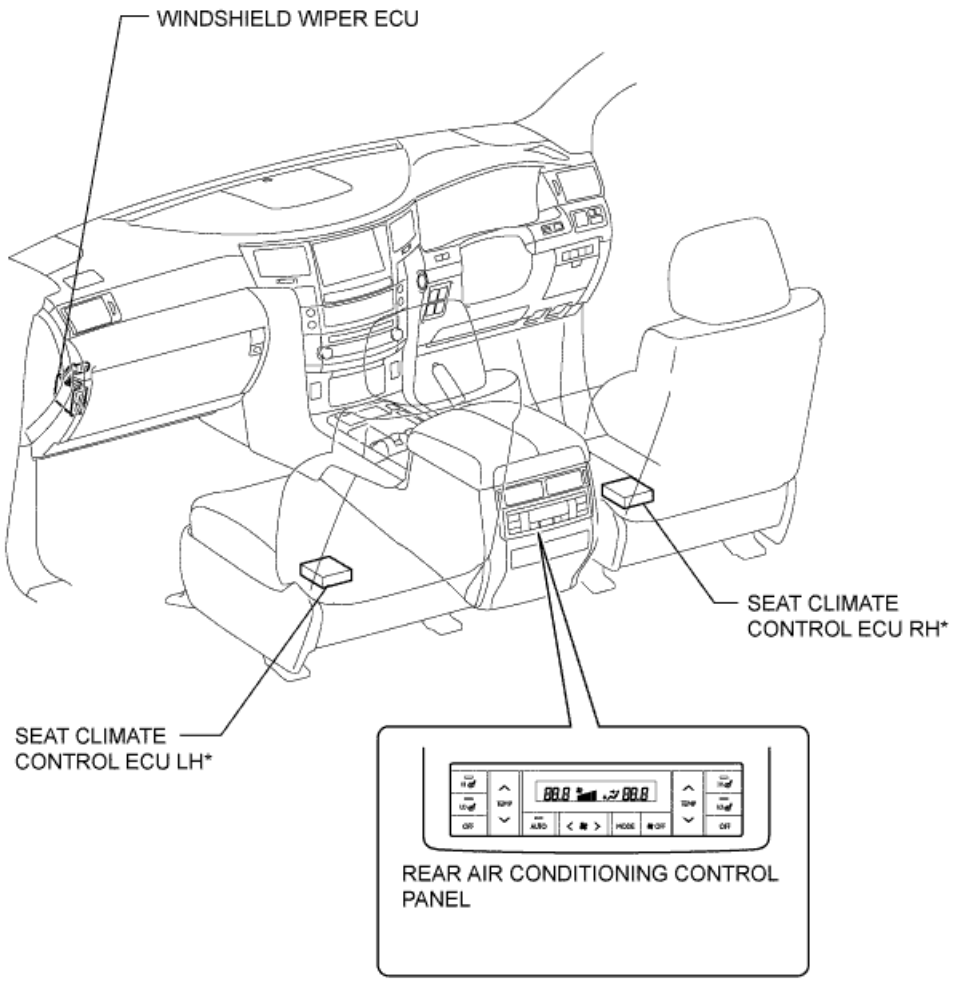
for LHD:




*: w/ Climate Control Seat System

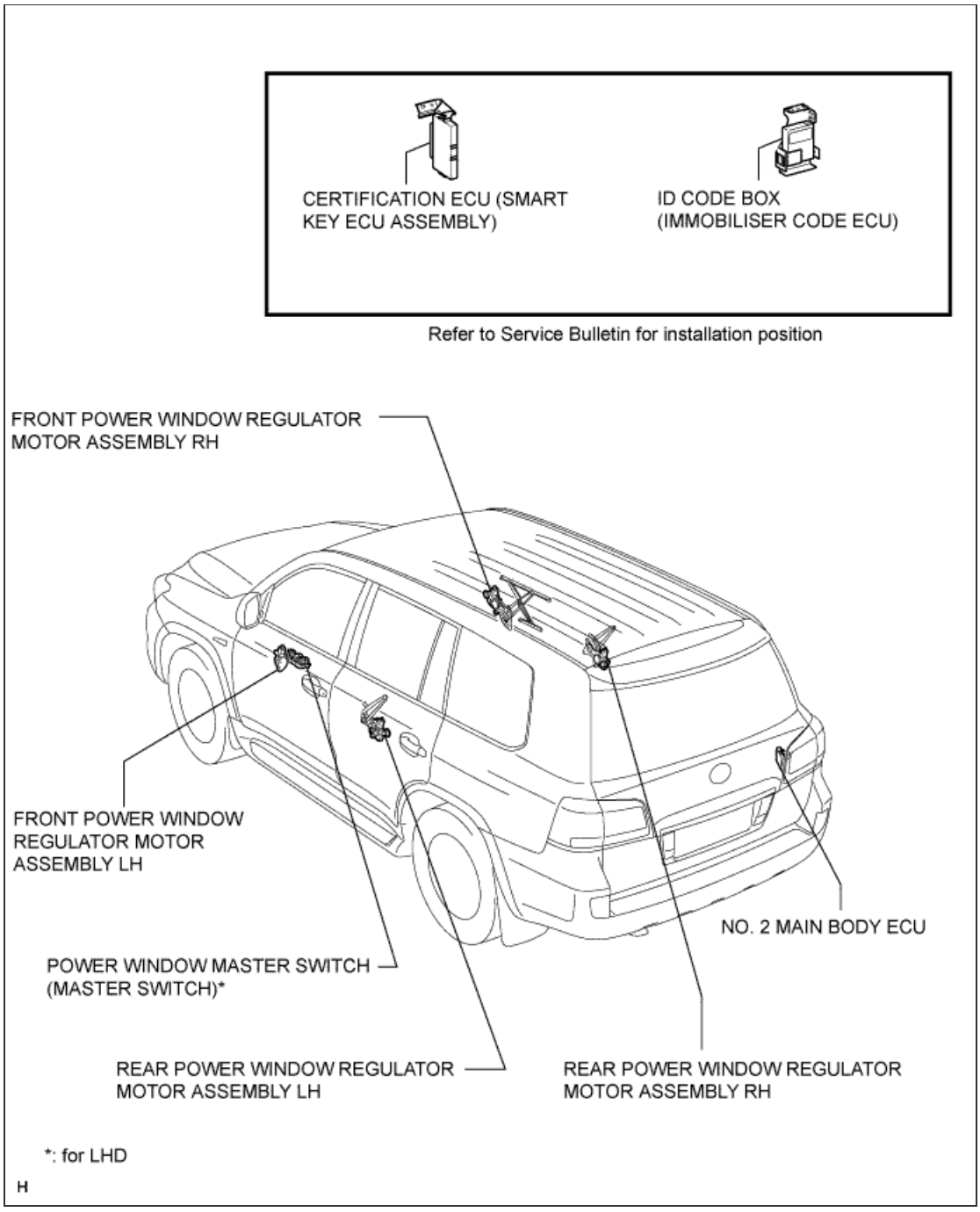
H

for RHD:

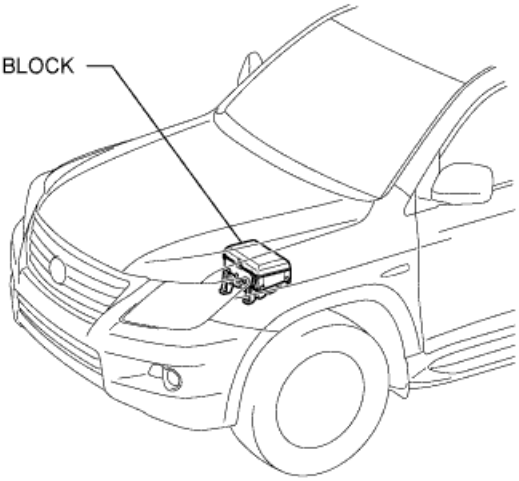


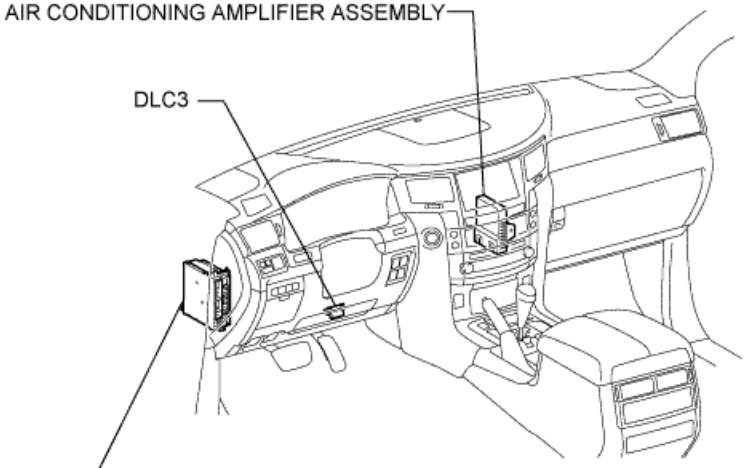

*: w/ Climate Control Seat System

**for Preparation** Click here



for LHD:



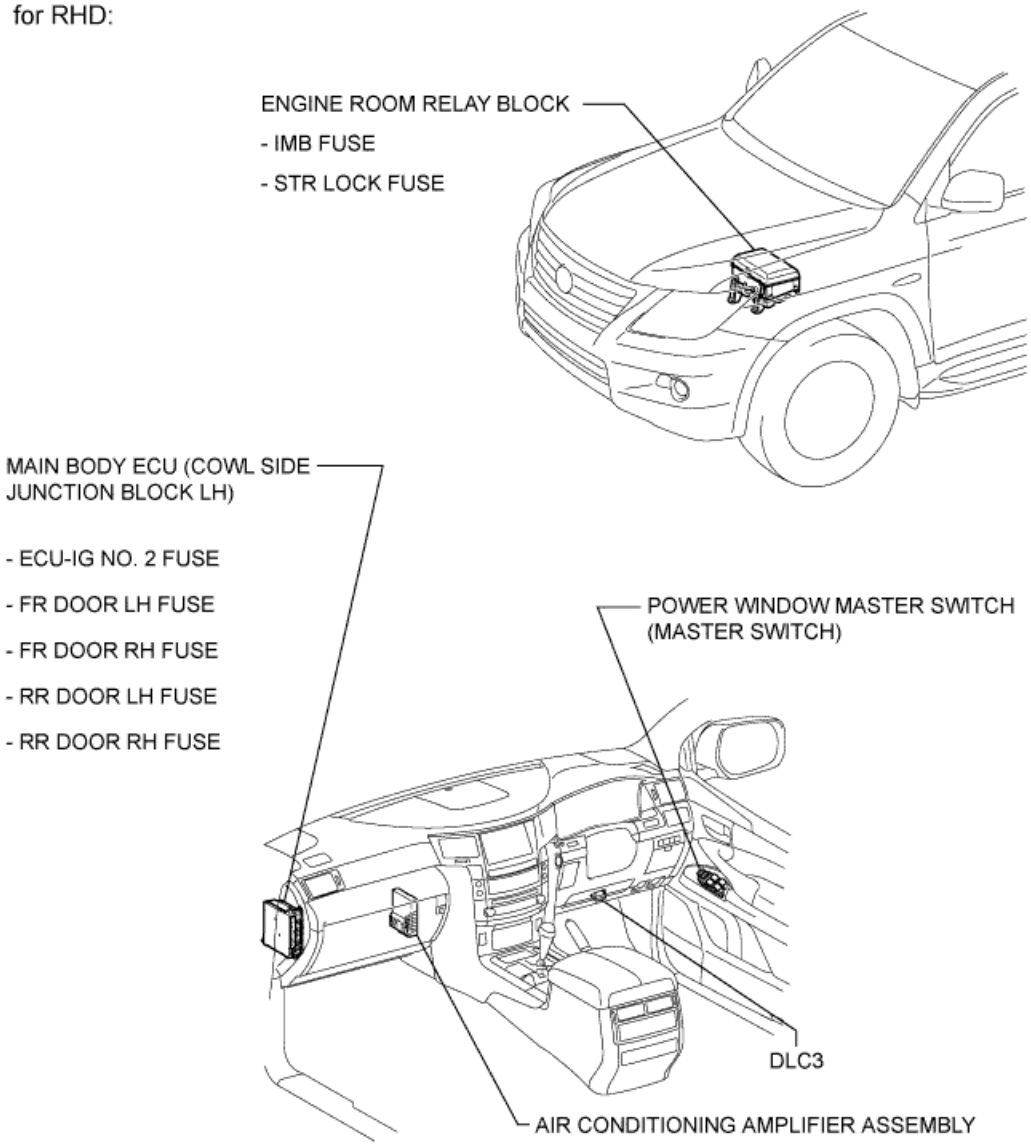



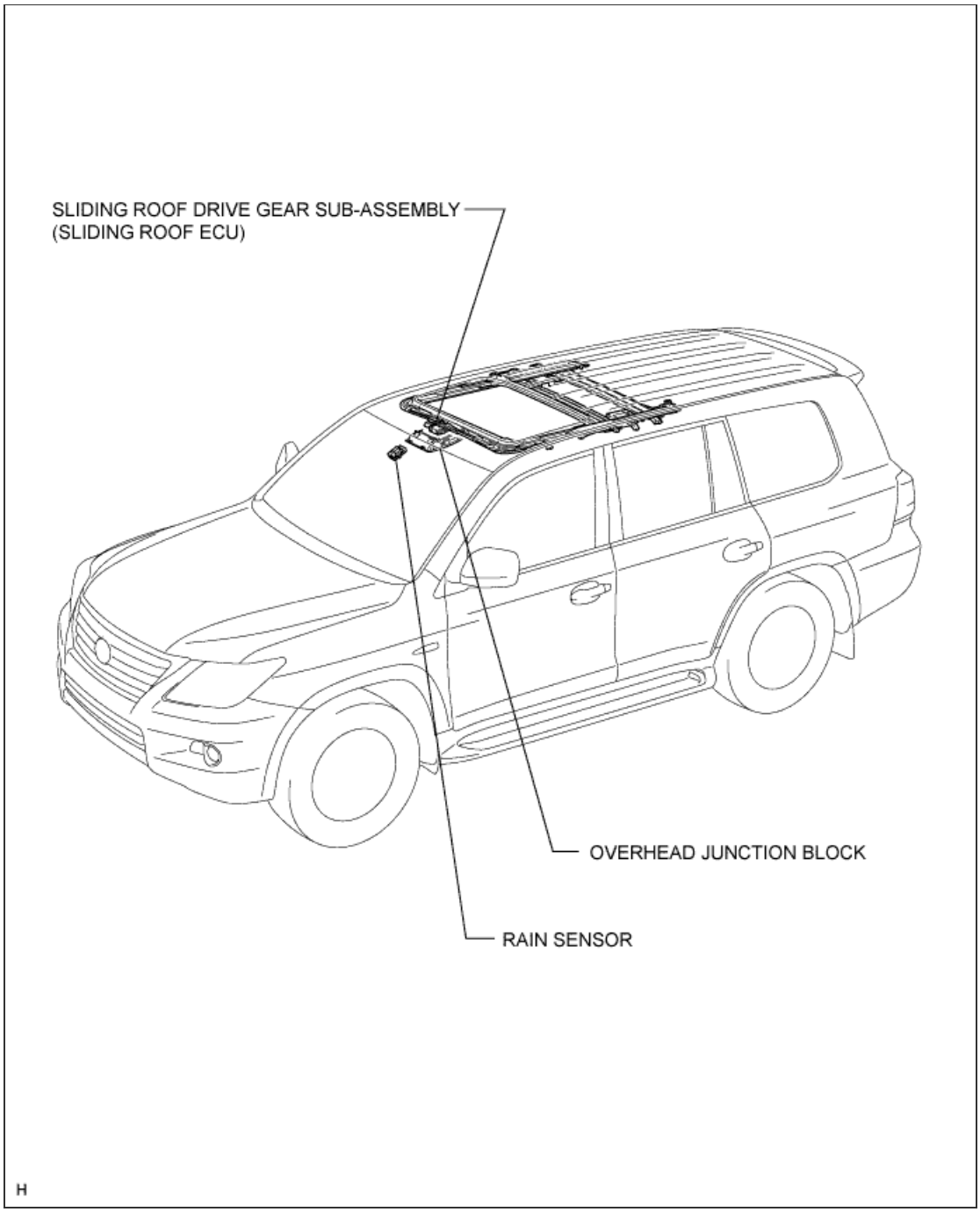

MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

- ECU-IG NO. 2 FUSE
- FR DOOR LH FUSE
- FR DOOR RH FUSE
- RR DOOR LH FUSE
- RR DOOR RH FUSE
- S/ROOF FUSE

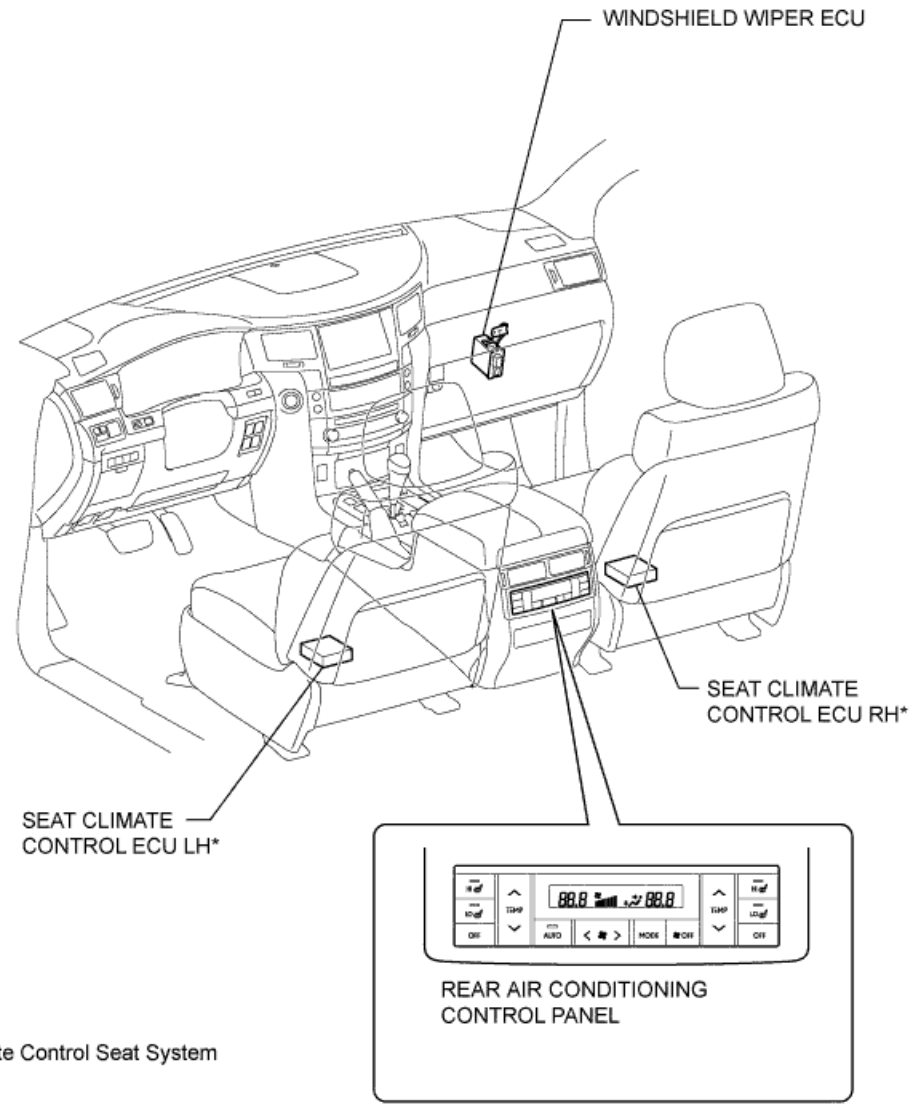
H

for RHD:


ENGINE ROOM RELAY BLOCK
- IMB FUSE
- STR LOCK FUSE
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
- ECU-IG NO. 2 FUSE
- FR DOOR LH FUSE
- FR DOOR RH FUSE
- RR DOOR LH FUSE
- RR DOOR RH FUSE
POWER WINDOW MASTER SWITCH (MASTER SWITCH)
DLC3
AIR CONDITIONING AMPLIFIER ASSEMBLY


SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY
(SLIDING ROOF ECU)
OVERHEAD JUNCTION BLOCK
RAIN SENSOR
H

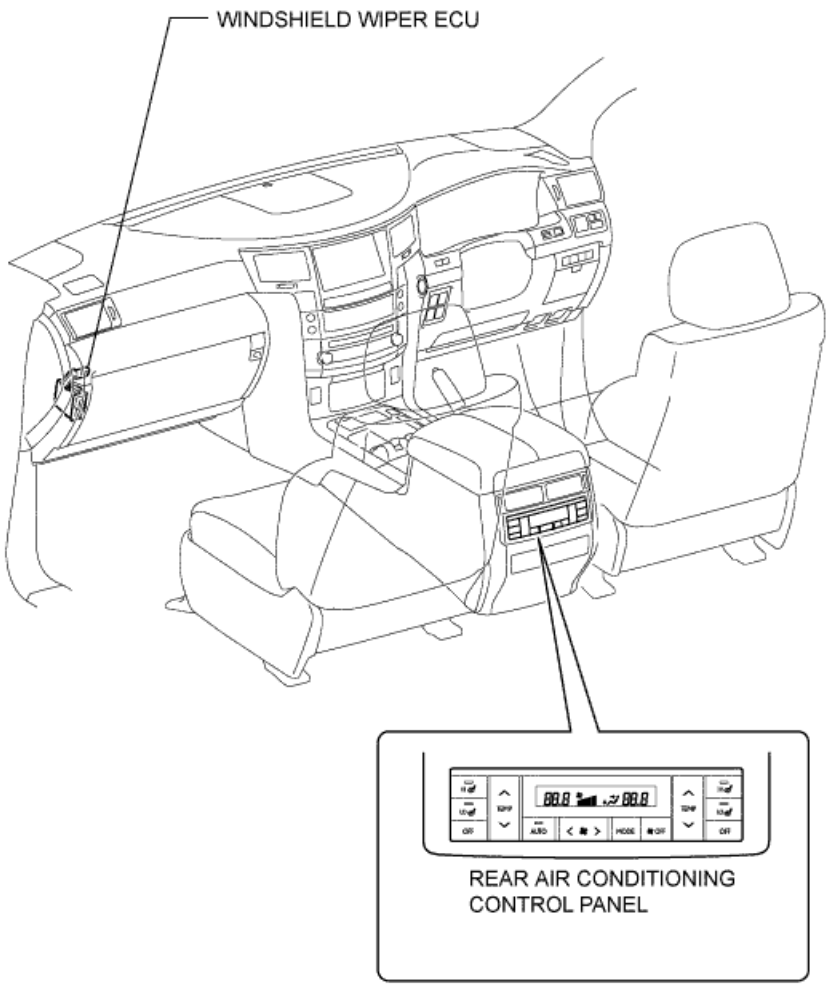
for LHD:




*: w/ Climate Control Seat System

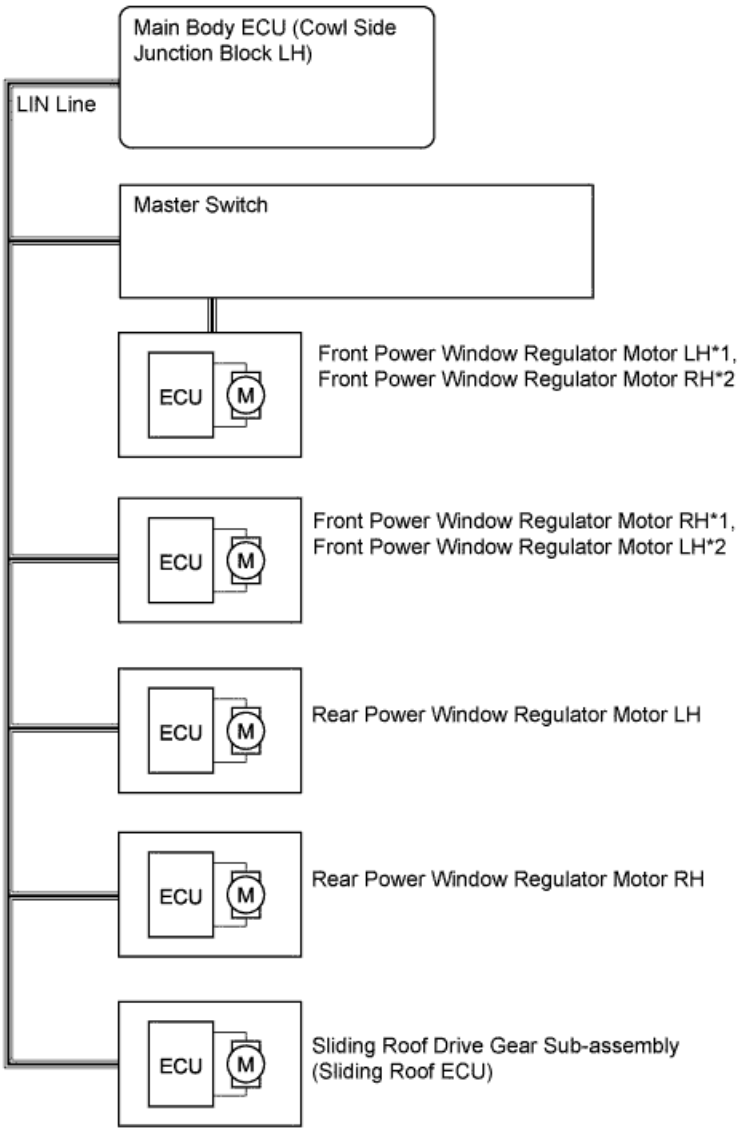
H

for RHD:



**for Preparation** Click here

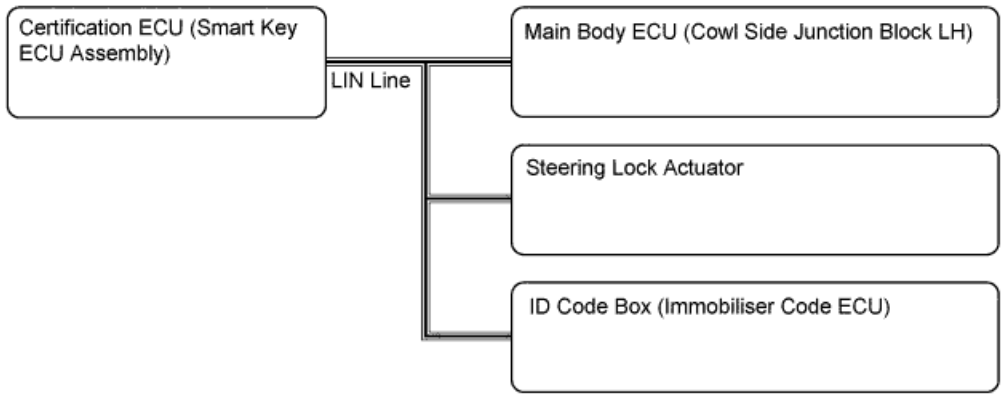
LIN Communication Bus between Components Related to Window and Sliding Roof:



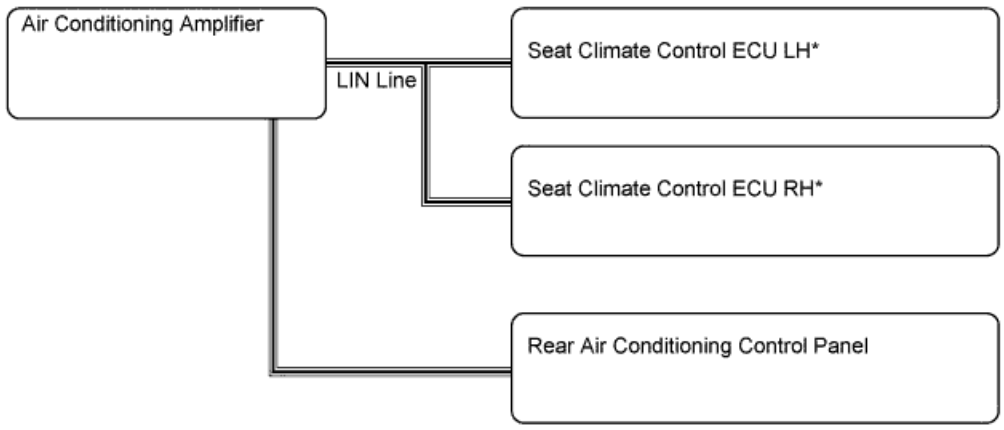

*1: for LHD

*2: for RHD

LIN Communication Bus between Components Related to Certification ECU:

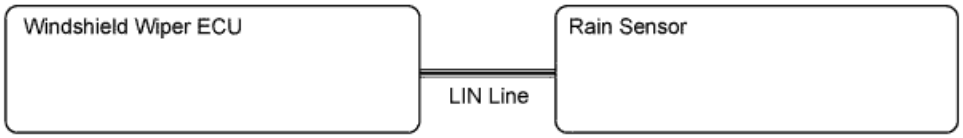



LIN Communication between Components Related to Air Conditioning:

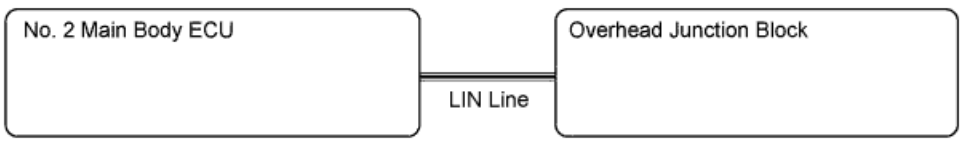



*: w/ Climate Control Seat System

LIN Communication between Components Related to Rain Sensor:




LIN Communication between Components Related to No. 2 Main Body ECU:



**for Preparation** Click here

## LIN COMMUNICATION SYSTEM DESCRIPTION

The LIN communication system is used for communication between the components listed below. Each part of the LIN communication system has a component as a control master.

a. Window and Sliding Roof Components that Use LIN Communication Bus:

**HINT:**

*: Control Master

i. Main Body ECU (Cowl Side Junction Block LH)*
ii. Master Switch
iii. Front Power Window Regulator Motor LH
iv. Front Power Window Regulator Motor RH
v. Rear Power Window Regulator Motor LH
vi. Rear Power Window Regulator Motor RH
vii. Sliding Roof ECU

b. Certification Components that Use LIN Communication Bus:

**HINT:**

*: Control Master

i. Certification ECU (Smart Key ECU Assembly)*
ii. Main Body ECU (Cowl Side Junction Block LH)
iii. Steering Lock Actuator
iv. ID Code Box (Immobiliser Code ECU)

c. Air conditioning Components that Use LIN Communication Bus:

**HINT:**

*: Control Master

i. Air Conditioning Amplifier*
ii. Front Air Conditioning Control Panel (w/o Navigation System)
iii. Rear Air Conditioning Control Panel

d. Rain Sensor Components that Use LIN Communication:

**HINT:**

*: Control Master

i. Windshield Wiper ECU*
ii. Rain Sensor

e. No. 2 Main Body ECU Components that Use LIN Communication:

**HINT:**

*: Control Master

i. No. 2 Main Body ECU*

ii. Overhead Junction Block

**LIN COMMUNICATION SYSTEM DTC**

The control master components shown below store LIN communication system DTCs when there is a malfunction in the LIN communication. If LIN communication stops, the control master of that part of the LIN communication system store DTCs.

a. Main Body ECU (Cowl Side Junction Block LH)

b. Certification ECU (Smart Key ECU Assembly)

c. Air Conditioning Amplifier

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the LIN communication system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

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

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

NEXT

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

a. Using the intelligent tester, inspect the CAN communication function to ensure there are no malfunctions in the communication system ( Click here).

**Result**

| Result | Proceed to |
|---|---|
| No DTCs output | A |
| DTCs output (for LHD) | B |
| DTCs output (for RHD) | C |

B. Go to CAN COMMUNICATION SYSTEM (Click here)

C. Go to CAN COMMUNICATION SYSTEM (Click here)

A

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

a. Using the intelligent tester, inspect the LIN communication function to ensure there are no malfunctions in the communication system.

**Result**

| Result | Proceed to |
|---|---|
| No DTCs output | A |
| DTCs 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. Data List / Active Test (Click here)

b. Terminals of ECU (Click here)

NEXT

## 7.ADJUST, REPAIR OR REPLACE

NEXT

END

**for Preparation** Click here

**HINT:**

- **Use these procedures to troubleshoot the LIN communication system.**
- ***: Use the intelligent tester.**

## 1.VEHICLE BROUGHT TO WORKSHOP

NEXT

## 2.INSPECT BATTERY VOLTAGE

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

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

NEXT

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

a. Using the intelligent tester, inspect the CAN communication function to ensure there are no malfunctions in the communication system ( Click here).

**Result**

| Result | Proceed to |
|---|---|
| No DTCs output | A |
| DTCs output (for LHD) | B |
| DTCs output (for RHD) | C |

B. Go to CAN COMMUNICATION SYSTEM (Click here)

C. Go to CAN COMMUNICATION SYSTEM (Click here)

A

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

a. Using the intelligent tester, inspect the LIN communication function to ensure there are no malfunctions in the communication system.

**Result**

| Result | Proceed to |
|---|---|
| No DTCs output | A |
| DTCs 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. Data List / Active Test (Click here)

b. Terminals of ECU (Click here)

NEXT

## 7.ADJUST, REPAIR OR REPLACE

NEXT

END

**for Preparation** Click here

**HINT:**

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

**LIN Communication System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Rain sensor LIN communication malfunction | LIN communication line | Click here |
| | Rain sensor | Click here |
| | Windshield wiper ECU | Click here |
| Air conditioning LIN communication malfunction | LIN communication line | Click here |
| | Rear air conditioning control panel | Click here |
| | Air conditioning amplifier | Click here |

**for Preparation** Click here

**HINT:**

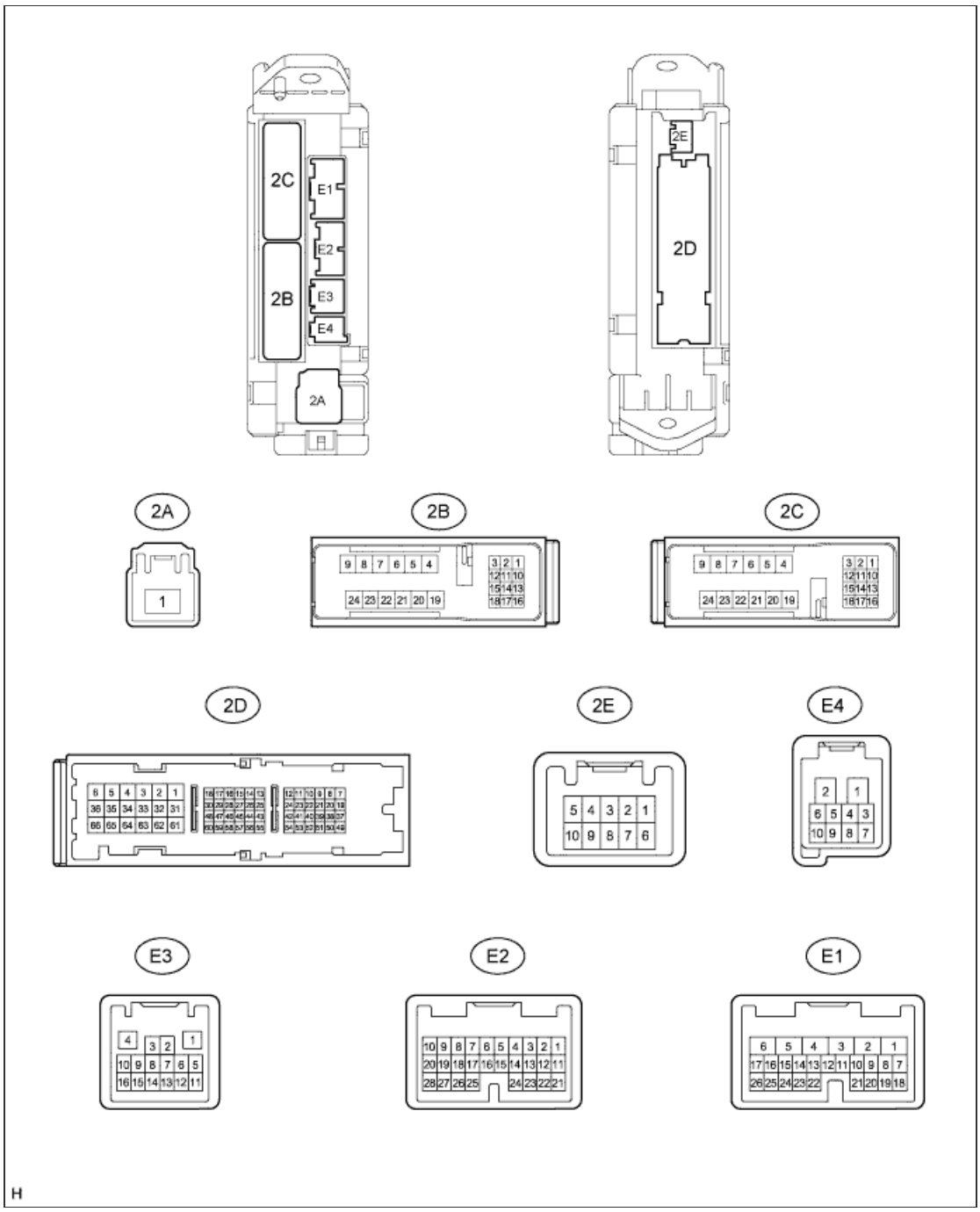
Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed.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

**LIN Communication System**

| Symptom | Suspected Area | See page |
|---|---|---|
| Rain sensor LIN communication malfunction | LIN communication line | Click here |
| | Rain sensor | Click here |
| | Windshield wiper ECU | Click here |
| Air conditioning LIN communication malfunction | LIN communication line | Click here |
| | Rear air conditioning control panel | Click here |
| | Air conditioning amplifier | Click here |

**for Preparation** Click here

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



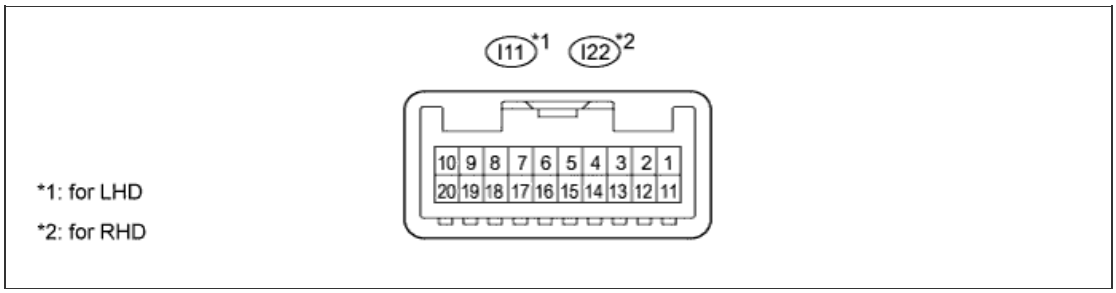

a. Disconnect the 2D, E1, E2 and E3 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| 2D-62 (GND2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E3-1 (GND3) - Body ground | BR - Body ground | Ground | Always | Below 1 Ω |
| E2-1 (AM2) - 2D-62 (GND2) | W - W-B | Battery power supply | Always | 11 to 14 V |
| E1-6 (AM1) - 2D-62 (GND2) | W - W-B | Battery power supply | Always | 11 to 14 V |

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

## CHECK 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.
*1: for LHD
*2: for RHD

**for LHD**

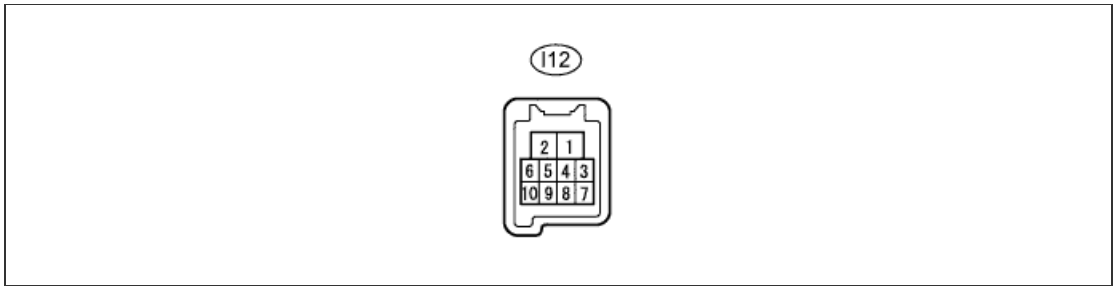
| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| I11-11 (B) - I11-12 (GND) | L - W-B | Ignition power supply | Engine switch off | Below 1 Ω |
| I11-11 (B) - I11-12 (GND) | L - W-B | Ignition power supply | Engine switch on (IG) | 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 | Ignition power supply | Engine switch off | Below 1 Ω |
| I22-11 (B) - I22-12 (GND) | L - W-B | Ignition power supply | Engine switch on (IG) | 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.

## CHECK FRONT POWER WINDOW REGULATOR MOTOR LH



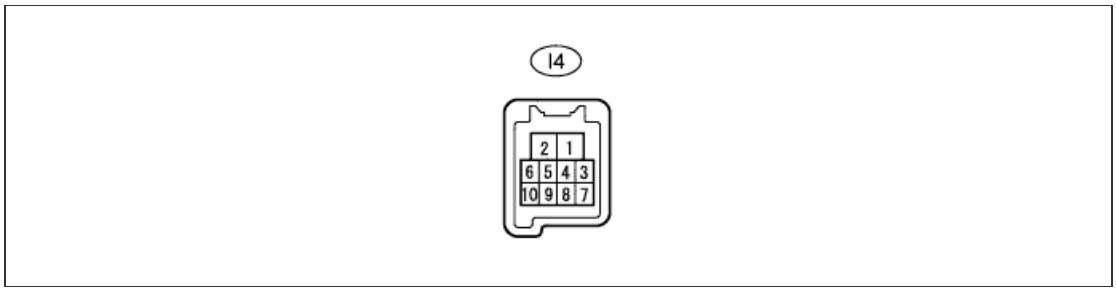

a. Disconnect the I12 motor connector.

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.

## CHECK FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH



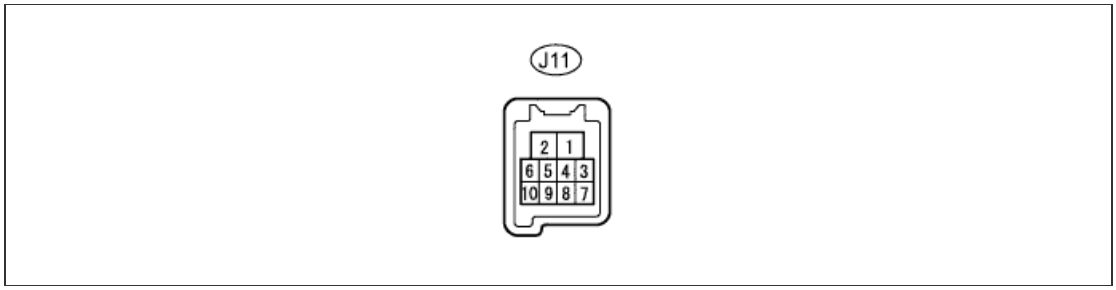

a. Disconnect the I4 motor connector.

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.

## CHECK REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH



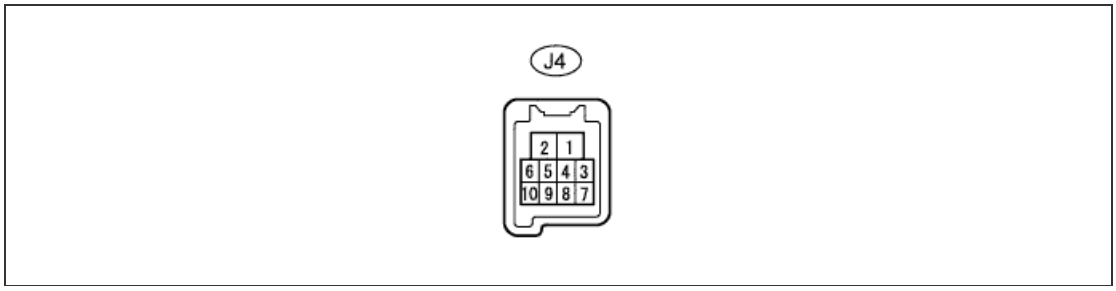

a. Disconnect the J11 motor connector.

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.

## CHECK REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH



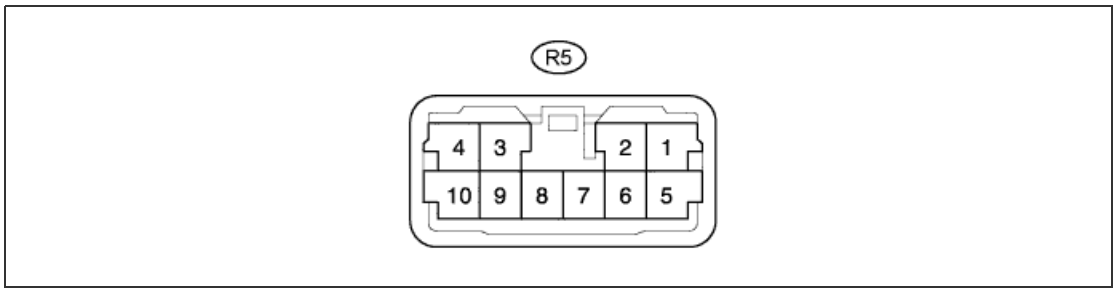

a. Disconnect the J4 motor connector.

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.

## CHECK SLIDING ROOF ECU



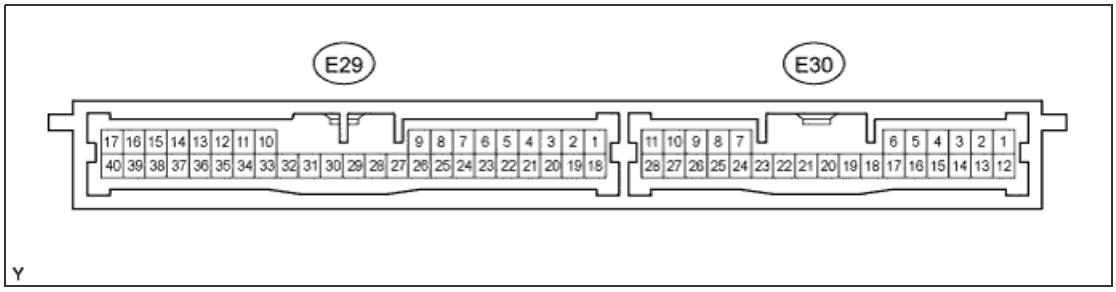

a. Disconnect the R5 ECU connector.

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 | Battery power supply | Always | 11 to 14 V |
| 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.

## CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)



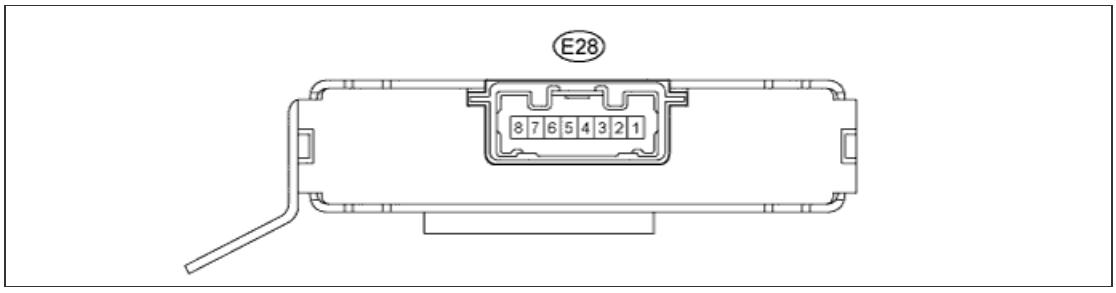

a. Disconnect the E29 ECU connector.

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

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

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

## CHECK ID CODE BOX (IMMOBILISER CODE ECU)



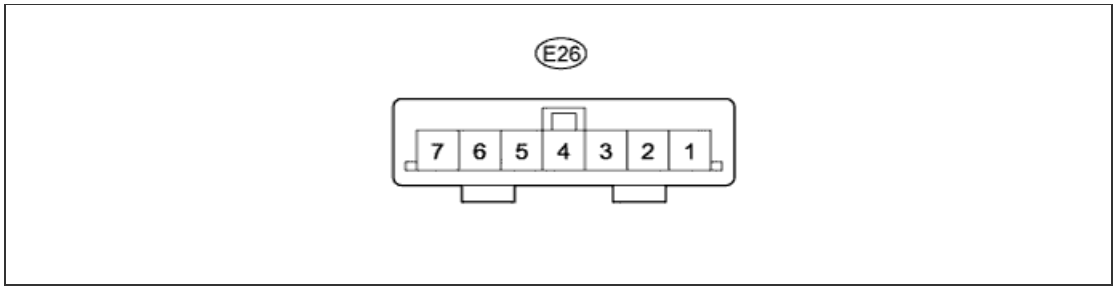

a. Disconnect the E28 ECU connector.

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 |
|---|---|---|---|---|
| E28-1 (+B) - E28-8 (GND) | B - W-B | Battery power supply | Always | 11 to 14 V |
| E28-8 (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.

## CHECK STEERING LOCK ECU



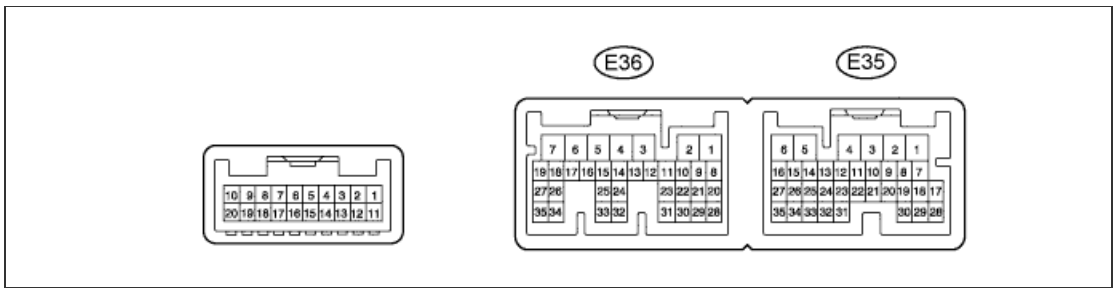

a. Disconnect the E26 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E26-7 (B) - E26-1 (GND) | R - W-B | Battery power supply | Always | 11 to 14 V |
| E26-1 (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.

## CHECK AIR CONDITIONING AMPLIFIER (A/C ECU)



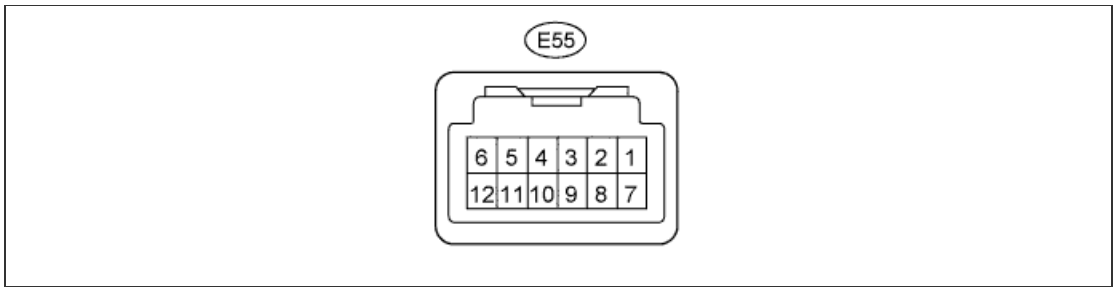

a. Disconnect the E36 amplifier connector.

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 | IG power supply | Engine switch off | Below 1 V |
| E36-5 (IG+) - E36-1 (GND) | G - W-B | IG power supply | Engine switch on (IG) | 11 to 14 V |
| E36-6 (+B1) - E36-1 (GND) | R - W-B | Battery power supply | Always | 11 to 14 V |
| E36-7 (+B2) - E36-1 (GND) | R - W-B | Battery power supply | Always | 11 to 14 V |
| E36-1 (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.

## CHECK REAR AIR CONDITIONING CONTROL PANEL



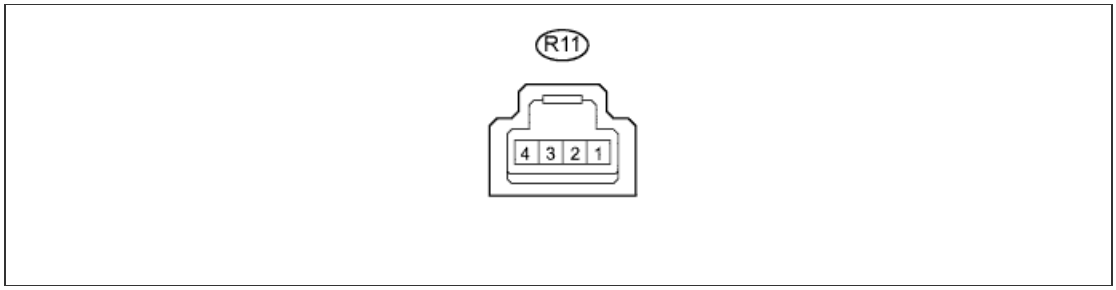

a. Disconnect the E55 panel connector.

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

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E55-6 (IG) - E55-1 (E) | G - W-B | IG power supply | Engine switch off | Below 1 V |
| E55-1 (E) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

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

## CHECK RAIN SENSOR



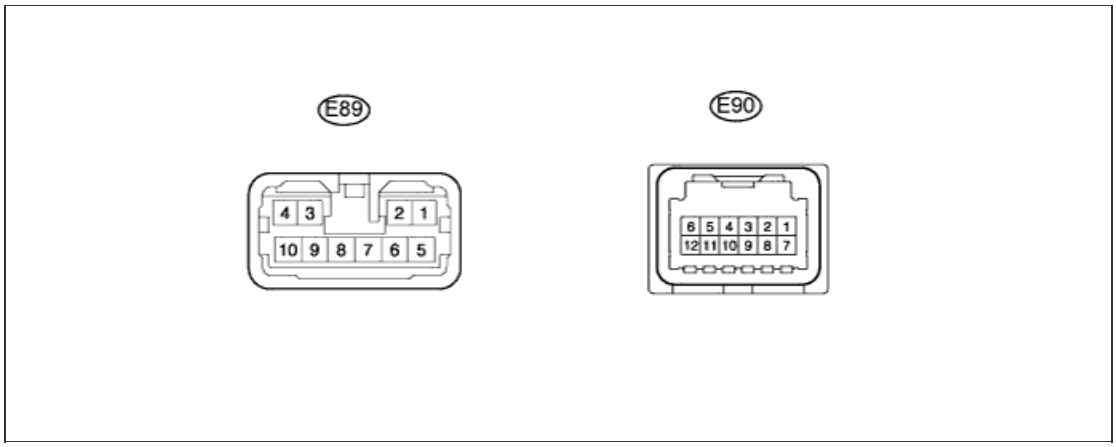

a. Disconnect the R11 rain sensor connector.

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 | 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 WINDSHIELD WIPER ECU




a. Disconnect the E89 and E90 ECU connectors.

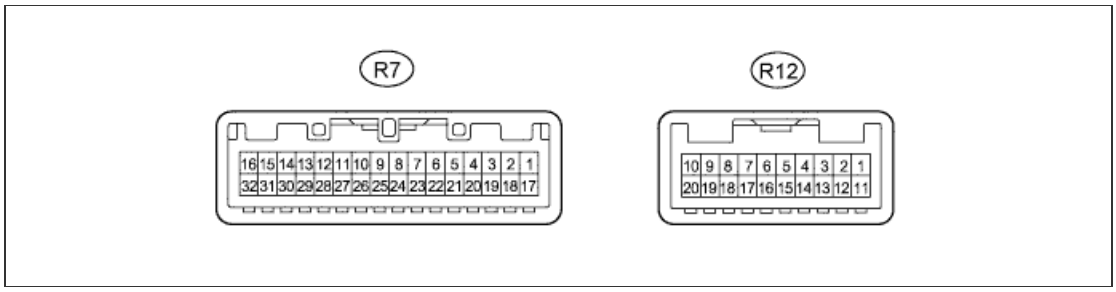
b. Measure the voltage and resistance according to the value(s) in the table below.

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

| | | | | |
|---|---|---|---|---|
| E89-5 (IG1I) - E90-10 (E) | G - W-B | Power source | Engine switch off | Below 1 V |
| 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.

## CHECK OVERHEAD JUNCTION BLOCK



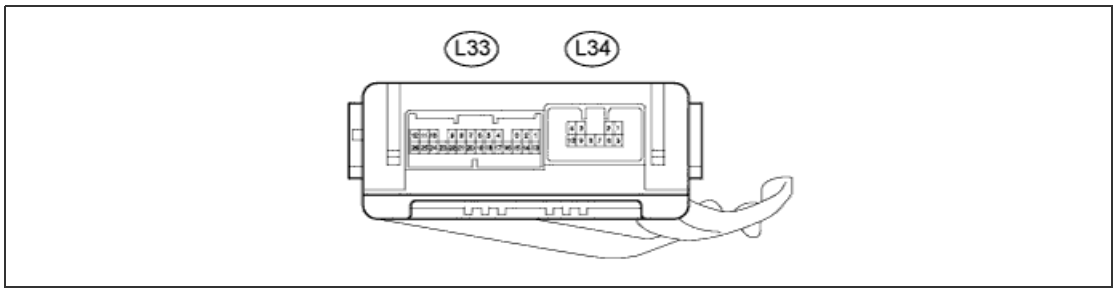

a. Disconnect the R7 block connector.

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 |
|---|---|---|---|---|
| R7-16 (GND9) - Body ground | W-B - Body ground | Body ground | Always | Below 1 V |
| R7-6 (+B2) - Body ground | R - Body ground | Battery power supply | Always | 11 to 14 V |

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

## CHECK NO. 2 MAIN BODY ECU



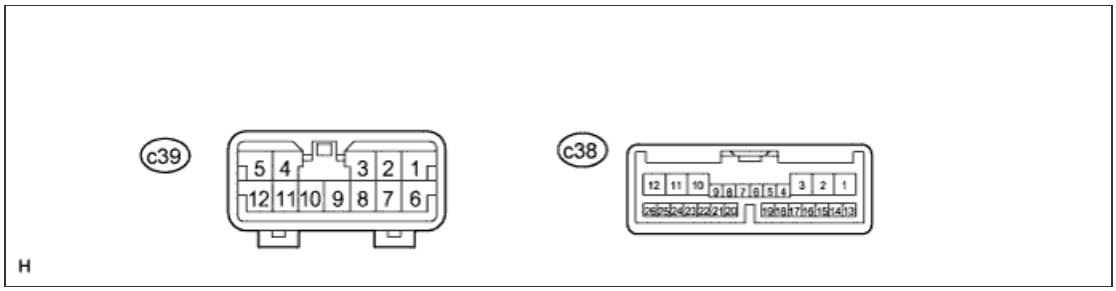

a. Disconnect the L33 and L34 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| L33-7 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 V |
| L34-7 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 V |
| L33-14 (BECU) - Body ground | R - Body ground | Battery power supply | Always | 11 to 14 V |

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

## CHECK SEAT CLIMATE CONTROL ECU LH (w/ Climate Control Seat System)



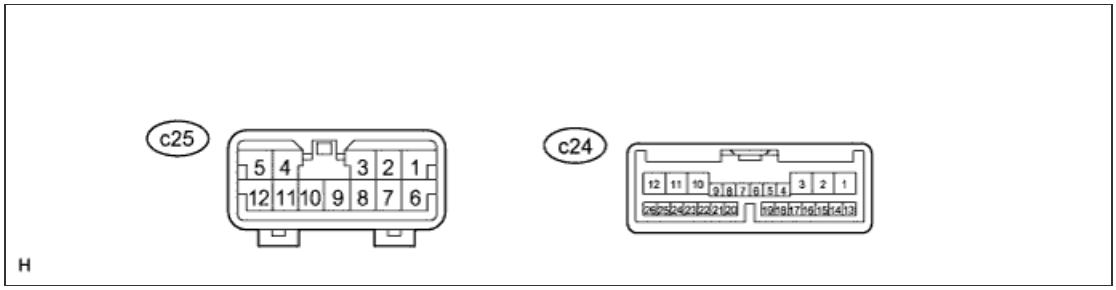

a. Disconnect the c38 ECU connector.

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 |
|---|---|---|---|---|
| c38-12 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 V |
| c38-2 (B) - Body ground | G - Body ground | Battery power supply | Always | 11 to 14 V |
| c38-1 (IG) - Body ground | G - Body ground | IG power supply | Engine switch off | Below 1 V |
| c38-1 (IG) - Body ground | G - Body ground | IG power supply | Engine switch on (IG) | 11 to 14 V |

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

**CHECK SEAT CLIMATE CONTROL ECU RH (w/ Climate Control Seat System)**




a. Disconnect the c24 ECU connector.

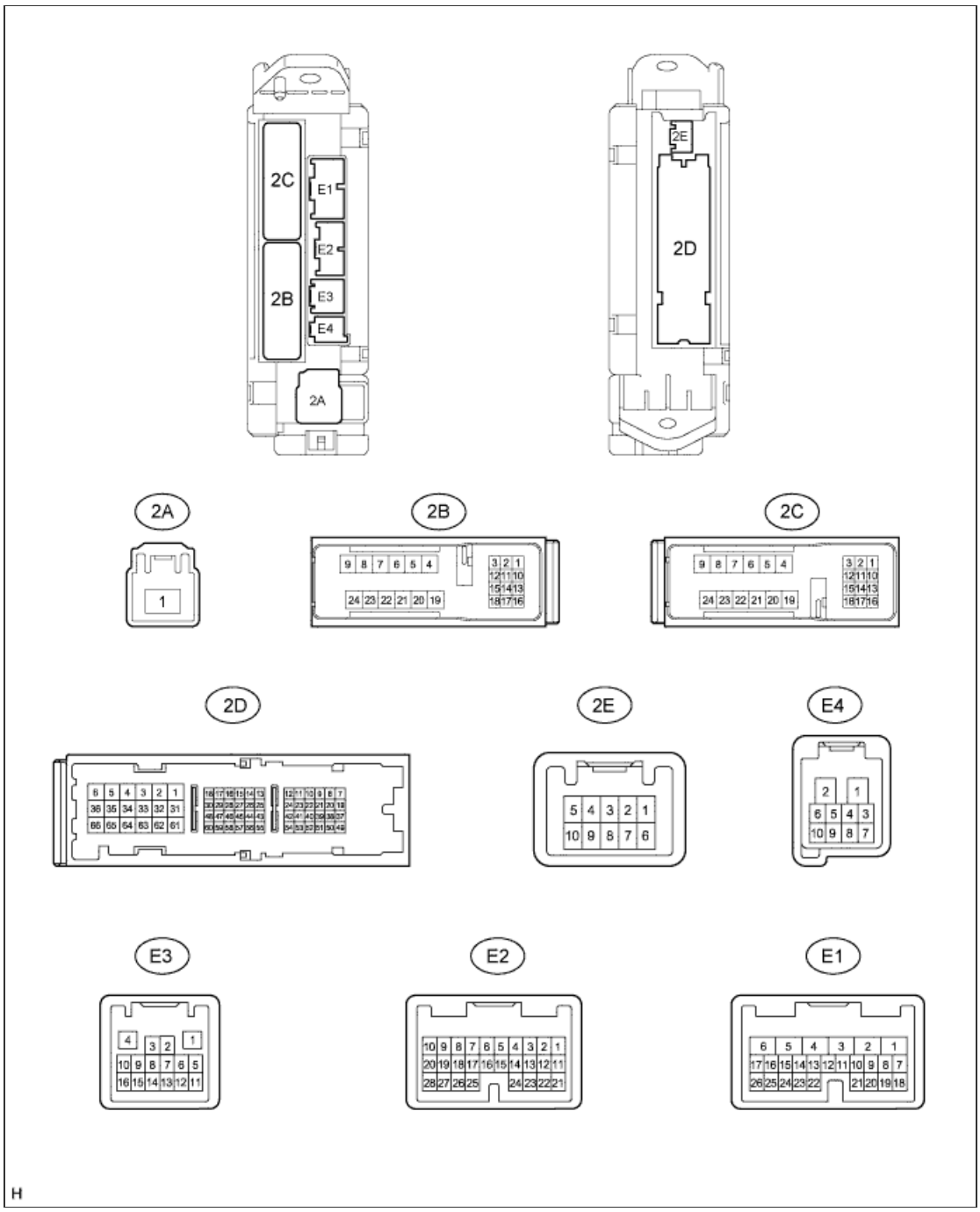
b. Measure the resistance and voltage according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| c24-12 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 V |
| c24-2 (B) - Body ground | G - Body ground | Battery power supply | Always | 11 to 14 V |
| c24-1 (IG) - Body ground | G - Body ground | IG power supply | Engine switch off | Below 1 V |
| c24-1 (IG) - Body ground | G - Body ground | IG power supply | Engine switch on (IG) | 11 to 14 V |

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

**for Preparation** Click here

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



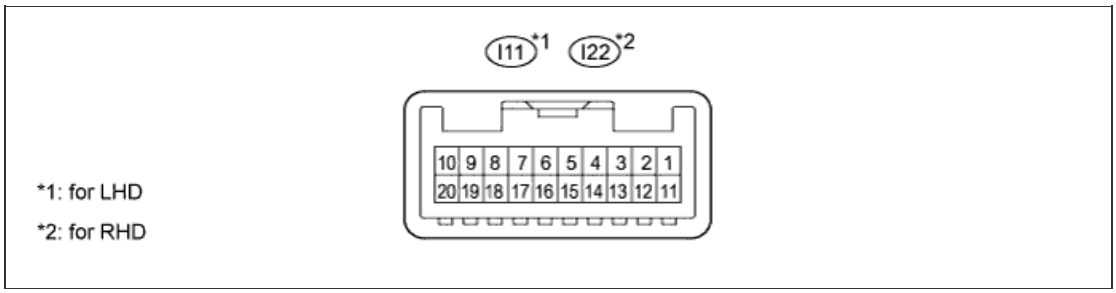

a. Disconnect the 2D, E1, E2 and E3 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| 2D-62 (GND2) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| E3-1 (GND3) - Body ground | BR - Body ground | Ground | Always | Below 1 Ω |
| E2-1 (AM2) - 2D-62 (GND2) | W - W-B | Battery power supply | Always | 11 to 14 V |
| E1-6 (AM1) - 2D-62 (GND2) | W - W-B | Battery power supply | Always | 11 to 14 V |

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

## CHECK 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.
*1: for LHD
*2: for RHD

**for LHD**

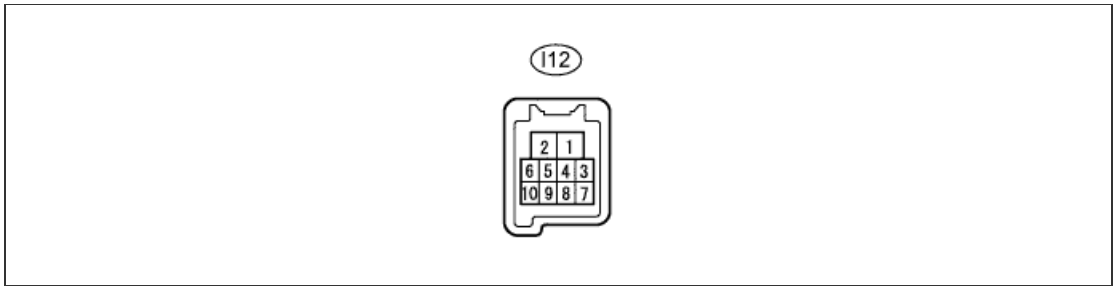
| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| I11-11 (B) - I11-12 (GND) | L - W-B | Ignition power supply | Engine switch off | Below 1 Ω |
| I11-11 (B) - I11-12 (GND) | L - W-B | Ignition power supply | Engine switch on (IG) | 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 | Ignition power supply | Engine switch off | Below 1 Ω |
| I22-11 (B) - I22-12 (GND) | L - W-B | Ignition power supply | Engine switch on (IG) | 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.

## CHECK FRONT POWER WINDOW REGULATOR MOTOR LH



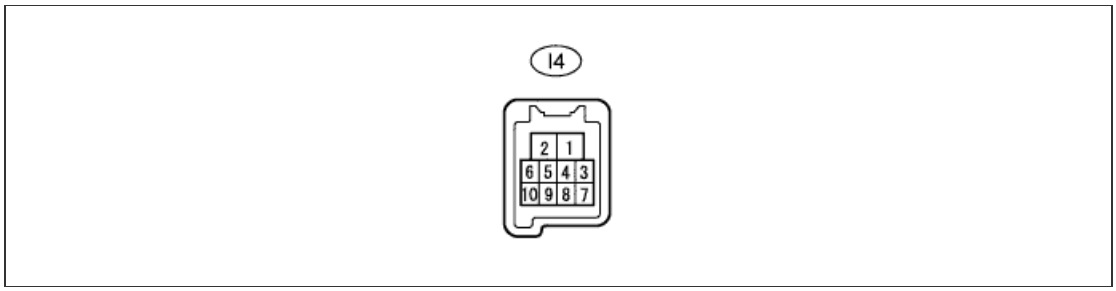

a. Disconnect the I12 motor connector.

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.

## CHECK FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY RH



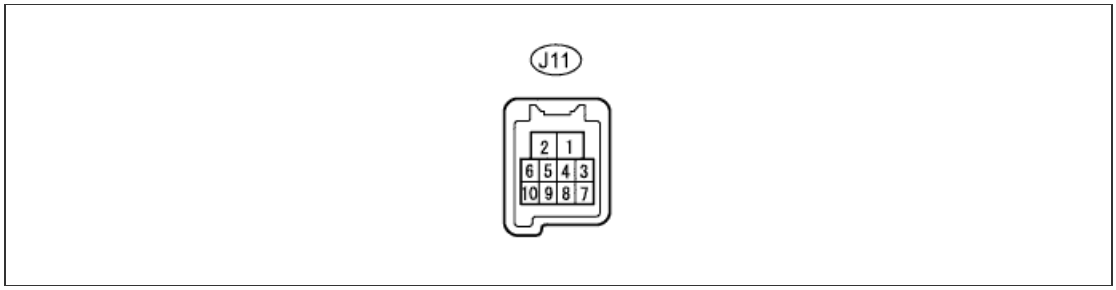

a. Disconnect the I4 motor connector.

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.

## CHECK REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH



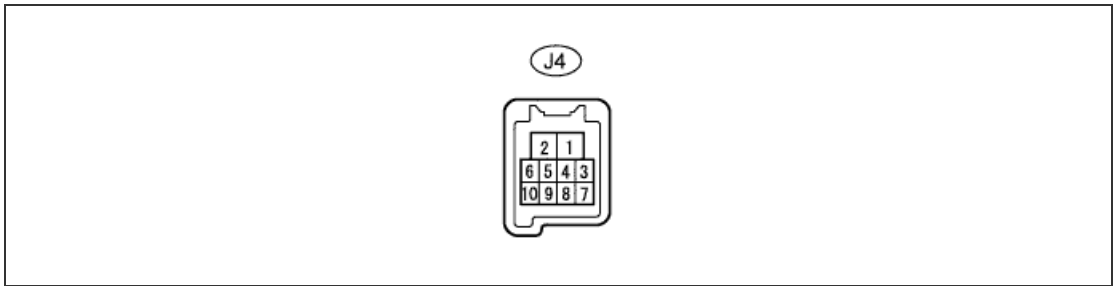

a. Disconnect the J11 motor connector.

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.

## CHECK REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH



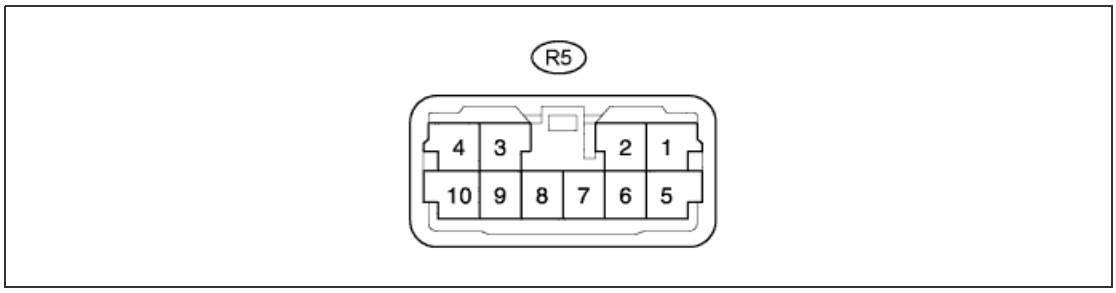

a. Disconnect the J4 motor connector.

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.

## CHECK SLIDING ROOF ECU



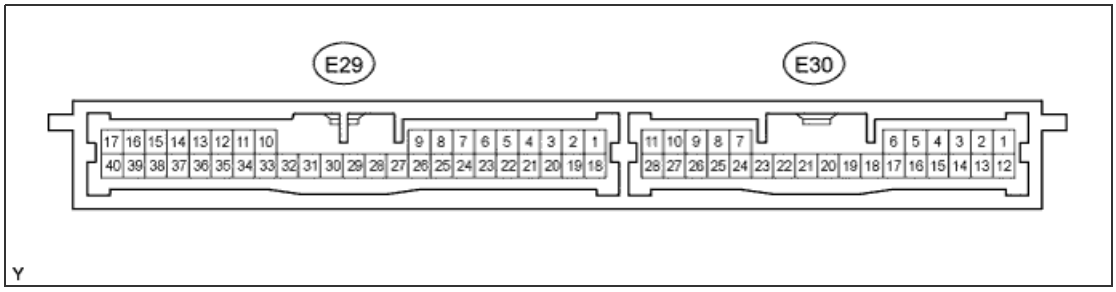

a. Disconnect the R5 ECU connector.

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 | Battery power supply | Always | 11 to 14 V |
| 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.

## CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)



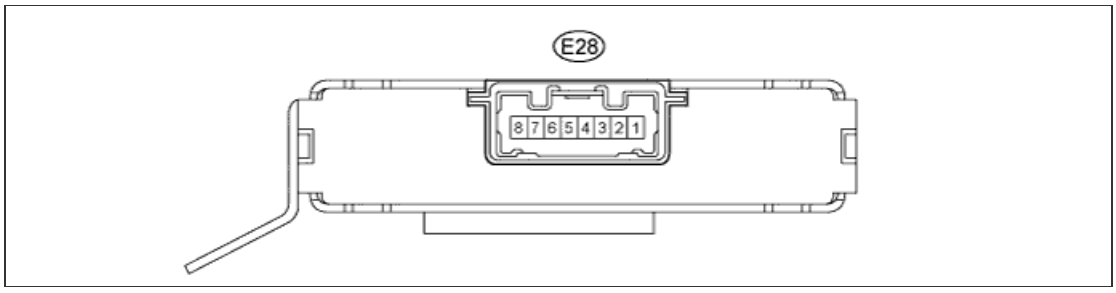

a. Disconnect the E29 ECU connector.

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

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

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

## CHECK ID CODE BOX (IMMOBILISER CODE ECU)



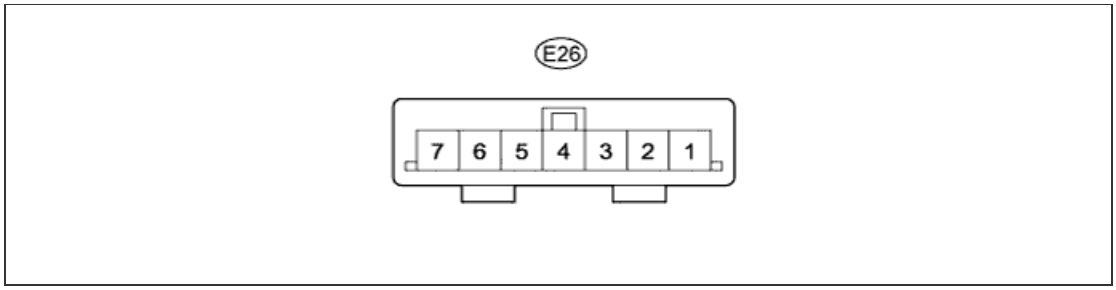

a. Disconnect the E28 ECU connector.

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 |
|---|---|---|---|---|
| E28-1 (+B) - E28-8 (GND) | B - W-B | Battery power supply | Always | 11 to 14 V |
| E28-8 (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.

## CHECK STEERING LOCK ECU



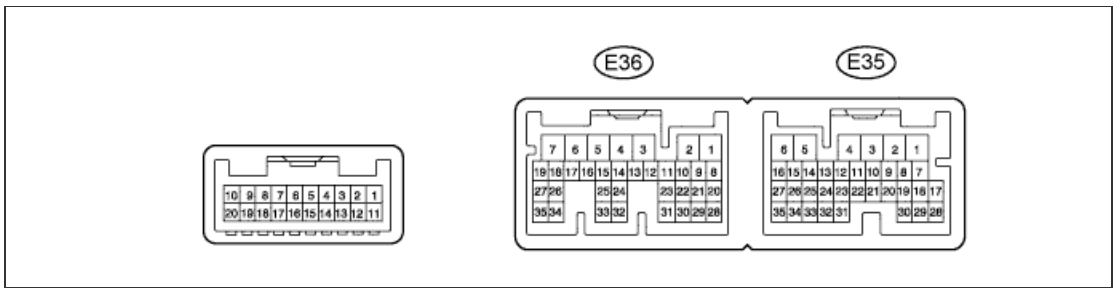

a. Disconnect the E26 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E26-7 (B) - E26-1 (GND) | R - W-B | Battery power supply | Always | 11 to 14 V |
| E26-1 (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.

## CHECK AIR CONDITIONING AMPLIFIER (A/C ECU)



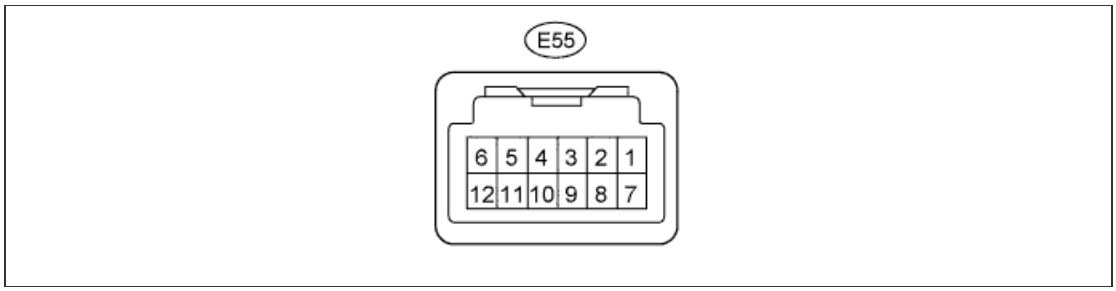

a. Disconnect the E36 amplifier connector.

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 | IG power supply | Engine switch off | Below 1 V |
| E36-5 (IG+) - E36-1 (GND) | G - W-B | IG power supply | Engine switch on (IG) | 11 to 14 V |
| E36-6 (+B1) - E36-1 (GND) | R - W-B | Battery power supply | Always | 11 to 14 V |
| E36-7 (+B2) - E36-1 (GND) | R - W-B | Battery power supply | Always | 11 to 14 V |
| E36-1 (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.

## CHECK REAR AIR CONDITIONING CONTROL PANEL



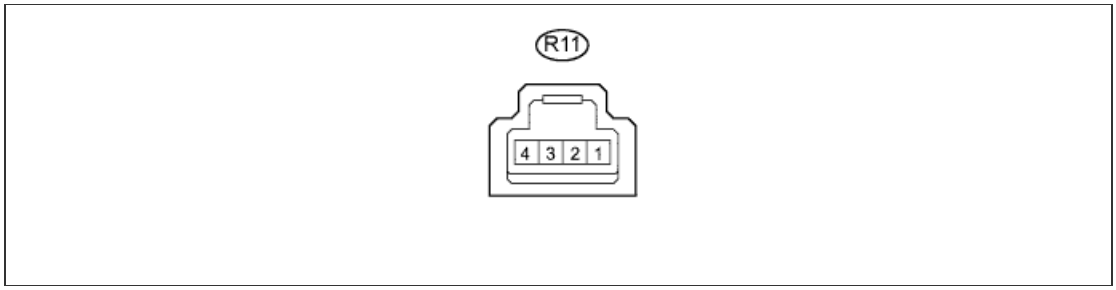

a. Disconnect the E55 panel connector.

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

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| E55-6 (IG) - E55-1 (E) | G - W-B | IG power supply | Engine switch off | Below 1 V |
| E55-1 (E) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |

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

## CHECK RAIN SENSOR



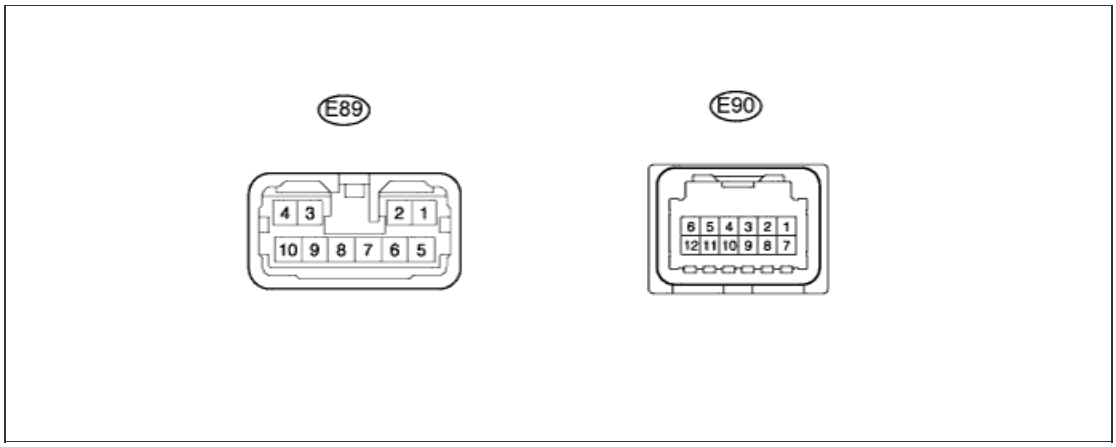

a. Disconnect the R11 rain sensor connector.

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 | 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 WINDSHIELD WIPER ECU




a. Disconnect the E89 and E90 ECU connectors.

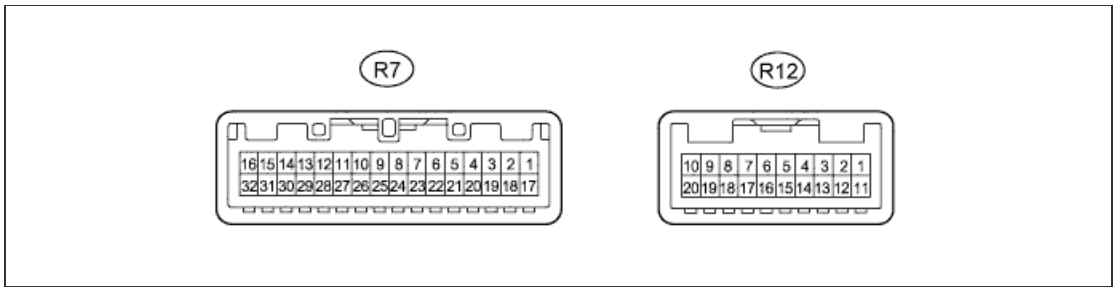
b. Measure the voltage and resistance according to the value(s) in the table below.

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

| | | | | |
|---|---|---|---|---|
| E89-5 (IG1I) - E90-10 (E) | G - W-B | Power source | Engine switch off | Below 1 V |
| 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.

## CHECK OVERHEAD JUNCTION BLOCK



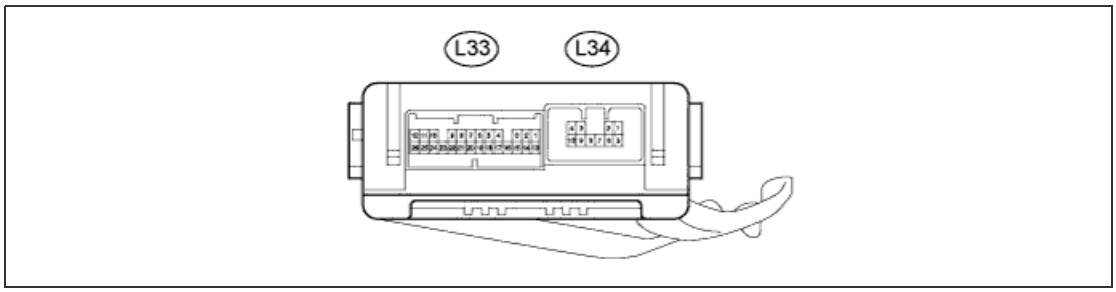

a. Disconnect the R7 block connector.

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 |
|---|---|---|---|---|
| R7-16 (GND9) - Body ground | W-B - Body ground | Body ground | Always | Below 1 V |
| R7-6 (+B2) - Body ground | R - Body ground | Battery power supply | Always | 11 to 14 V |

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

## CHECK NO. 2 MAIN BODY ECU




a. Disconnect the L33 and L34 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---|---|---|---|---|
| L33-7 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 V |
| L34-7 (GND) - Body ground | W-B - Body ground | Ground | Always | Below 1 V |
| L33-14 (BECU) - Body ground | R - Body ground | Battery power supply | Always | 11 to 14 V |

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

**for Preparation** Click here

## CHECK DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

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

e. Read the DTCs.

## CLEAR DTC

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

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

e. Clear the DTCs.

**for Preparation** Click here

## READ DATA LIST

**HINT:**

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

**NOTICE:**

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

a. Connect the intelligent tester to the DLC3.

b. Turn the engine switch on (IG).

c. Turn the intelligent tester on.

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

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

**Main Body**

| Tester Display | Measurement Item/Range | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Communication D-Door Motor | Connection status between power window regulator motor (for driver side) and main body ECU (cowl side junction block LH) / OK or STOP | OK: Connection STOP: No connection | When there is a malfunction, a DTC is stored. |
| Communication P-Door Motor | Connection status between power window regulator motor (for front passenger side) and main body ECU (cowl side junction block LH) / OK or STOP | OK: Connection STOP: No connection | When there is a malfunction, a DTC is stored. |
| Communication RR-Door Motor | Connection status between power window regulator motor (for rear RH) and main body ECU (cowl side junction block LH) / OK or STOP | OK: Connection STOP: No connection | When there is a malfunction, a DTC is stored. |
| Communication RL-Door Motor | Connection status between power window regulator motor (for rear LH) and main body ECU (cowl side junction block LH) / OK or STOP | OK: Connection STOP: No connection | When there is a malfunction, a DTC is stored. |
| Communication Slide Roof | Connection status between sliding roof ECU and main body ECU (cowl side junction block LH) / OK or STOP | OK: Connection STOP: No connection | When there is a malfunction, a DTC is stored. |
| Communication Master SW | Connection status between power window ECU (master switch) and main body ECU (cowl side junction block LH) / OK or STOP | OK: Connection STOP: No connection | When there is a malfunction, a DTC is stored. |
| Number of Trouble Codes | Number of trouble codes / Min.: 0, Max.: 255 | Number of DTCs will be displayed | - |

**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.

**LIN Communication System**

| DTC Code | Detection Item | Trouble Area | See page |
|---|---|---|---|
| B1206 | P/W Master Switch Communication Stop | - Main body ECU (cowl side junction block LH)<br>- Master switch<br>- Harness or connector | Click here |
| B1273 | Sliding Roof ECU Communication Stop | - Main body ECU (cowl side junction block LH)<br>- Sliding roof ECU<br>- Harness or connector | Click here |
| B1478 | Climate Control Seat ECU Communication Error | - Air conditioning amplifier<br>- Seat climate control ECU LH<br>- Seat climate control ECU RH<br>- Harness or connector | Click here |
| B2287 | LIN Communication Master Malfunction | - Main body ECU (cowl side junction block LH)<br>- Certification ECU (smart key ECU assembly)<br>- Harness or connector | Click here |
| B2321 | Driver Side Door ECU Communication Stop | - Main body ECU (cowl side junction block LH)<br>- Front power window regulator motor RH (for RHD)<br>- Front power window regulator motor LH (for LHD)<br>- Harness or connector | Click here |
| B2322 | Front Passenger Side Door ECU Communication Stop | - Main body ECU (cowl side junction block LH)<br>- Front power window regulator motor LH (for RHD)<br>- Front power window regulator motor RH (for LHD)<br>- Harness or connector | Click here |
| B2323 | Rear Door RH ECU Communication Stop | - Main body ECU (cowl side junction block LH)<br>- Rear power window regulator motor RH<br>- Harness or connector | Click here |
| B2324 | Rear Door LH ECU Communication Stop | - Main body ECU (cowl side junction block LH)<br>- Rear power window regulator motor LH<br>- Harness or connector | Click here |
| B2325 | LIN Communication Bus Malfunction | - Main body ECU (cowl side junction block LH)<br>- Master switch<br>- Front power window regulator motor LH<br>- Front power window regulator motor RH<br>- Rear power window regulator motor LH<br>- Rear power window regulator motor RH<br>- Sliding roof ECU (w/ Sliding Roof System)<br>- Harness or connector | Click here |
| B2405 | Sub Bus LIN Module Communication Malfunction | - Overhead junction block<br>- No. 2 main body ECU<br>- Harness or connector | Click here |
| B2785 | Communication Malfunction between ECUs Connected by LIN | - Certification ECU (smart key ECU assembly)<br>- Main body ECU (cowl side junction block LH)<br>- ID code box (immobiliser code ECU)<br>- Steering lock actuator (steering lock ECU)<br>- Harness or connector | Click here |
| B2786 | No Response from Steering Lock ECU | - Certification ECU (smart key ECU assembly)<br>- Steering lock actuator (steering lock ECU)<br>- Harness or connector | Click here |
| B2789 | No Response from ID BOX | - Certification ECU (smart key ECU assembly)<br>- ID code box (immobiliser code ECU)<br>- Harness or connector | 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.

**LIN Communication System**

| DTC Code | Detection Item | Trouble Area | See page |
|---|---|---|---|
| B1206 | P/W Master Switch Communication Stop | - Main body ECU (cowl side junction block LH)<br>- Master switch<br>- Harness or connector | Click here |
| B1273 | Sliding Roof ECU Communication Stop | - Main body ECU (cowl side junction block LH)<br>- Sliding roof ECU<br>- Harness or connector | Click here |
| B2287 | LIN Communication Master Malfunction | - Main body ECU (cowl side junction block LH)<br>- Certification ECU (smart key ECU assembly)<br>- Harness or connector | Click here |
| B2321 | Driver Side Door ECU Communication Stop | - Main body ECU (cowl side junction block LH)<br>- Front power window regulator motor RH (for RHD)<br>- Front power window regulator motor LH (for LHD)<br>- Harness or connector | Click here |
| B2322 | Front Passenger Side Door ECU Communication Stop | - Main body ECU (cowl side junction block LH)<br>- Front power window regulator motor LH (for RHD)<br>- Front power window regulator motor RH (for LHD)<br>- Harness or connector | Click here |
| B2323 | Rear Door RH ECU Communication Stop | - Main body ECU (cowl side junction block LH)<br>- Rear power window regulator motor RH<br>- Harness or connector | Click here |
| B2324 | Rear Door LH ECU Communication Stop | - Main body ECU (cowl side junction block LH)<br>- Rear power window regulator motor LH<br>- Harness or connector | Click here |
| B2325 | LIN Communication Bus Malfunction | - Main body ECU (cowl side junction block LH)<br>- Master switch<br>- Front power window regulator motor LH<br>- Front power window regulator motor RH<br>- Rear power window regulator motor LH<br>- Rear power window regulator motor RH<br>- Sliding roof ECU (w/ Sliding Roof System)<br>- Harness or connector | Click here |
| B2405 | Sub Bus LIN Module Communication Malfunction | - Overhead junction block<br>- No. 2 main body ECU<br>- Harness or connector | Click here |
| B2785 | Communication Malfunction between ECUs Connected by LIN | - Main body ECU (cowl side junction block LH)<br>- Master switch<br>- Front power window regulator motor LH<br>- Front power window regulator motor RH<br>- Rear power window regulator motor LH<br>- Rear power window regulator motor RH<br>- Sliding roof ECU (w/ Sliding Roof System)<br>- Harness or connector | Click here |
| B2786 | No Response from Steering Lock ECU | - Certification ECU (smart key ECU assembly)<br>- Steering lock actuator (steering lock ECU)<br>- Harness or connector | Click here |
| B2789 | No Response from ID BOX | - Certification ECU (smart key ECU assembly)<br>- ID code box (immobiliser code ECU)<br>- Harness or connector | Click here |

## DTC B1206 P/W Master Switch Communication Stop

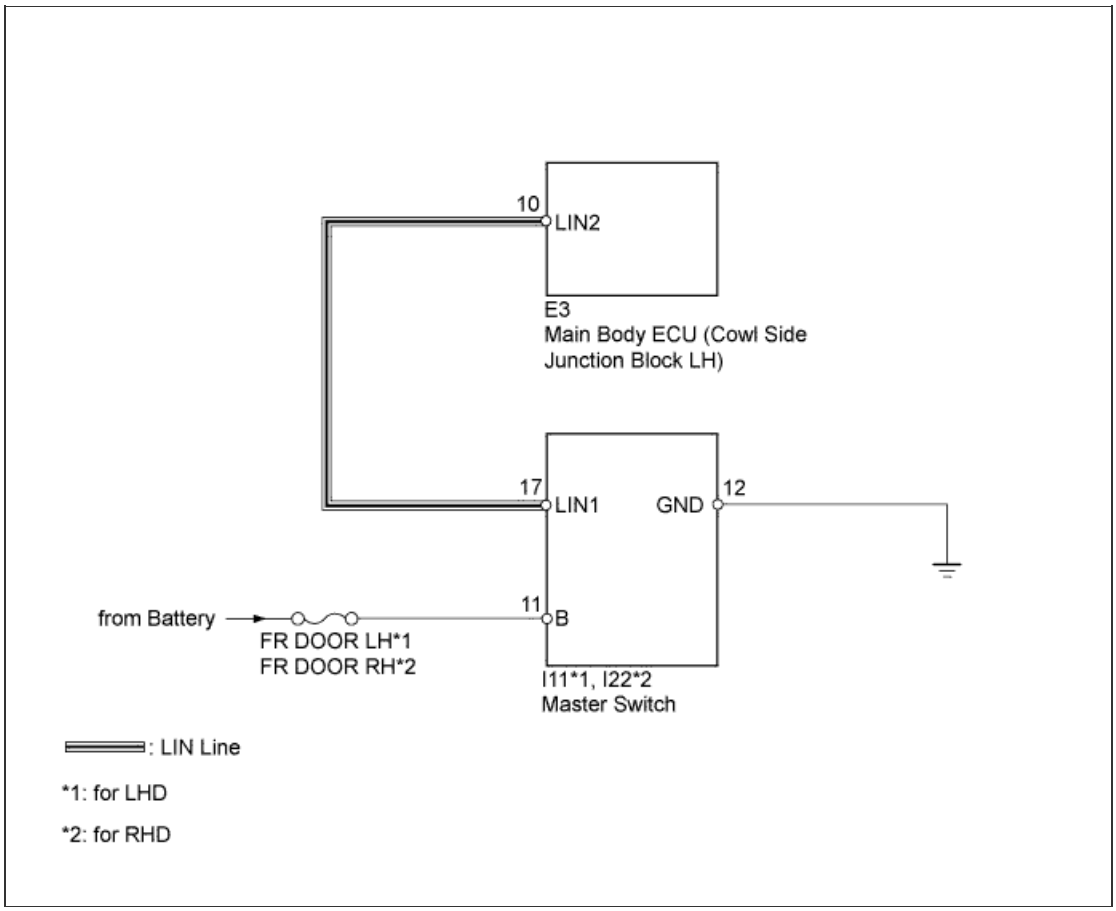
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the master switch and main body ECU (cowl side junction block LH) stops for 10 seconds or more.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1206 | No communication between the master switch and main body ECU (cowl side junction block LH) for 10 seconds or more. | • Master switch<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2325 is stored when the communication between the master switch and main body ECU (cowl side junction block LH) stops.

#### 1.CLEAR DTC

a. Clear the DTC (Click here).

NEXT

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1206 is output | A |
| DTC B1206 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - MASTER SWITCH)

a. Disconnect the E3 ECU connector.

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

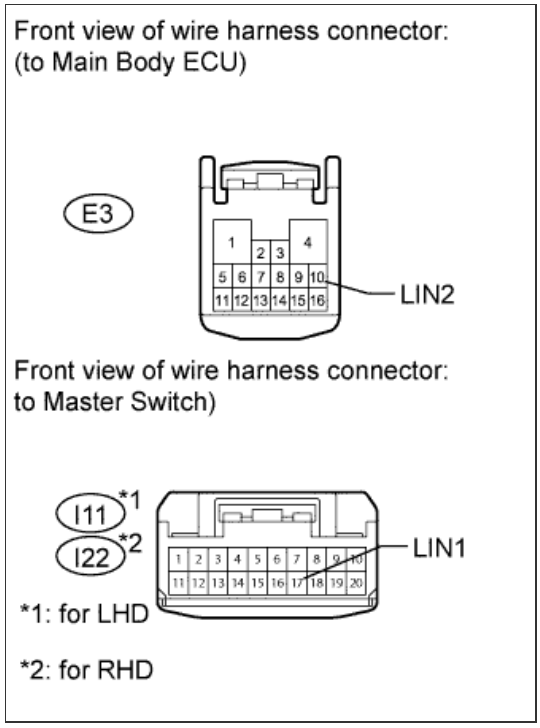
c. Measure the resistance and voltage according to the value(s) in the tables below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-10 (LIN2) - I11-17 (LIN1)*1 or I22-17 (LIN1)*2 | Always | Below 1 Ω |
| E3-10 (LIN2) - Body ground | Always | 10 kΩ or higher |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-10 (LIN2) - Body ground | Always | Below 1 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

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

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

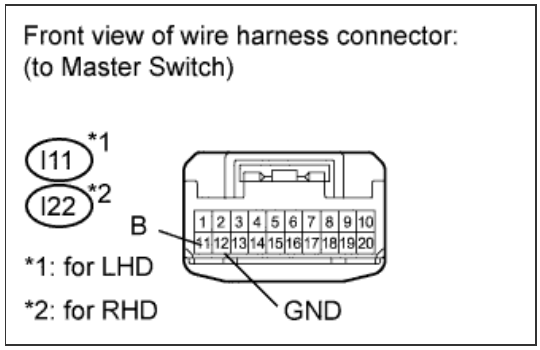
b. Measure the resistance and voltage according to the value(s) in the tables below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I11-12 (GND)*1 or I22-12 (GND)*2 - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I11-11 (B)*1 or I22-11 (B)*2 - Body ground | Always | 11 to 14 V |



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

5.REPLACE MASTER SWITCH ASSEMBLY

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

b. Clear the DTC (Click here).

NEXT

6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1206 is not output | A |
| DTC B1206 is output | B |

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

A

END (MASTER SWITCH IS DEFECTIVE)

## DTC B2324 Rear Door LH ECU Communication Stop

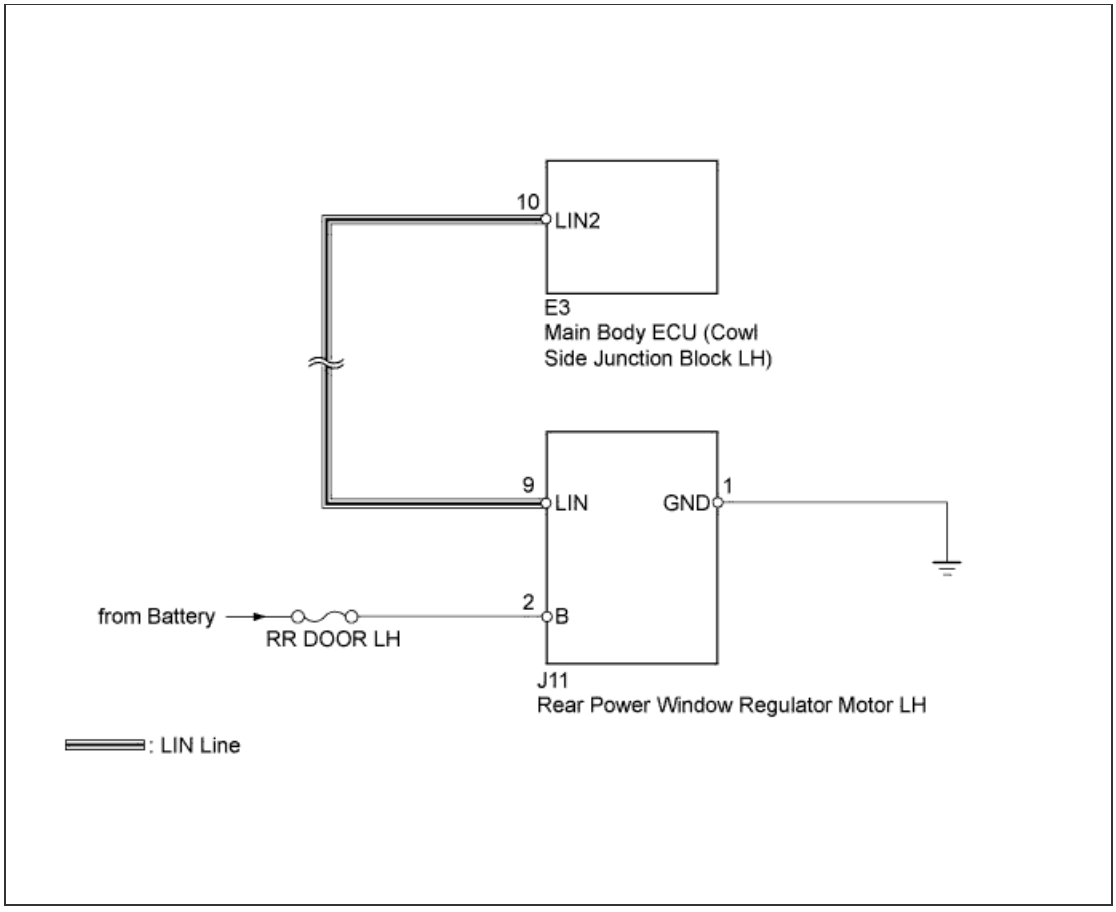
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the rear power window regulator motor LH and main body ECU (cowl side junction block LH) stops for 10 seconds or more.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2324 | No communication between the rear power window regulator motor LH and main body ECU (cowl side junction block LH) for 10 seconds or more. | • Rear power window regulator motor LH<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2325 is stored when the communication between the rear power window regulator motor and main body ECU (cowl side junction block LH) stops.

#### 1.CLEAR DTC

a. Clear the DTC (Click here).

NEXT

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2324 is output | A |
| DTC B2324 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - REAR POWER WINDOW REGULATOR MOTOR LH)

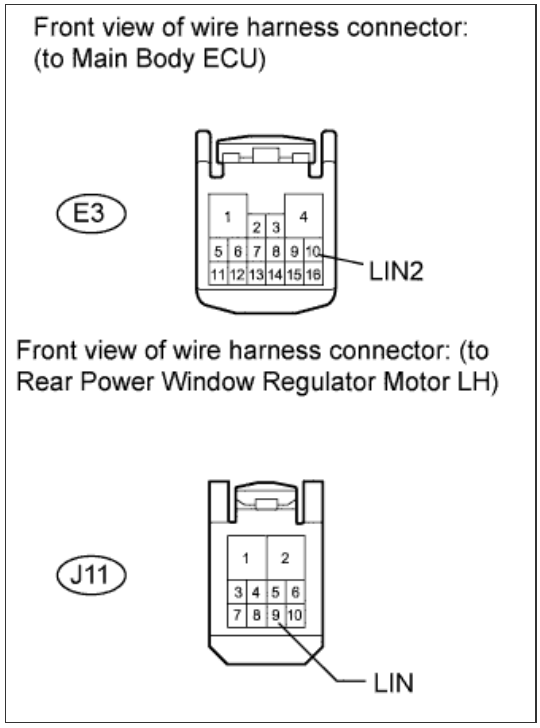
a. Disconnect the E3 ECU connector.

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 |
|---|---|---|
| E3-10 (LIN2) - J11-9 (LIN) | Always | Below 1 Ω |
| E3-10 (LIN2) or J11-9 (LIN) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

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

a. Disconnect the J11 motor connector.

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

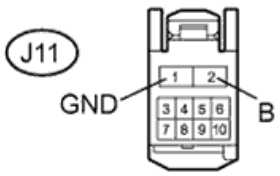
**Standard Resistance:**

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

**Standard Voltage:**

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

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




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 5.REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH

a. Temporarily replace the rear power window regulator motor LH with a new or normally functioning one ( Click here).

b. Clear the DTC (Click here).

NEXT

## 6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2324 is not output | A |
| DTC B2324 is output | B |

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

A

END (REAR POWER WINDOW REGULATOR MOTOR LH IS DEFECTIVE)

## DTC B1273 Sliding Roof ECU Communication Stop

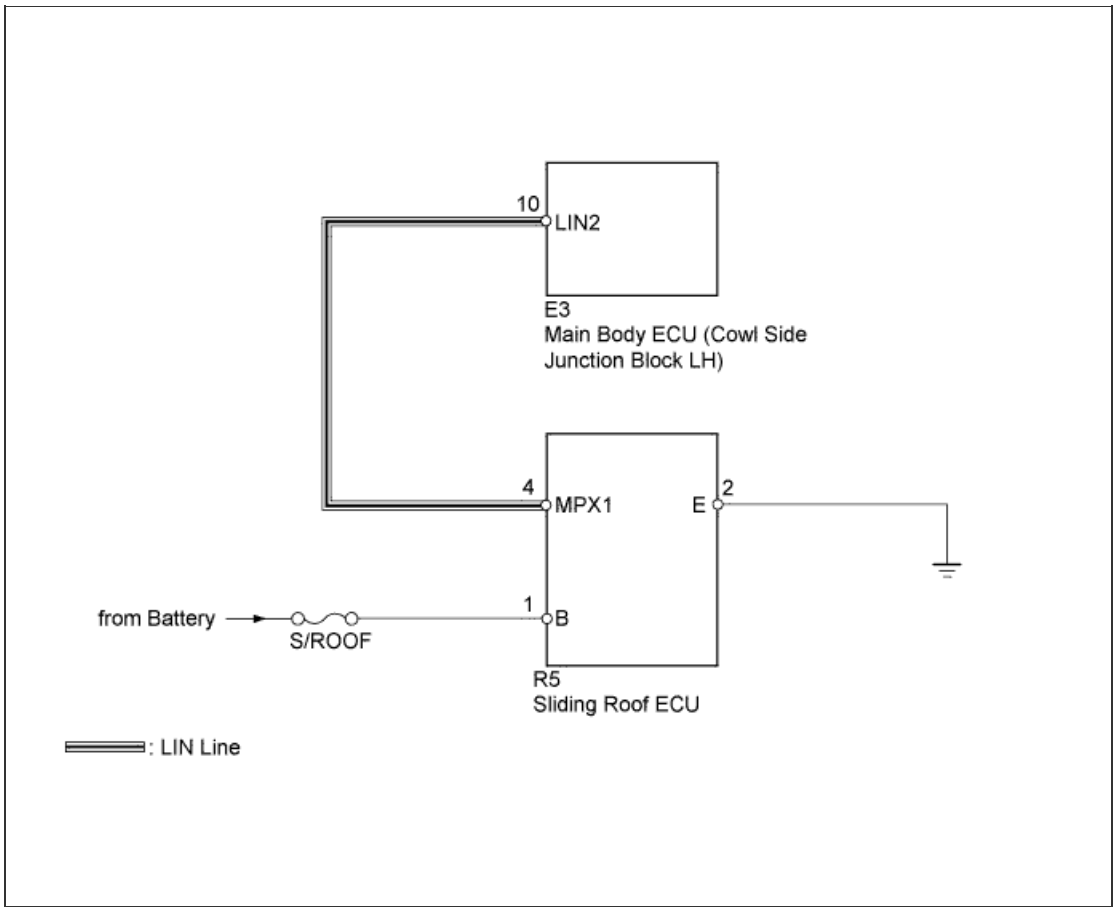
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the sliding roof ECU and main body ECU (cowl side junction block LH) stops for 10 seconds or more.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1273 | No communication between the sliding roof ECU and main body ECU (cowl side junction block LH) for 10 seconds or more. | • Sliding roof ECU<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2325 is stored when the communication between the sliding roof ECU and main body ECU (cowl side junction block LH) stops.

#### 1.CLEAR DTC

a. Clear the DTC (Click here).

NEXT

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1273 is output | A |
| DTC B1273 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - SLIDING ROOF ECU)

a. Disconnect the E3 and R5 ECU connectors.

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

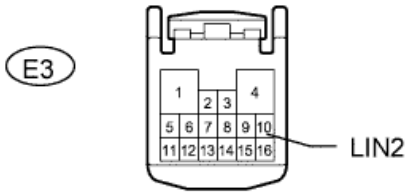
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-10 (LIN2) - R5-4 (MPX1) | Always | Below 1 Ω |
| E3-10 (LIN2) or R5-4 (MPX1) - Body ground | Always | 10 kΩ or higher |

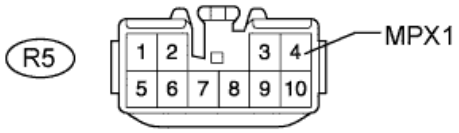
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| R5-4 (MPX1) - Body ground | Always | Below 1 V |

Front view of wire harness connector:
(to Main Body ECU)




Front view of wire harness connector:
(to Sliding Roof ECU)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK HARNESS AND CONNECTOR (SLIDING ROOF ECU - BATTERY AND BODY GROUND)

a. Disconnect the R5 ECU connector.

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

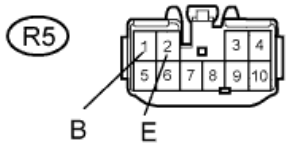
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| R5-2 (E) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| R5-1 (B) - Body ground | Always | 11 to 14 V |

Front view of wire harness connector:
(to Sliding Roof ECU)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 5.REPLACE SLIDING ROOF ECU

a. Temporarily replace the sliding roof ECU with a new or normally functioning one ( Click here).

b. Clear the DTC (Click here).

NEXT

### 6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B1273 is not output | A |
| DTC B1273 is output | B |

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

A

### END (SLIDING ROOF ECU IS DEFECTIVE)

## DTC B2324 Rear Door LH ECU Communication Stop

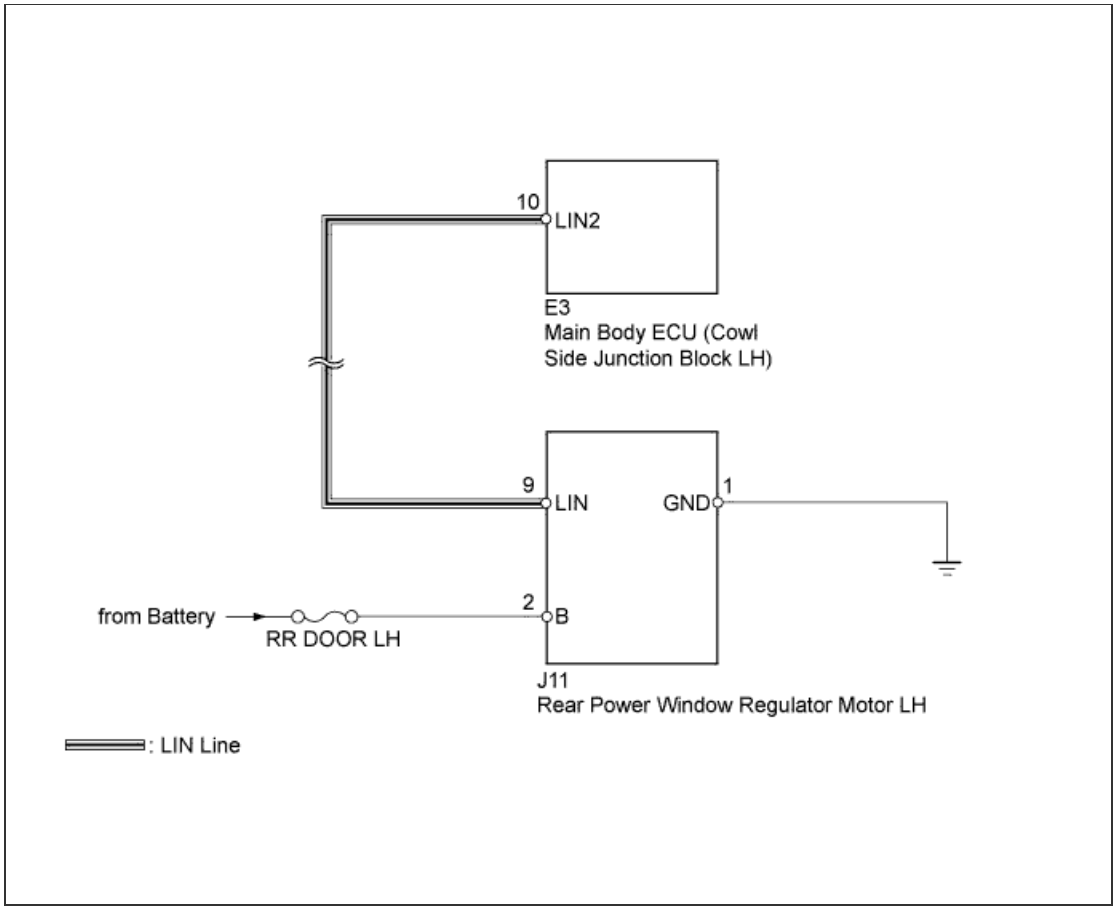
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the rear power window regulator motor LH and main body ECU (cowl side junction block LH) stops for 10 seconds or more.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2324 | No communication between the rear power window regulator motor LH and main body ECU (cowl side junction block LH) for 10 seconds or more. | • Rear power window regulator motor LH<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2325 is stored when the communication between the rear power window regulator motor and main body ECU (cowl side junction block LH) stops.

#### 1.CLEAR DTC

a. Clear the DTC (Click here).

NEXT

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2324 is output | A |
| DTC B2324 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - REAR POWER WINDOW REGULATOR MOTOR LH)

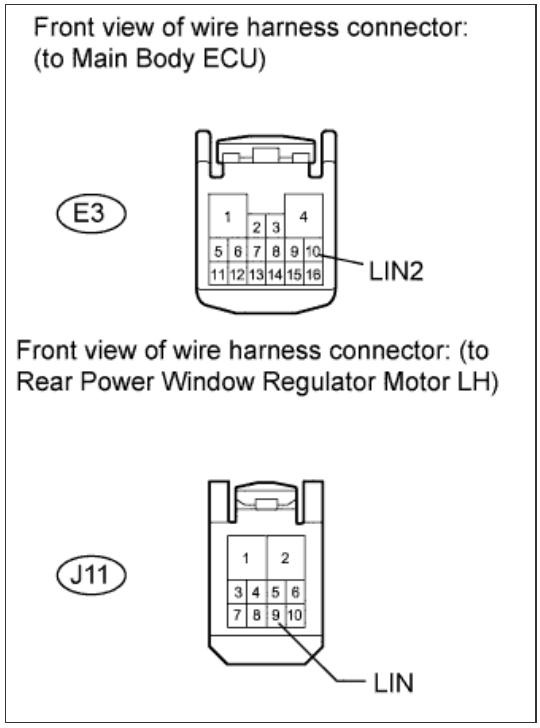
a. Disconnect the E3 ECU connector.

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 |
|---|---|---|
| E3-10 (LIN2) - J11-9 (LIN) | Always | Below 1 Ω |
| E3-10 (LIN2) or J11-9 (LIN) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

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

a. Disconnect the J11 motor connector.

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

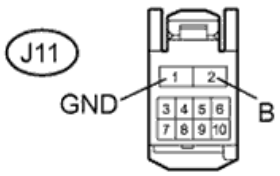
**Standard Resistance:**

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

**Standard Voltage:**

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

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




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 5.REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY LH

a. Temporarily replace the rear power window regulator motor LH with a new or normally functioning one ( Click here).

b. Clear the DTC (Click here).

NEXT

## 6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2324 is not output | A |
| DTC B2324 is output | B |

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

A

END (REAR POWER WINDOW REGULATOR MOTOR LH IS DEFECTIVE)

## DTC B1478 Climate Control Seat ECU Communication Error

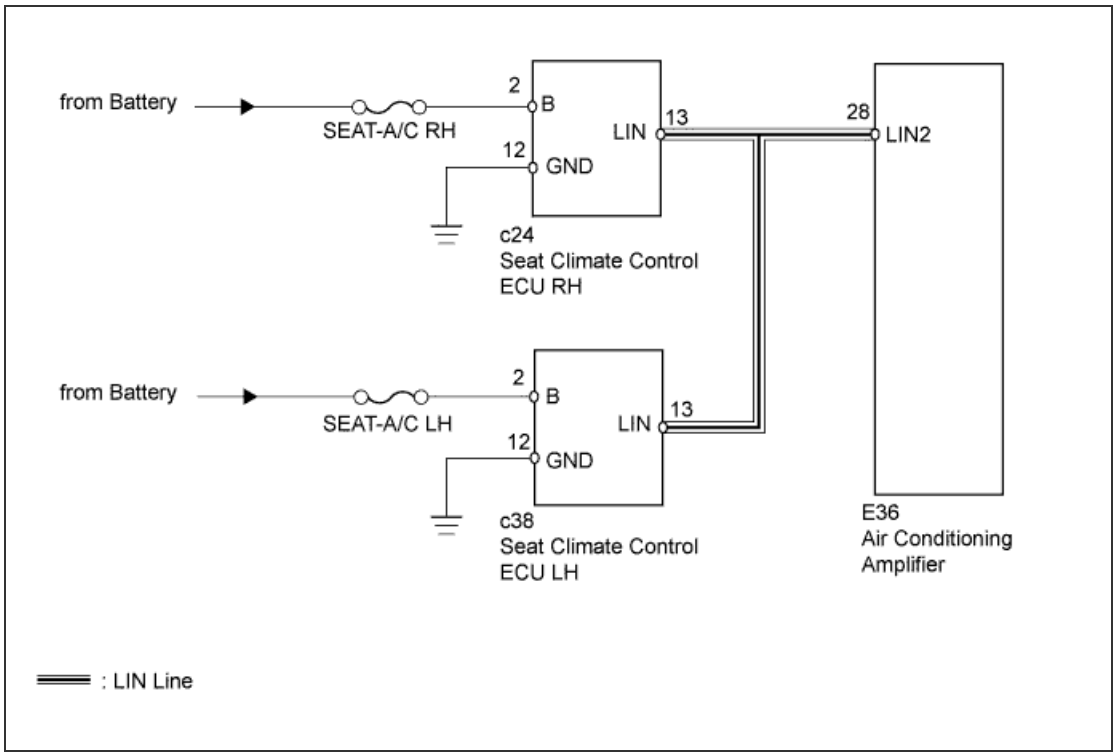
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the air conditioning amplifier) and seat climate control ECUs stops for 10 seconds or more.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B1478 | No communication between the air conditioning amplifier and seat climate control ECUs for 10 seconds or more. | • Air conditioning amplifier<br>• Seat climate control ECU LH<br>• Seat climate control ECU RH<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2785 is stored when the communication between the ID code box (immobiliser code ECU) and certification ECU (smart key ECU assembly) stops.

#### 1.CLEAR DTC

a. Clear the DTC (Click here)

**NEXT**

#### 2.CHECK FOR DTC

a. Recheck for DTCs (Click here)

**Result**

| Result | Proceed to |
|---|---|
| DTC B1478 is output | A |
| DTC B1478 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - SEAT CLIMATE CONTROL ECU)

a. Disconnect the E36 amplifier connector.

b. Disconnect the c24 and c38 ECU connectors.

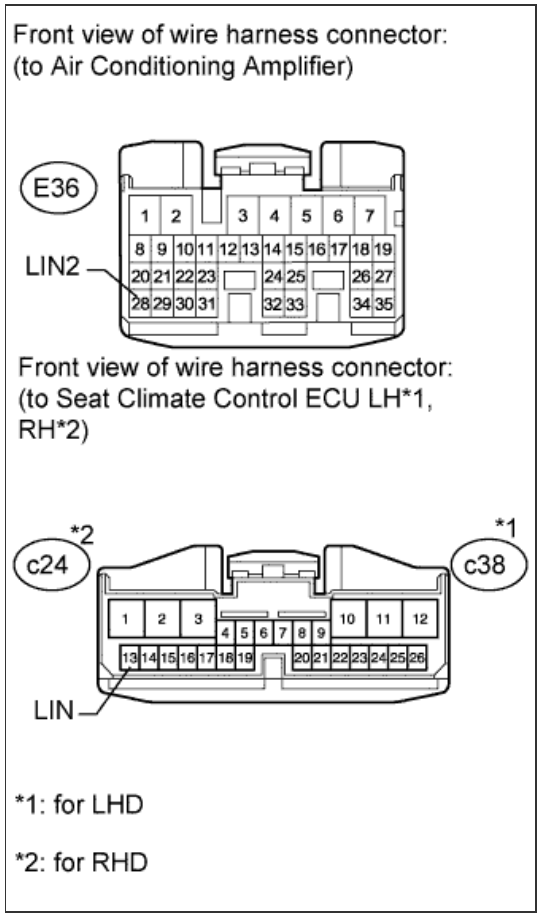
c. Measure the resistance and voltage according to the value(s) in the tables below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-28 (LIN2) - c24-13 (LIN) | Always | Below 1 Ω |
| E36-28 (LIN2) - c38-13 (LIN) | Always | Below 1 Ω |
| E36-28 (LIN2) - Body ground | Always | 10 kΩ or higher |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-28 (LIN2) - Body ground | Always | Below 1 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK HARNESS AND CONNECTOR (SEAT CLIMATE CONTROL ECU - BATTERY AND BODY GROUND)

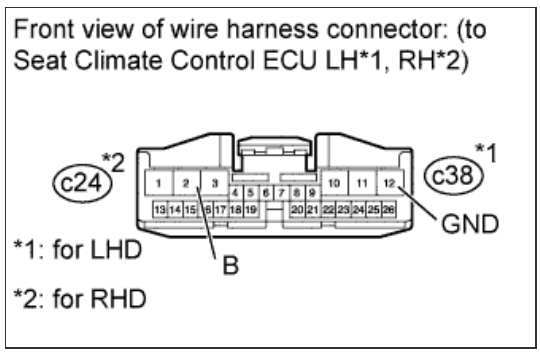
a. Disconnect the c24 and c38 ECU connectors.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c24-12 (GND) - Body ground | Always | Below 1 Ω |
| c38-12 (GND) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**



| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c24-2 (B) - Body ground | Always | 11 to 14 V |
| c38-2 (B) - Body ground | Always | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

**5.CHECK SEAT CLIMATE CONTROL ECU LH**

a. Temporarily replace the seat climate control ECU LH with a new or normally functioning one ( Click here).

b. Check that the driver side seat climate control function is normal.

**OK:**
**Driver side seat climate control function is normal.**

NG → Go to step 6

OK

**END (SEAT CLIMATE CONTROL ECU LH IS DEFECTIVE)**

**6.CHECK SEAT CLIMATE CONTROL ECU RH**

a. Temporarily replace the seat climate control ECU RH with a new or normally functioning one ( Click here).

b. Check that the driver side seat climate control function is normal.

**OK:**
**Front passenger side seat climate control function is normal.**

NG → REPLACE AIR CONDITIONING AMPLIFIER (Click here)

OK

**END (SEAT CLIMATE CONTROL ECU RH IS DEFECTIVE)**

## DTC B2325 LIN Communication Bus Malfunction

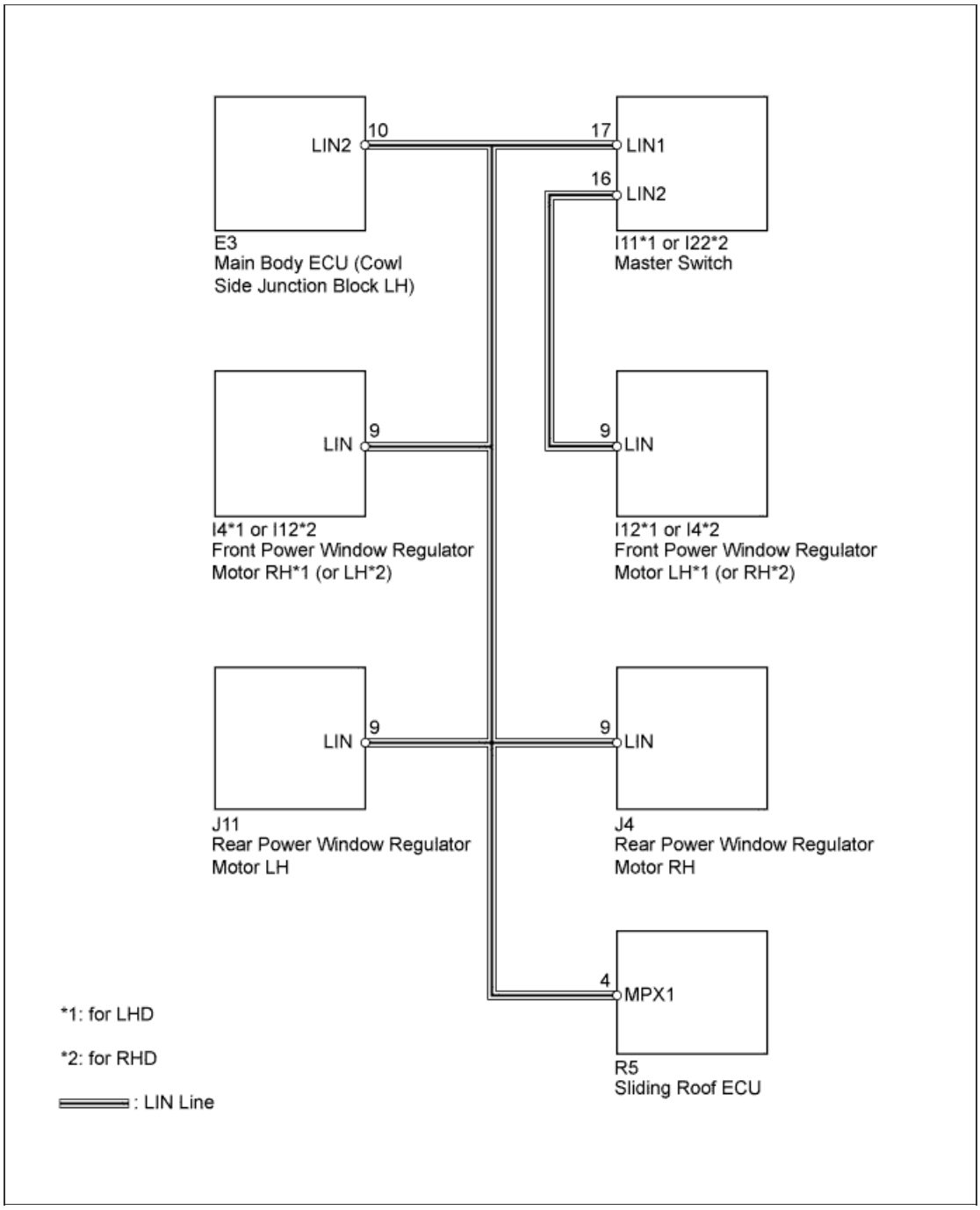
**for Preparation** Click here

### DESCRIPTION

The main body ECU (cowl side junction block LH) intermittently monitors the LIN communication bus between the components related to the door and sliding roof. DTC B2325 is stored when a malfunction in the LIN communication bus between the components related to the doors and sliding roof is detected consecutively 3 times.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2325 | The main body ECU (cowl side junction block LH) detects a malfunction in the LIN communication bus between components related to the doors and sliding roof consecutively 3 times. | • Master switch<br>• Front power window regulator motor LH<br>• Front power window regulator motor RH<br>• Rear power window regulator motor LH<br>• Rear power window regulator motor RH<br>• Sliding roof ECU<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

When DTC B2325 and a LIN communication stop DTC are output simultaneously, first perform the troubleshooting for the LIN communication stop DTC. Then perform the troubleshooting for DTC B2325.

### 1.CLEAR DTC

a. Clear the DTC (Click here).

NEXT

### 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - MASTER SWITCH)

a. Disconnect the E3 ECU connector.

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

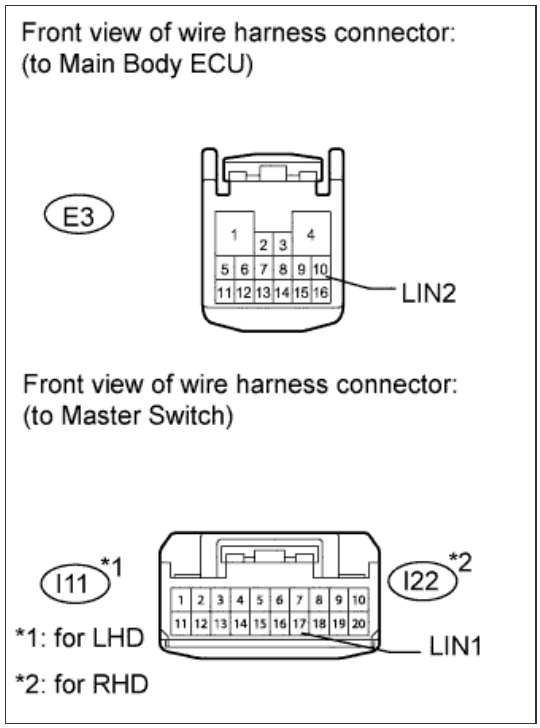
c. Measure the resistance and voltage according to the value(s) in the tables below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-10 (LIN2) - I11-17 (LIN1)*1 or I22-17 (LIN1)*2 | Always | Below 1 Ω |
| E3-10 (LIN2) - Body ground | Always | 10 kΩ or higher |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-10 (LIN2) - Body ground | Always | Below 1 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CLEAR DTC

a. Reconnect the E3 ECU connector.

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

c. Clear the DTC (Click here).

*1: for LHD
*2: for RHD

NEXT

## 5.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

B → REPLACE MASTER SWITCH (Click here)

A

## 6.CLEAR DTC

a. Reconnect the I11*1 or I22*2 switch connector.
*1: for LHD
*2: for RHD

b. Disconnect the I12 motor connector.

c. Clear the DTC (Click here).

NEXT

## 7.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

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

A

## 8.CLEAR DTC

a. Reconnect the I12 motor connector.

b. Disconnect the I4 motor connector.

c. Clear the DTC (Click here).

NEXT

## 9.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

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

A

## 10.CLEAR DTC

a. Reconnect the I4 motor connector.

b. Disconnect the J4 motor connector.

c. Clear the DTC (Click here).

NEXT

## 11.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

B → REPLACE REAR POWER WINDOW REGULATOR MOTOR LH (**Click here**)

A

## 12.CLEAR DTC

a. Reconnect the J4 motor connector.

b. Disconnect the J11 motor connector.

c. Clear the DTC (Click here).

NEXT

## 13.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

B → REPLACE REAR POWER WINDOW REGULATOR MOTOR RH (**Click here**)

A

## 14.CLEAR DTC

a. Reconnect the J11 motor connector.

b. Disconnect the R5 ECU connector.

c. Clear the DTC (Click here).

NEXT

## 15.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY ( **Click**

B

here)

A

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## DTC B2287 LIN Communication Master Malfunction

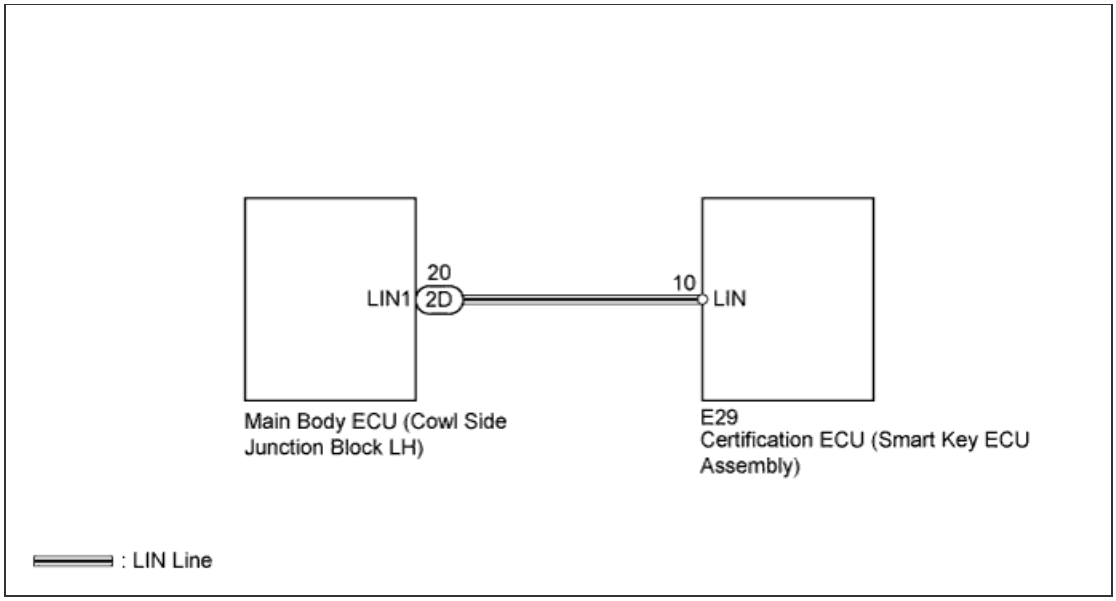
**for Preparation** Click here

### DESCRIPTION

This DTC is stored there is an open, short or ECU communication malfunction between the main body ECU (cowl side junction block LH) and certification ECU (smart key ECU assembly).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2287 | There is an open, short or ECU communication malfunction between the main body ECU (cowl side junction block LH) and certification ECU (smart key ECU assembly). | • Certification ECU (smart key ECU assembly)<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

When DTC B2287 and B2785 are output simultaneously, perform the troubleshooting for DTC B2785 first ( Click here).

#### 1.CLEAR DTC

a. Clear the DTC (Click here).

**NEXT**

#### 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

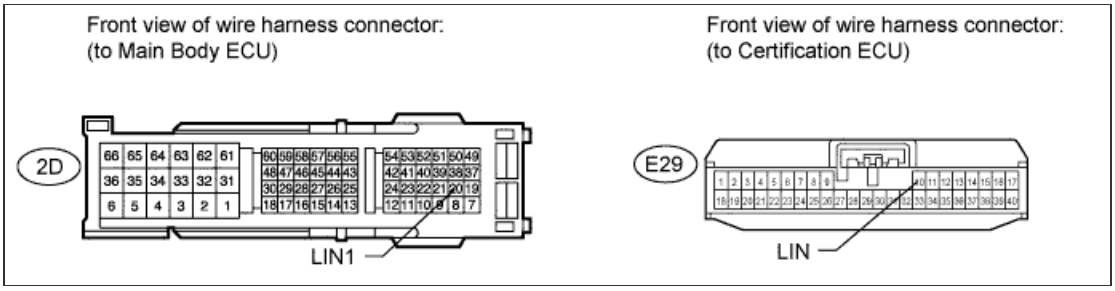
**Result**

| Result | Proceed to |
|---|---|
| DTC B2287 is output | A |
| DTC B2287 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - MAIN BODY ECU)




a. Disconnect the E29 and 2D ECU connectors.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-10 (LIN) - 2D-20 (LIN1) | Always | Below 1 Ω |
| E29-10 (LIN) or 2D-20 (LIN1) - Body ground | Always | 10 kΩ or higher |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-10 (LIN) or 2D-20 (LIN1) - Body ground | Always | Below 1 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

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

a. Temporarily replace the main body ECU (cowl side junction block LH) with a new or normally functioning one.

b. Clear the DTC (Click here).

NEXT

## 5.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2287 is not output | A |
| DTC B2287 is output | B |

B → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

A

END (MAIN BODY ECU IS DEFECTIVE)

## DTC B2325 LIN Communication Bus Malfunction

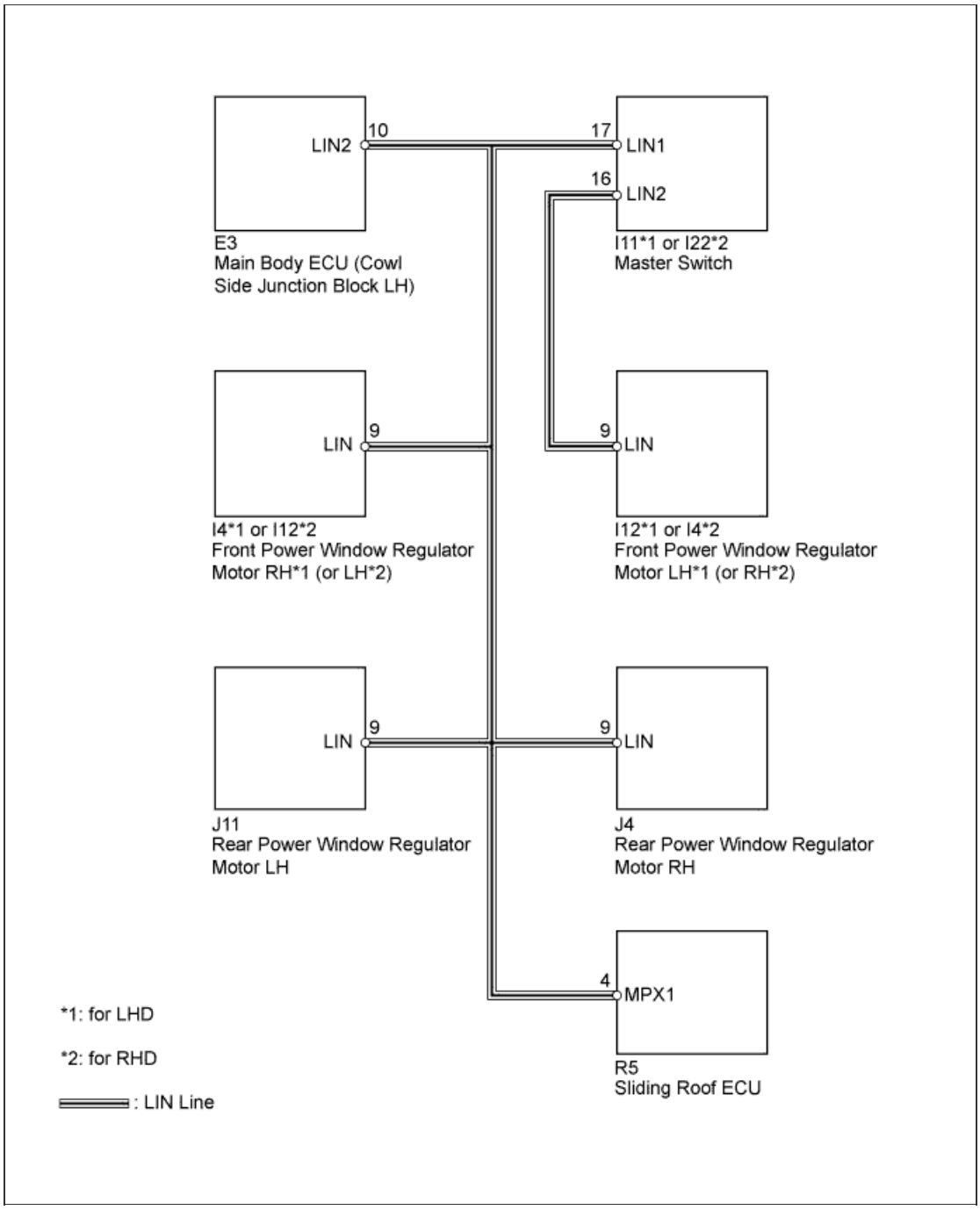
**for Preparation** Click here

### DESCRIPTION

The main body ECU (cowl side junction block LH) intermittently monitors the LIN communication bus between the components related to the door and sliding roof. DTC B2325 is stored when a malfunction in the LIN communication bus between the components related to the doors and sliding roof is detected consecutively 3 times.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2325 | The main body ECU (cowl side junction block LH) detects a malfunction in the LIN communication bus between components related to the doors and sliding roof consecutively 3 times. | • Master switch<br>• Front power window regulator motor LH<br>• Front power window regulator motor RH<br>• Rear power window regulator motor LH<br>• Rear power window regulator motor RH<br>• Sliding roof ECU<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

When DTC B2325 and a LIN communication stop DTC are output simultaneously, first perform the troubleshooting for the LIN communication stop DTC. Then perform the troubleshooting for DTC B2325.

### 1.CLEAR DTC

a. Clear the DTC (Click here).

NEXT

### 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - MASTER SWITCH)

a. Disconnect the E3 ECU connector.

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

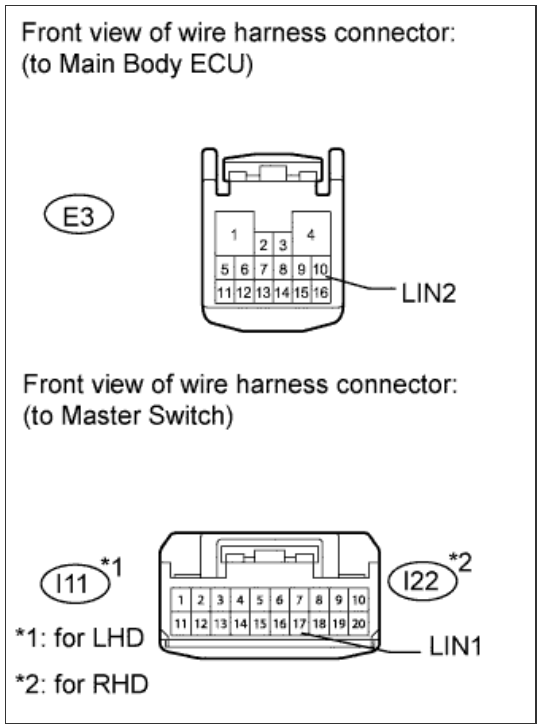
c. Measure the resistance and voltage according to the value(s) in the tables below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-10 (LIN2) - I11-17 (LIN1)*1 or I22-17 (LIN1)*2 | Always | Below 1 Ω |
| E3-10 (LIN2) - Body ground | Always | 10 kΩ or higher |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-10 (LIN2) - Body ground | Always | Below 1 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CLEAR DTC

a. Reconnect the E3 ECU connector.

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

c. Clear the DTC (Click here).

*1: for LHD
*2: for RHD

NEXT

## 5.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

B → REPLACE MASTER SWITCH (Click here)

A

## 6.CLEAR DTC

a. Reconnect the I11*1 or I22*2 switch connector.
*1: for LHD
*2: for RHD

b. Disconnect the I12 motor connector.

c. Clear the DTC (Click here).

NEXT

## 7.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

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

A

## 8.CLEAR DTC

a. Reconnect the I12 motor connector.

b. Disconnect the I4 motor connector.

c. Clear the DTC (Click here).

NEXT

## 9.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

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

A

## 10.CLEAR DTC

a. Reconnect the I4 motor connector.

b. Disconnect the J4 motor connector.

c. Clear the DTC (Click here).

NEXT

## 11.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

B → REPLACE REAR POWER WINDOW REGULATOR MOTOR LH (**Click here**)

A

## 12.CLEAR DTC

a. Reconnect the J4 motor connector.

b. Disconnect the J11 motor connector.

c. Clear the DTC (Click here).

NEXT

## 13.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

B → REPLACE REAR POWER WINDOW REGULATOR MOTOR RH (**Click here**)

A

## 14.CLEAR DTC

a. Reconnect the J11 motor connector.

b. Disconnect the R5 ECU connector.

c. Clear the DTC (Click here).

NEXT

## 15.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2325 is output | A |
| DTC B2325 is not output | B |

REPLACE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY ( **Click**

B

here)

A

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## DTC B2321 Driver Side Door ECU Communication Stop

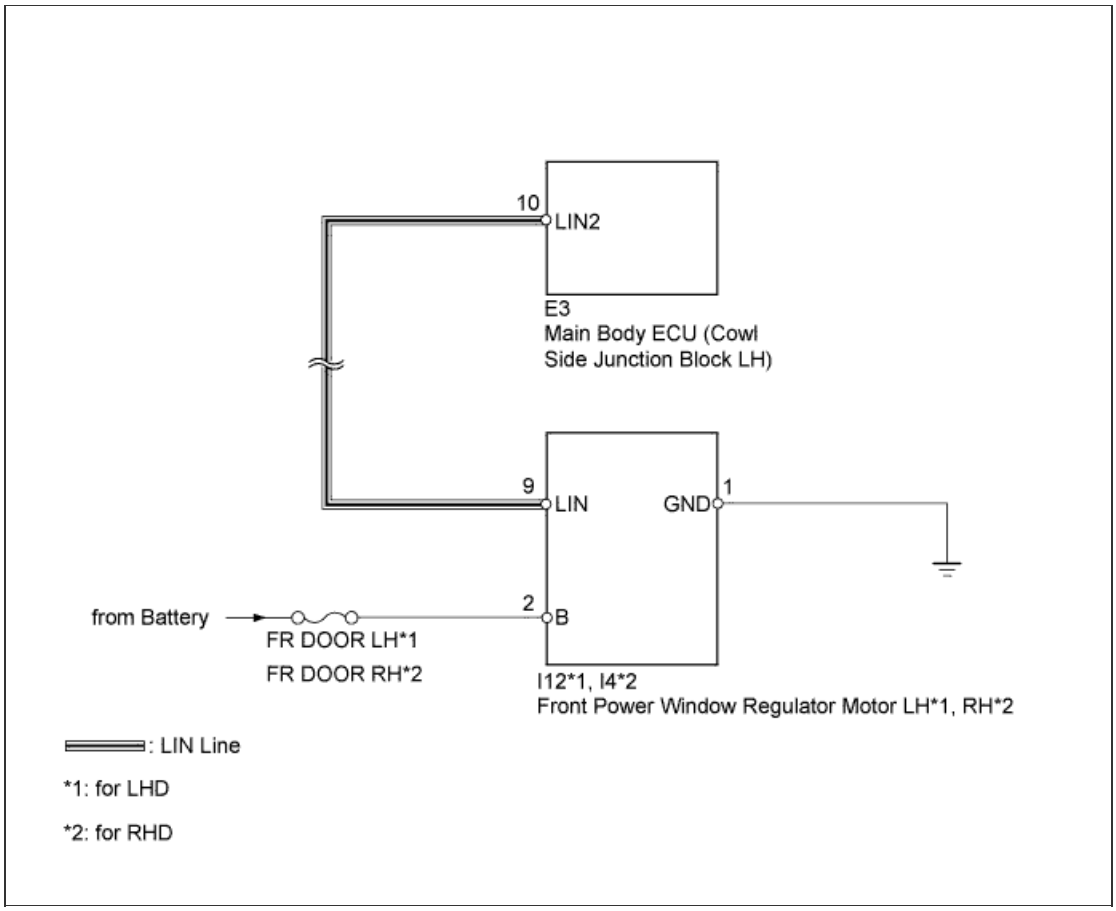
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the front power window regulator motor LH*1 (RH*2) and main body ECU (cowl side junction block LH) stops for 10 seconds or more.
*1: for LHD
*2: for RHD

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2321 | No communication between the front power window regulator motor LH*1 or RH*2 and main body ECU (cowl side junction block LH) for 10 seconds or more. | • Front power window regulator motor LH*1<br>• Front power window regulator motor RH*2<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2325 is stored when the communication between the front power window regulator motor and main body ECU (cowl side junction block LH) stops.

**1.CLEAR DTC**

a. Clear the DTC (Click here).

NEXT

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2321 is output | A |
| DTC B2321 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - FRONT POWER WINDOW REGULATOR MOTOR)

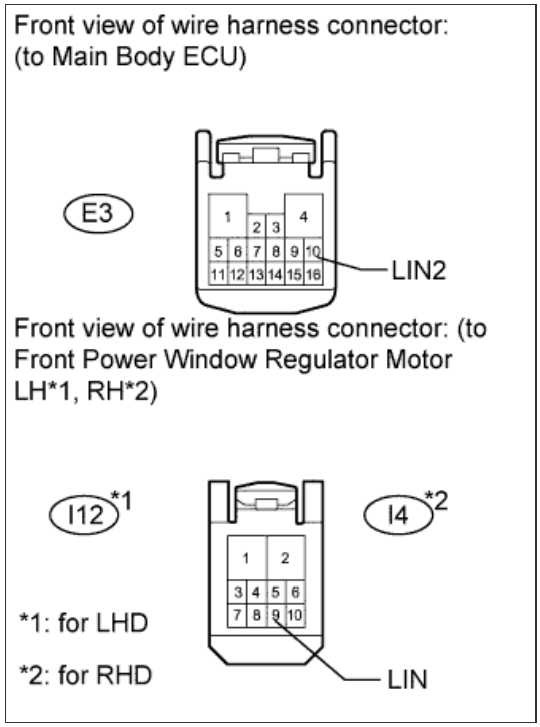
a. Disconnect the E3 ECU connector.

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:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-10 (LIN2) - I12-9 (LIN)*1 or I4-9 (LIN)*2 | Always | Below 1 Ω |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK HARNESS AND CONNECTOR (FRONT POWER WINDOW REGULATOR - BATTERY AND BODY GROUND)

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

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

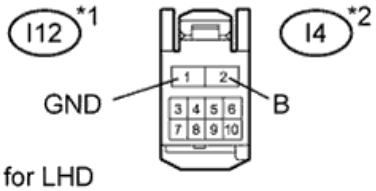
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I12-1 (GND)*1 or I4-1 (GND)*2 - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I12-2 (B)*1 or I4-2 (B)*2 - Body ground | Always | 11 to 14 V |

Front view of wire harness connector: (to Front Power Window Regulator Motor LH*1, RH*2)




*1: for LHD

*2: for RHD

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 5.REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY

a. Temporarily replace the front power window regulator motor LH*1 or RH*2 with a new or normally functioning one ( Click here).
*1: for LHD
*2: for RHD

b. Clear the DTC (Click here).

NEXT

## 6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2321 is not output | A |
| DTC B2321 is output | B |

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

A

END (FRONT POWER WINDOW REGULATOR MOTOR IS DEFECTIVE)

## DTC B2405 Sub Bus LIN Module Communication Malfunction

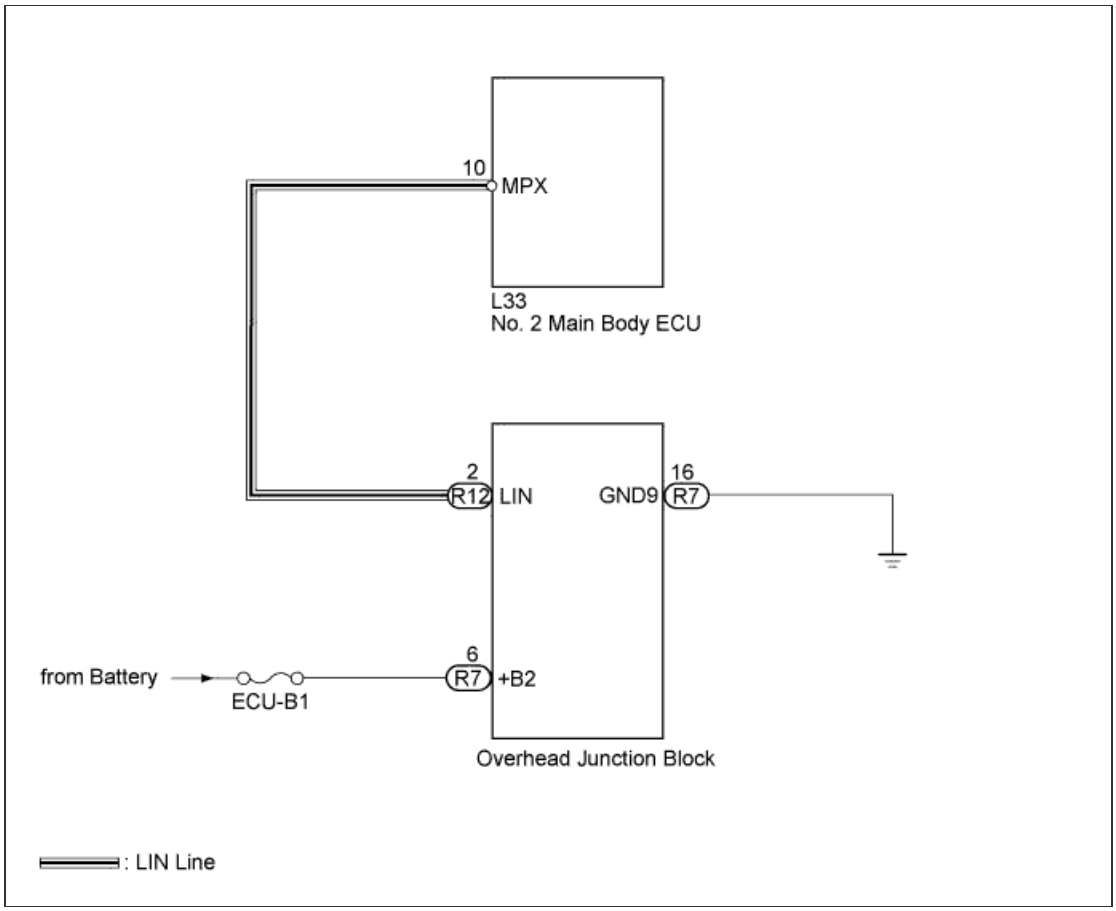
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the No. 2 main body ECU and overhead junction block stops for 10 seconds or more.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2405 | No communication between No. 2 main body ECU and overhead junction block for 10 seconds or more | • Overhead junction block<br>• No. 2 main body ECU<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**1.CHECK HARNESS AND CONNECTOR (NO. 2 MAIN BODY ECU - OVERHEAD JUNCTION BLOCK)**

a. Disconnect the L33 ECU connector.

b. Disconnect the R12 junction block connector.

c. Measure the resistance and voltage according to the value(s) in the tables below.

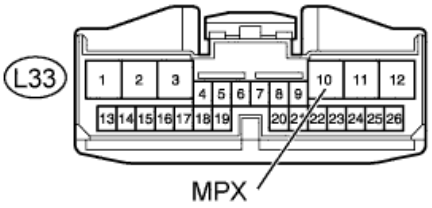
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-10 (MPX) - R12-2 (LIN) | Always | Below 1 Ω |
| L33-10 (MPX) - Body ground | Always | 10 kΩ or higher |

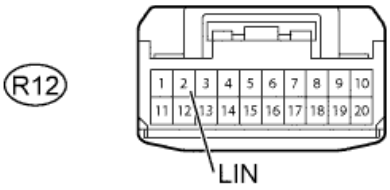
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-9 (LIN) - Body ground | Always | Below 1 V |

Front view of wire harness connector:
(to No. 2 Main Body ECU)




Front view of wire harness connector:
(to Overhead Junction Block)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

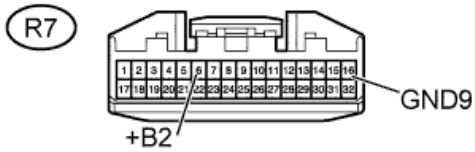
OK

## 2.CHECK HARNESS AND CONNECTOR (OVERHEAD JUNCTION BLOCK - BATTERY AND BODY GROUND)

a. Disconnect the R7 junction block connector.

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

Front view of wire harness connector:
(to Overhead Junction Block)




**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| R7-16 (GND9) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| R7-6 (+B2) - Body ground | Always | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 3.CHECK OVERHEAD JUNCTION BLOCK

a. Temporarily replace the overhead junction block with a new or normally functioning one ( Click here).

b. Clear the DTC (Click here).

NEXT

## 4.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result:**

| Result | Proceed to |
|---|---|
| DTC B2405 output does not reoccur | A |
| DTC B2405 output reoccurs | B |

B → REPLACE NO. 2 MAIN BODY ECU (Click here)

A → END (OVERHEAD JUNCTION BLOCK IS DEFECTIVE)

## DTC B2321 Driver Side Door ECU Communication Stop

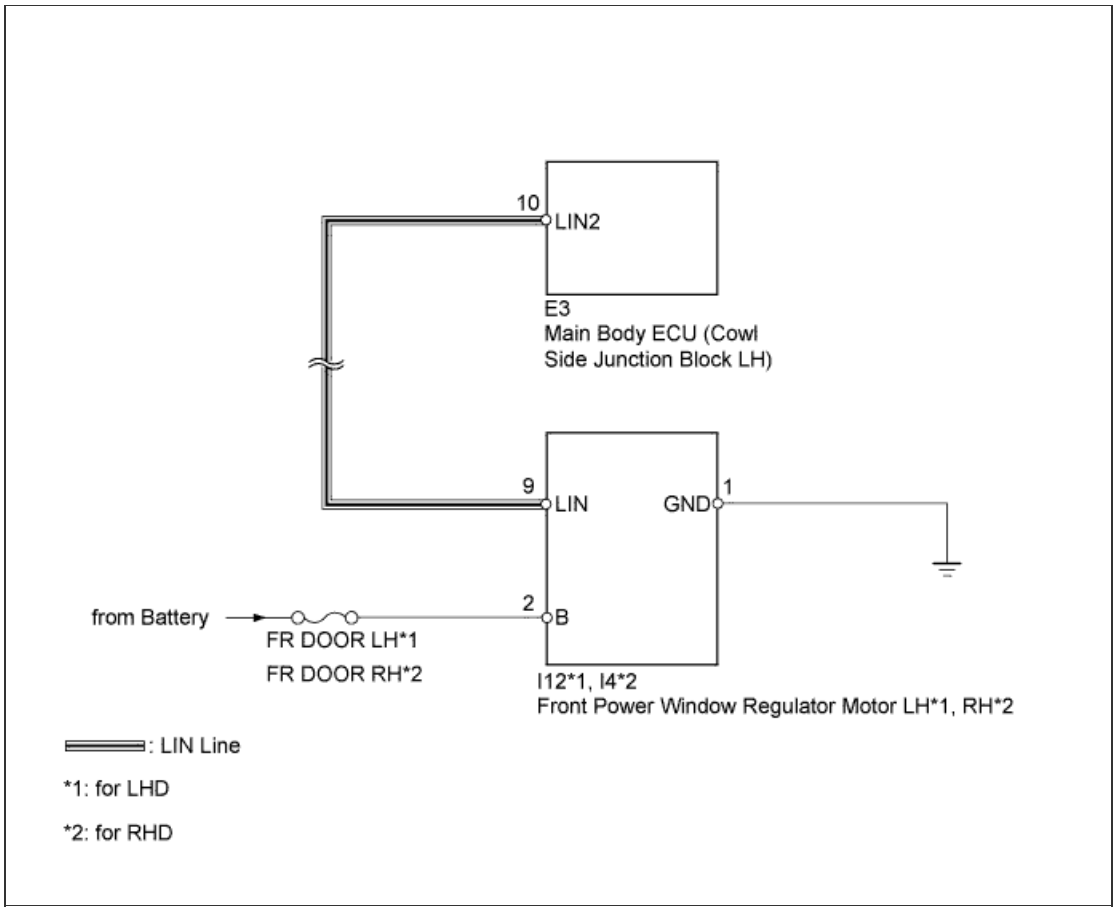
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the front power window regulator motor LH*1 (RH*2) and main body ECU (cowl side junction block LH) stops for 10 seconds or more.
*1: for LHD
*2: for RHD

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2321 | No communication between the front power window regulator motor LH*1 or RH*2 and main body ECU (cowl side junction block LH) for 10 seconds or more. | • Front power window regulator motor LH*1<br>• Front power window regulator motor RH*2<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2325 is stored when the communication between the front power window regulator motor and main body ECU (cowl side junction block LH) stops.

**1.CLEAR DTC**

a. Clear the DTC (Click here).

NEXT

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2321 is output | A |
| DTC B2321 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - FRONT POWER WINDOW REGULATOR MOTOR)

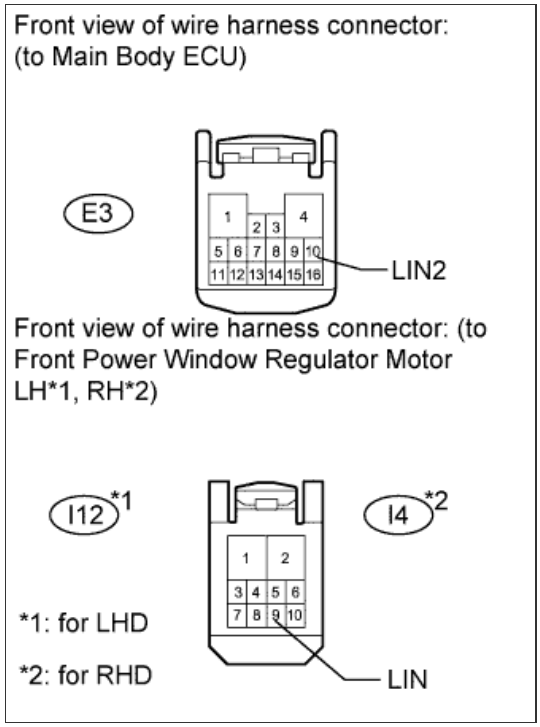
a. Disconnect the E3 ECU connector.

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:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-10 (LIN2) - I12-9 (LIN)*1 or I4-9 (LIN)*2 | Always | Below 1 Ω |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK HARNESS AND CONNECTOR (FRONT POWER WINDOW REGULATOR - BATTERY AND BODY GROUND)

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

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

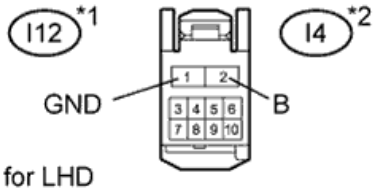
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I12-1 (GND)*1 or I4-1 (GND)*2 - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I12-2 (B)*1 or I4-2 (B)*2 - Body ground | Always | 11 to 14 V |

Front view of wire harness connector: (to Front Power Window Regulator Motor LH*1, RH*2)




*1: for LHD

*2: for RHD

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 5.REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY

a. Temporarily replace the front power window regulator motor LH*1 or RH*2 with a new or normally functioning one ( Click here).
*1: for LHD
*2: for RHD

b. Clear the DTC (Click here).

NEXT

## 6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2321 is not output | A |
| DTC B2321 is output | B |

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

A

END (FRONT POWER WINDOW REGULATOR MOTOR IS DEFECTIVE)

## DTC B2785 Communication Malfunction between ECUs Connected by LIN

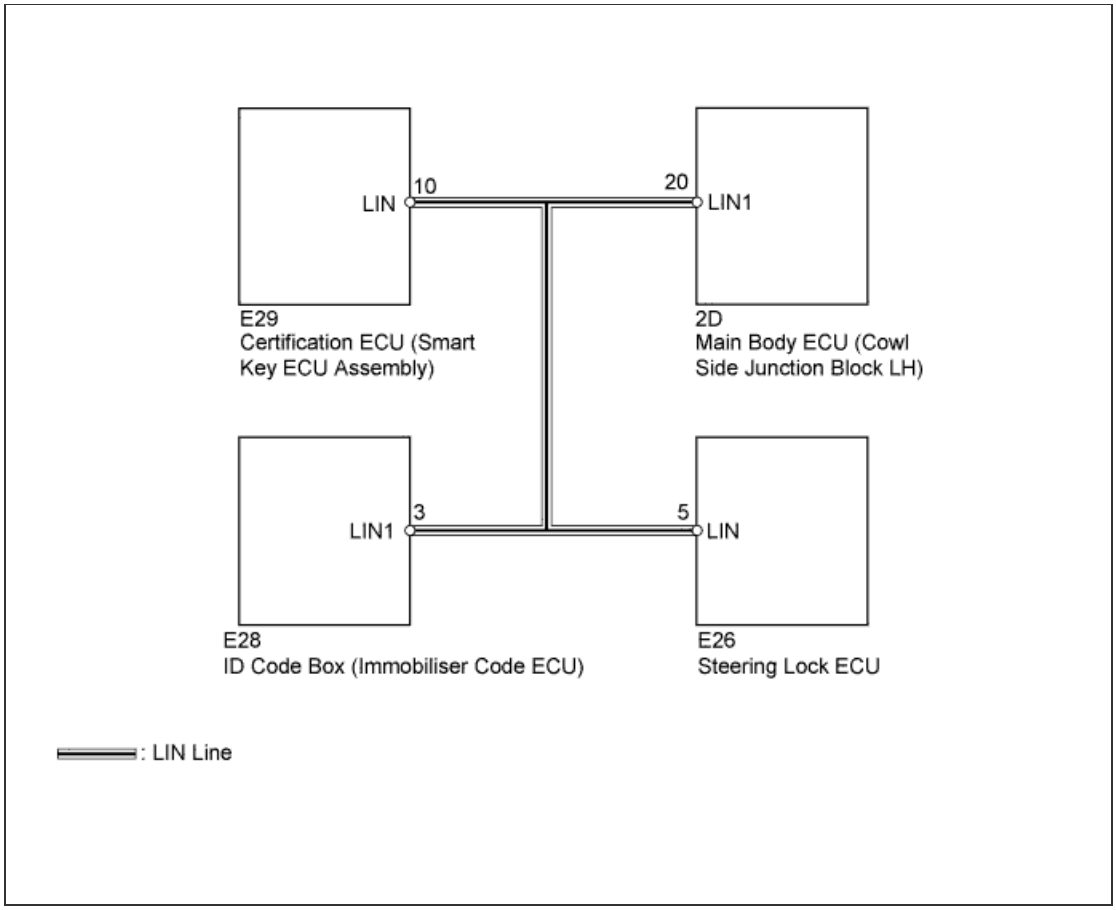
**for Preparation** Click here

### DESCRIPTION

The certification ECU (smart key ECU assembly) intermittently monitors the LIN communication bus between the components related to certification. DTC B2785 is output when a malfunction in the LIN communication bus between the components related to certification is detected continuously 3 times.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2785 | The certification ECU (smart key ECU assembly) detects a malfunction in the LIN communication bus between components related to certification continuously 3 times. | • Certification ECU (smart key ECU assembly)<br>• Main body ECU (cowl side junction block LH)<br>• ID code box (immobiliser code ECU)<br>• Steering lock ECU<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

When DTC B2785 and B2287 are output simultaneously, perform the troubleshooting for DTC B2785 first.

#### 1.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - MASTER SWITCH)

a. Disconnect the 2D and E29 ECU connectors

a. Disconnect the 2D and E29 ECU connectors.

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

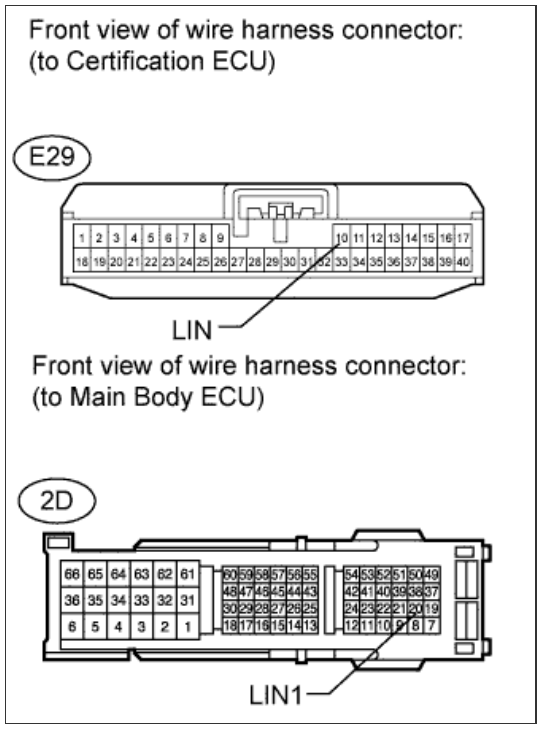
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-10 (LIN) - 2D-20 (LIN1) | Always | Below 1 Ω |
| E29-10 (LIN) - Body ground | Always | 10 kΩ or higher |

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-10 (LIN) - Body ground | Always | Below 1 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 2.CHECK FOR DTC

a. Reconnect the E26 and E29 ECU connectors.

b. Reconnect the E28 box connector.

c. Clear the DTC (Click here).

d. Recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC B2785 is output | A |
| DTC B2785 is not output | B |

B → Go to step 5

A

## 3.CHECK FOR DTC

a. Reconnect the 2D ECU connector.

b. Disconnect the E26 ECU connector.

c. Clear the DTC (Click here).

d. Recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC B2785 is output | A |
| DTC B2785 is not output | B |

B → Go to step 7

A

### 4.CHECK FOR DTC

a. Reconnect the E26 ECU connector.

b. Disconnect the E28 box ECU connector.

c. Clear the DTC (Click here).

d. Recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC B2785 is output | A |
| DTC B2785 is not output | B |

B → Go to step 9

A

### REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

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

a. Temporarily replace the main body ECU (cowl side junction block LH) with a new or normally functioning one.

b. Clear the DTC (Click here).

NEXT

### 6.CHECK FOR DTC

a. Recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC B2785 is not output | A |
| DTC B2785 is output | B |

B → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

A

### END (MAIN BODY ECU IS DEFECTIVE)

### 7.REPLACE STEERING LOCK ECU (STEERING LOCK ACTUATOR ASSEMBLY)

a. Temporarily replace the steering lock ECU with a new or normally functioning one ( Click here).

b. Clear the DTC (Click here).

NEXT

### 8.CHECK FOR DTC

a. Recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC B2785 is not output | A |
| DTC B2785 is output | B |

B → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

A

END (STEERING LOCK ECU IS DEFECTIVE)

9.REPLACE ID CODE BOX (IMMOBILISER CODE ECU)

a. Temporarily replace the ID code box immobiliser code ECU with a new or normally functioning one.

b. Clear the DTC (Click here).

NEXT

10.CHECK FOR DTC

a. Recheck for DTCs (Click here).

Result

| Result | Proceed to |
|---|---|
| DTC B2785 is not output | A |
| DTC B2785 is output | B |

B → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

A

END (ID CODE BOX IS DEFECTIVE)

## DTC B2322 Front Passenger Side Door ECU Communication Stop

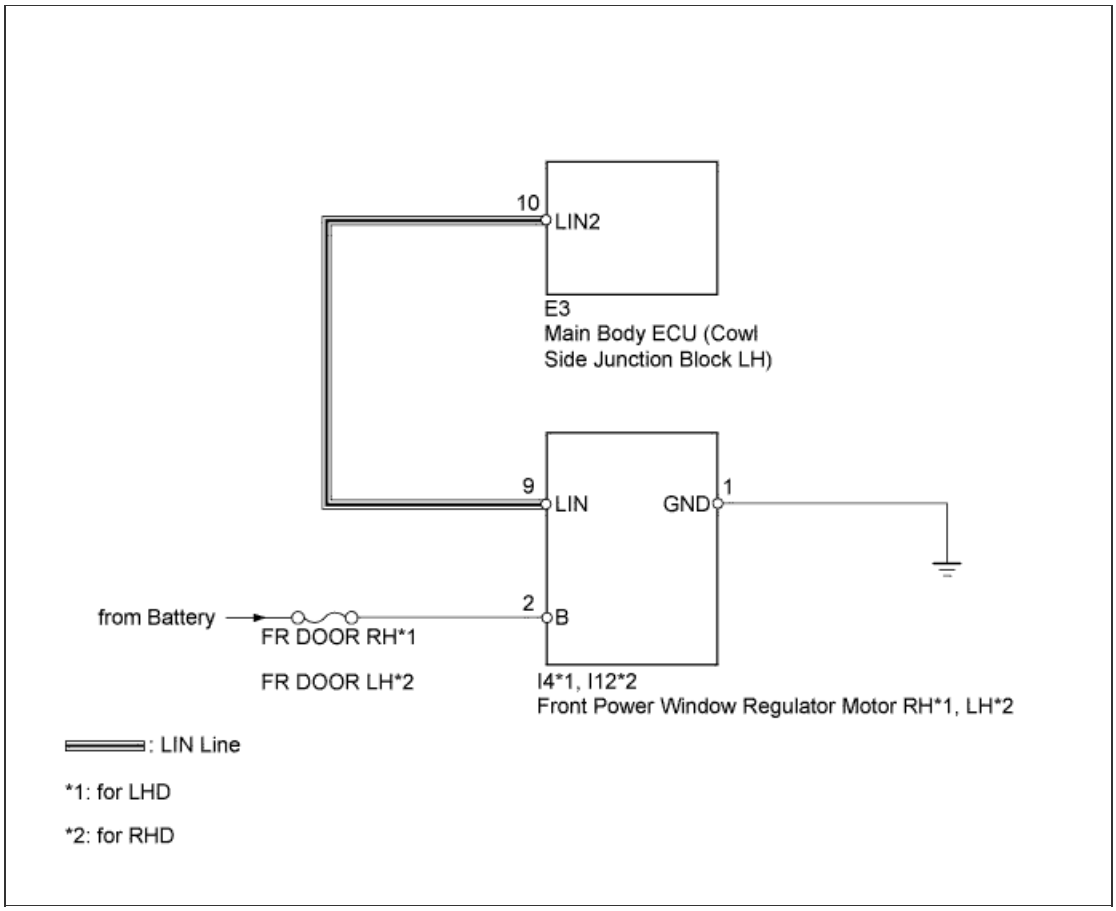
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the front power window regulator motor RH*1 or LH*2 and main body ECU (cowl side junction block LH) stops for 10 seconds or more.
*1: for LHD
*2: for RHD

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2322 | No communication between the front power window regulator motor RH*1 or LH*2 and main body ECU (cowl side junction block LH) for 10 seconds or more. | • Front power window regulator motor RH*1<br>• Front power window regulator motor LH*2<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2325 is stored when the communication between the front power window regulator motor and main body ECU (cowl side junction block LH) stops.

**1.CLEAR DTC**

a. Clear the DTC (Click here).

NEXT

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2322 is output | A |
| DTC B2322 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - FRONT POWER WINDOW REGULATOR MOTOR)

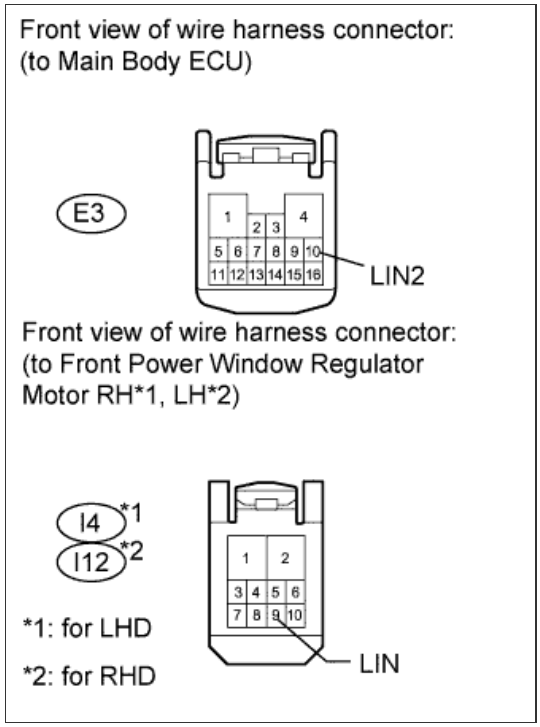
a. Disconnect the E3 ECU connector.

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:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-10 (LIN2) - I4-9 (LIN)*1 or I12-9 (LIN)*2 | Always | Below 1 Ω |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK HARNESS AND CONNECTOR (FRONT POWER WINDOW REGULATOR - BATTERY AND BODY GROUND)

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

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

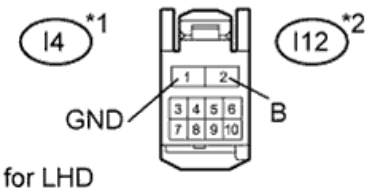
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I4-1 (GND)*1 or I12-1 (GND)*2 - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I4-2 (B)*1 or I12-2 (B)*2 - Body ground | Always | 11 to 14 V |

Front view of wire harness connector:
(to Front Power Window Regulator Motor RH*1, LH*2)




*1: for LHD

*2: for RHD

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 5.REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY

a. Temporarily replace the front power window regulator motor assembly RH*1 or LH*2 with a new or normally functioning one ( Click here).
*1: for LHD
*2: for RHD

b. Clear the DTC (Click here).

NEXT

## 6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2322 is not output | A |
| DTC B2322 is output | B |

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

A

END (FRONT POWER WINDOW REGULATOR MOTOR IS DEFECTIVE)

## DTC B2785 Communication Malfunction between ECUs Connected by LIN

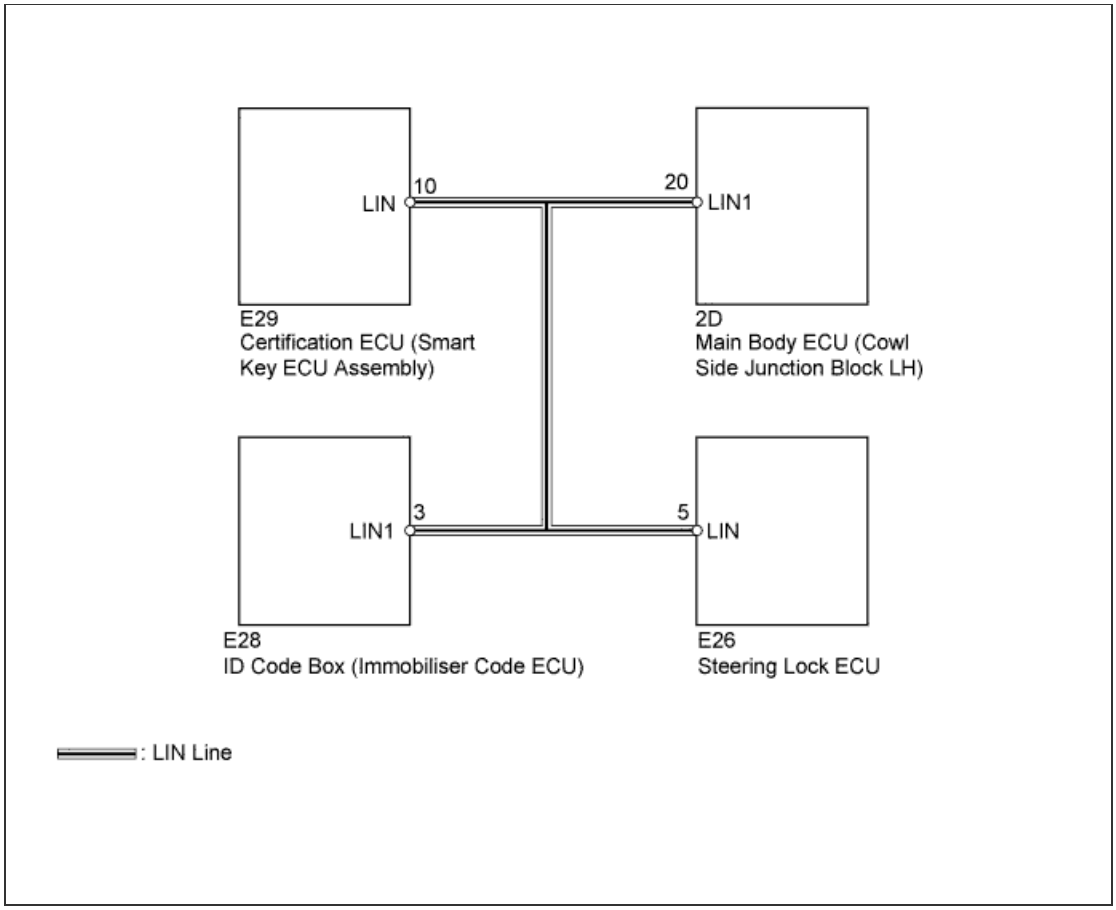
**for Preparation** Click here

### DESCRIPTION

The certification ECU (smart key ECU assembly) intermittently monitors the LIN communication bus between the components related to certification. DTC B2785 is output when a malfunction in the LIN communication bus between the components related to certification is detected continuously 3 times.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2785 | The certification ECU (smart key ECU assembly) detects a malfunction in the LIN communication bus between components related to certification continuously 3 times. | • Certification ECU (smart key ECU assembly)<br>• Main body ECU (cowl side junction block LH)<br>• ID code box (immobiliser code ECU)<br>• Steering lock ECU<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

When DTC B2785 and B2287 are output simultaneously, perform the troubleshooting for DTC B2785 first.

#### 1.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - MASTER SWITCH)

a. Disconnect the 2D and E29 ECU connectors

a. Disconnect the 2D and E29 ECU connectors.

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

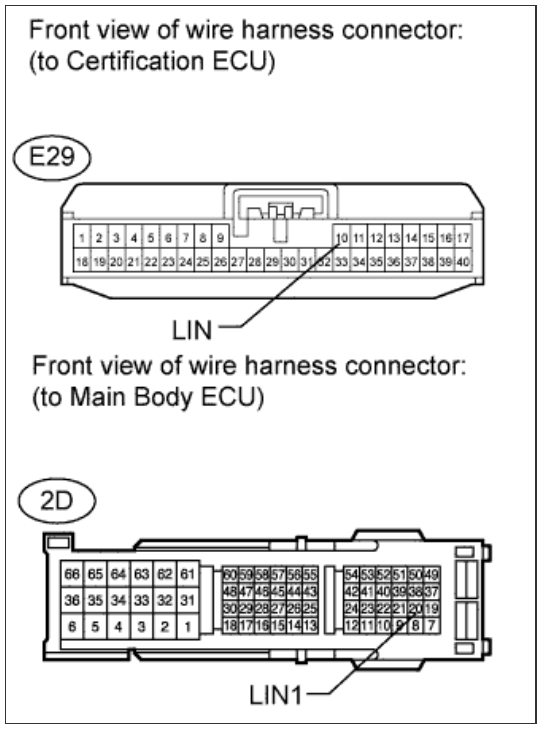
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-10 (LIN) - 2D-20 (LIN1) | Always | Below 1 Ω |
| E29-10 (LIN) - Body ground | Always | 10 kΩ or higher |

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-10 (LIN) - Body ground | Always | Below 1 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 2.CHECK FOR DTC

a. Reconnect the E26 and E29 ECU connectors.

b. Reconnect the E28 box connector.

c. Clear the DTC (Click here).

d. Recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC B2785 is output | A |
| DTC B2785 is not output | B |

B → Go to step 5

A

## 3.CHECK FOR DTC

a. Reconnect the 2D ECU connector.

b. Disconnect the E26 ECU connector.

c. Clear the DTC (Click here).

d. Recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC B2785 is output | A |
| DTC B2785 is not output | B |

B → Go to step 7

A

### 4.CHECK FOR DTC

a. Reconnect the E26 ECU connector.

b. Disconnect the E28 box ECU connector.

c. Clear the DTC (Click here).

d. Recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC B2785 is output | A |
| DTC B2785 is not output | B |

B → Go to step 9

A

### REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

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

a. Temporarily replace the main body ECU (cowl side junction block LH) with a new or normally functioning one.

b. Clear the DTC (Click here).

NEXT

### 6.CHECK FOR DTC

a. Recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC B2785 is not output | A |
| DTC B2785 is output | B |

B → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

A

### END (MAIN BODY ECU IS DEFECTIVE)

### 7.REPLACE STEERING LOCK ECU (STEERING LOCK ACTUATOR ASSEMBLY)

a. Temporarily replace the steering lock ECU with a new or normally functioning one ( Click here).

b. Clear the DTC (Click here).

NEXT

### 8.CHECK FOR DTC

a. Recheck for DTCs.

**Result**

| Result | Proceed to |
|---|---|
| DTC B2785 is not output | A |
| DTC B2785 is output | B |

B → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

A

END (STEERING LOCK ECU IS DEFECTIVE)

9.REPLACE ID CODE BOX (IMMOBILISER CODE ECU)

a. Temporarily replace the ID code box immobiliser code ECU with a new or normally functioning one.

b. Clear the DTC (Click here).

NEXT

10.CHECK FOR DTC

a. Recheck for DTCs (Click here).

Result

| Result | Proceed to |
|---|---|
| DTC B2785 is not output | A |
| DTC B2785 is output | B |

B → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

A

END (ID CODE BOX IS DEFECTIVE)

## DTC B2322 Front Passenger Side Door ECU Communication Stop

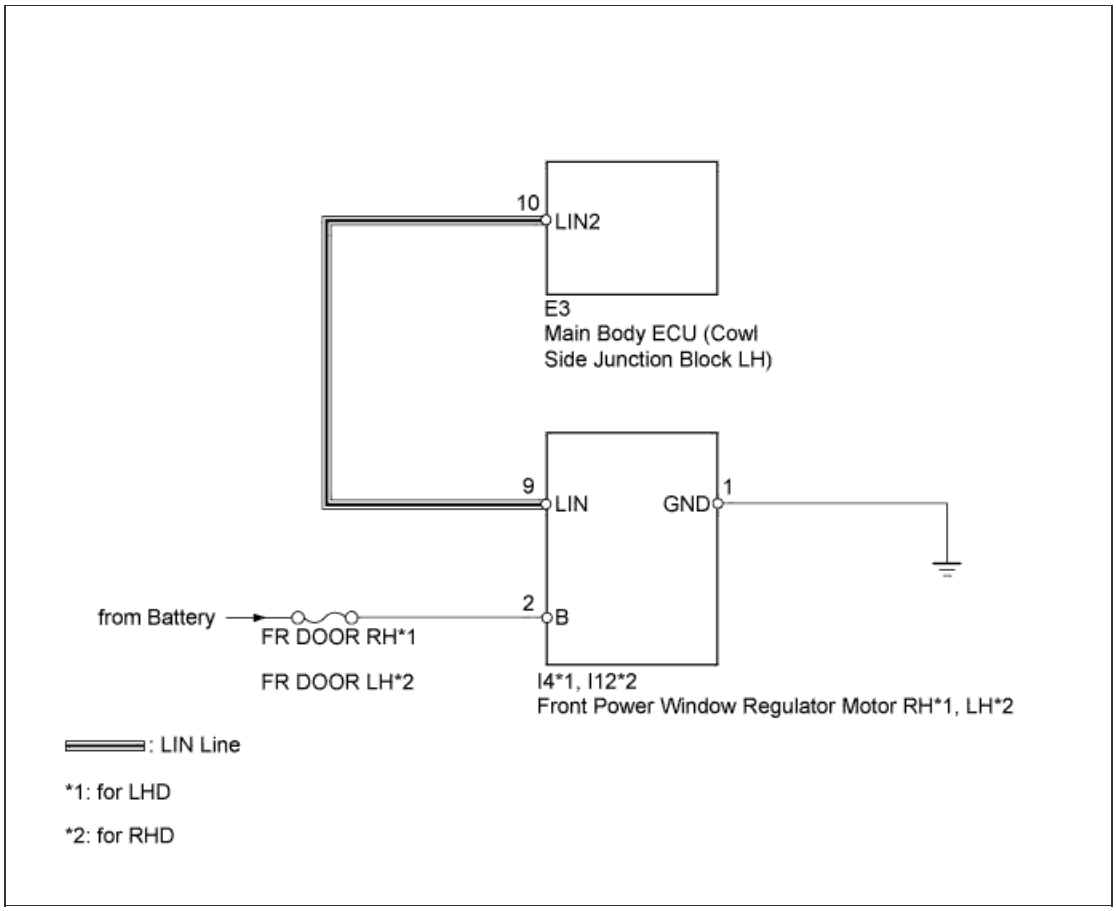
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the front power window regulator motor RH*1 or LH*2 and main body ECU (cowl side junction block LH) stops for 10 seconds or more.
*1: for LHD
*2: for RHD

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2322 | No communication between the front power window regulator motor RH*1 or LH*2 and main body ECU (cowl side junction block LH) for 10 seconds or more. | • Front power window regulator motor RH*1<br>• Front power window regulator motor LH*2<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2325 is stored when the communication between the front power window regulator motor and main body ECU (cowl side junction block LH) stops.

**1.CLEAR DTC**

a. Clear the DTC (Click here).

NEXT

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2322 is output | A |
| DTC B2322 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - FRONT POWER WINDOW REGULATOR MOTOR)

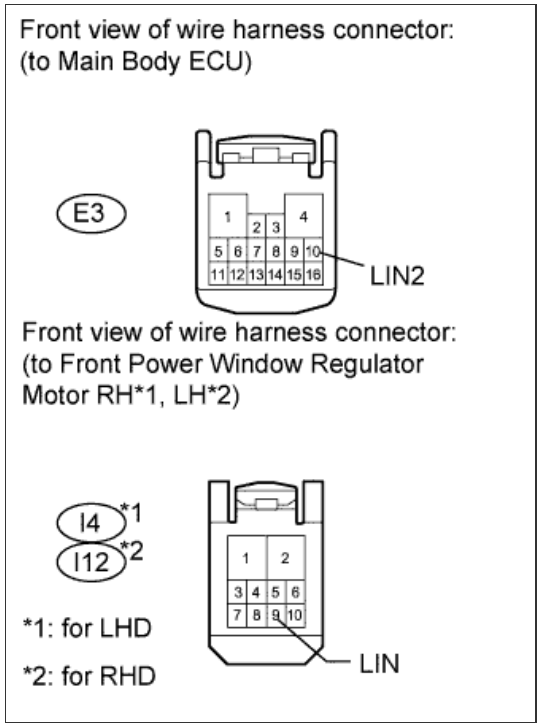
a. Disconnect the E3 ECU connector.

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:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E3-10 (LIN2) - I4-9 (LIN)*1 or I12-9 (LIN)*2 | Always | Below 1 Ω |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK HARNESS AND CONNECTOR (FRONT POWER WINDOW REGULATOR - BATTERY AND BODY GROUND)

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

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

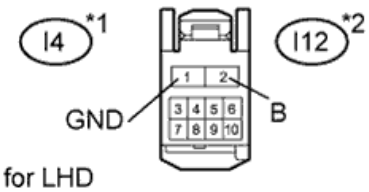
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I4-1 (GND)*1 or I12-1 (GND)*2 - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I4-2 (B)*1 or I12-2 (B)*2 - Body ground | Always | 11 to 14 V |

Front view of wire harness connector:
(to Front Power Window Regulator Motor RH*1, LH*2)




*1: for LHD

*2: for RHD

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 5.REPLACE FRONT POWER WINDOW REGULATOR MOTOR ASSEMBLY

a. Temporarily replace the front power window regulator motor assembly RH*1 or LH*2 with a new or normally functioning one ( Click here).
*1: for LHD
*2: for RHD

b. Clear the DTC (Click here).

NEXT

## 6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2322 is not output | A |
| DTC B2322 is output | B |

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

A

END (FRONT POWER WINDOW REGULATOR MOTOR IS DEFECTIVE)

## DTC B2786 No Response from Steering Lock ECU

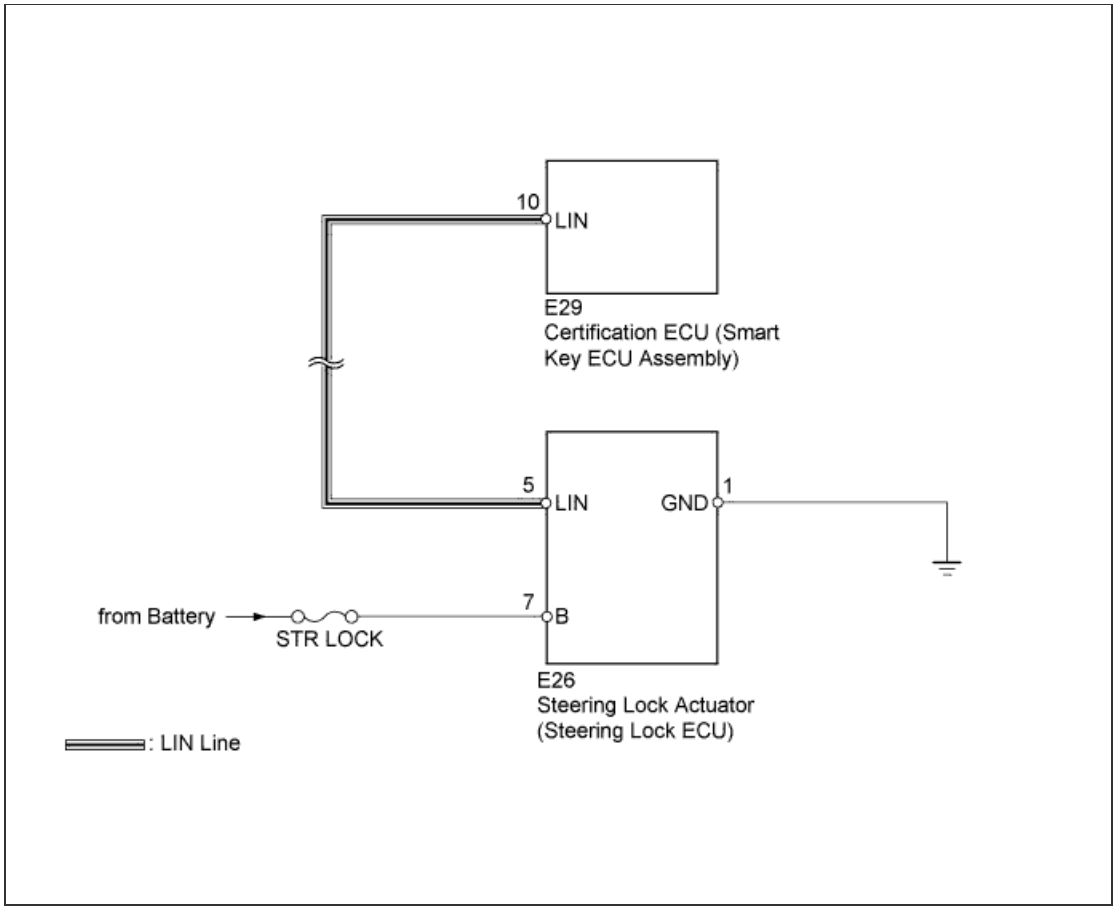
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the certification ECU (smart key ECU assembly) and steering lock actuator (steering lock ECU) stops for 10 seconds or more.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2786 | Periodic transmission from the steering lock ECU stops for 10 seconds or more. | • Steering lock actuator (Steering lock ECU)<br>• Certification ECU (smart key ECU assembly)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2785 is stored when the communication between the steering lock ECU and certification ECU (smart key ECU assembly) stops.

#### 1.CLEAR DTC

a. Clear the DTC (Click here).

**NEXT**

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2786 is output | A |
| DTC B2786 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

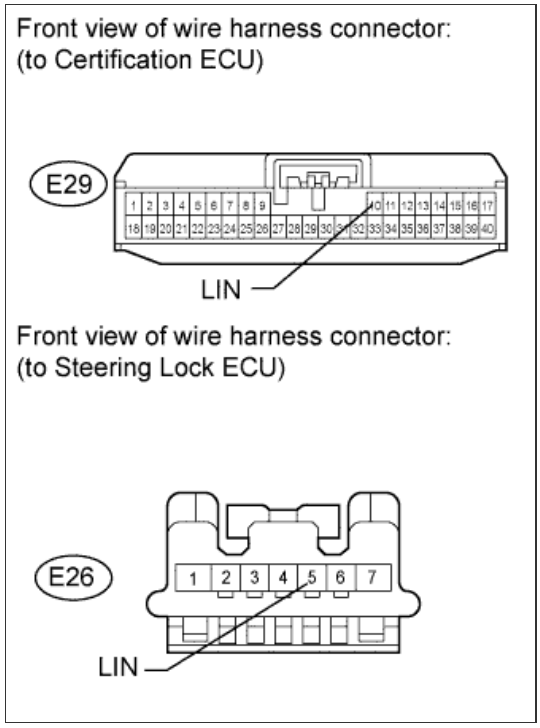
## 3.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - STEERING LOCK ECU)

a. Disconnect the E29 and E26 ECU connectors.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-10 (LIN) - E26-5 (LIN) | Always | Below 1 Ω |
| E29-10 (LIN) or E26-5 (LIN) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK HARNESS AND CONNECTOR (STEERING LOCK ACTUATOR - BATTERY AND BODY GROUND)

a. Disconnect the E26 ECU connector.

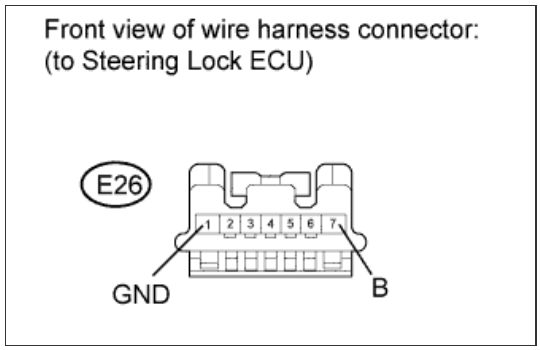
b. Measure the resistance and voltage according to the value(s) in the tables below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E26-1 (GND) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E26-7 (B) - Body ground | Always | 11 to 14 V |



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 5.REPLACE STEERING LOCK ACTUATOR ASSEMBLY

a. Temporarily replace the steering lock actuator with a new or normally functioning one ( Click here).

b. Clear the DTC (Click here).

NEXT

### 6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2786 is not output | A |
| DTC B2786 is output | B |

B → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

A

### END (STEERING LOCK ECU IS DEFECTIVE)

## DTC B2323 Rear Door RH ECU Communication Stop

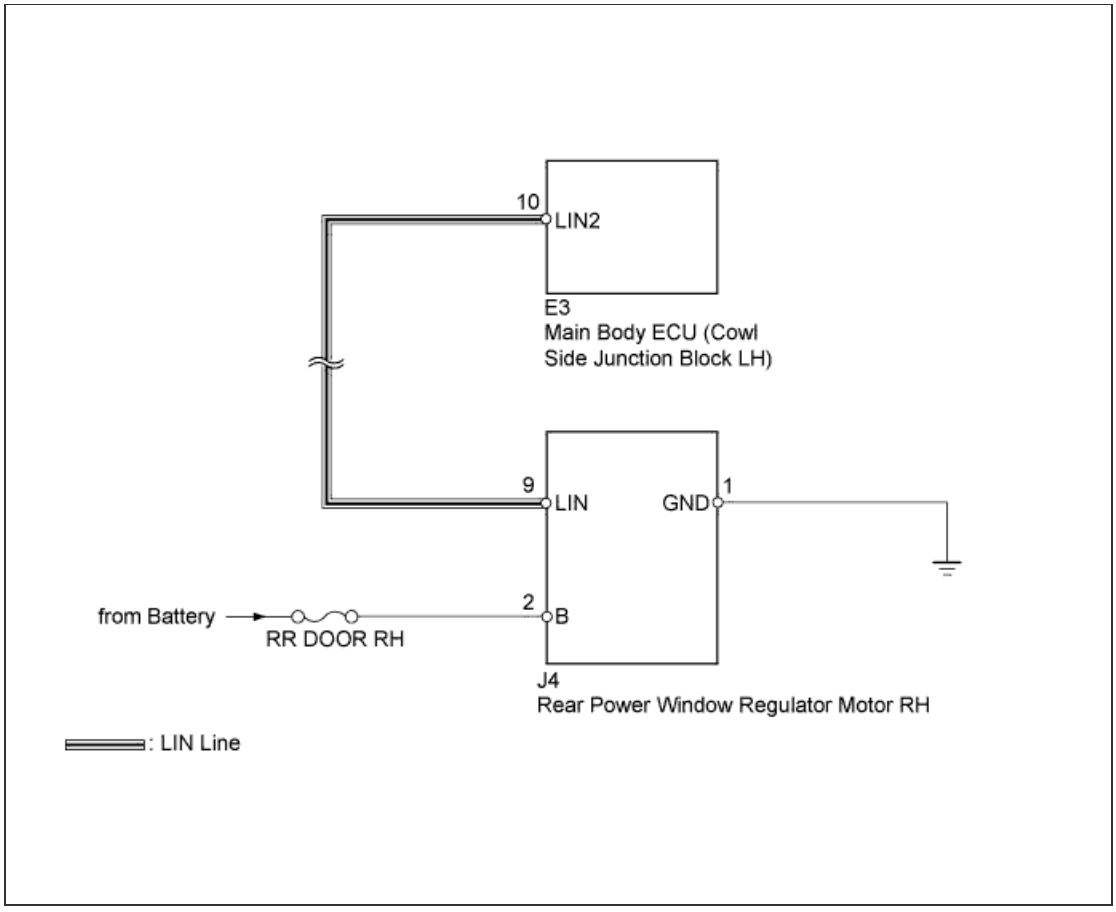
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the rear power window regulator motor RH and main body ECU (cowl side junction block LH) stops for 10 seconds or more.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2323 | No communication between the rear power window regulator motor RH and main body ECU (cowl side junction block LH) for 10 seconds or more. | • Rear power window regulator motor RH<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2325 is stored when the communication between the rear power window regulator motor and main body ECU (cowl side junction block LH) stops.

#### 1.CLEAR DTC

a. Clear the DTC (Click here).

NEXT

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2323 is output | A |
| DTC B2323 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - REAR POWER WINDOW REGULATOR MOTOR RH)

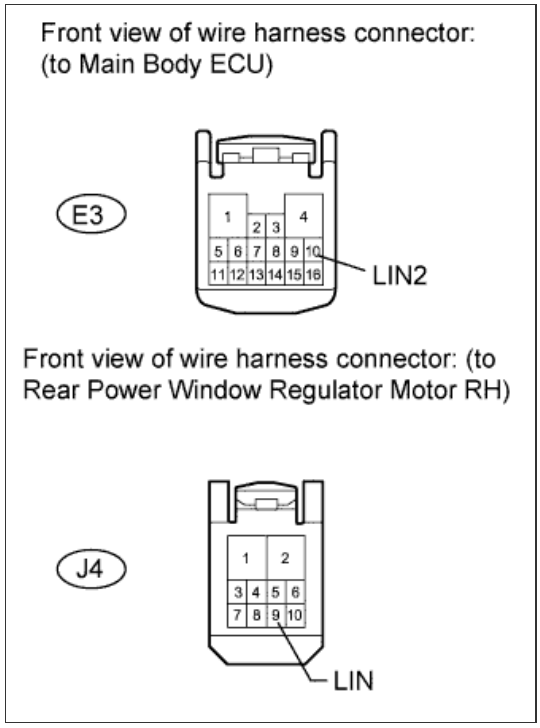
a. Disconnect the E3 ECU connector.

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 |
|---|---|---|
| E3-10 (LIN2) - J4-9 (LIN) | Always | Below 1 Ω |
| E3-10 (LIN2) or J4-9 (LIN) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

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

a. Disconnect the J4 motor connector.

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

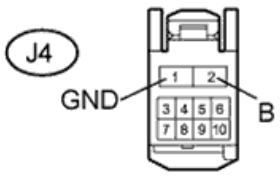
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| J4-1 (GND) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

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

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




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 5.REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH

a. Temporarily replace the rear power window regulator motor RH with a new or normally functioning one ( Click here).

b. Clear the DTC (Click here).

NEXT

### 6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2323 is not output | A |
| DTC B2323 is output | B |

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

A

END (REAR POWER WINDOW REGULATOR MOTOR RH IS DEFECTIVE)

## DTC B2786 No Response from Steering Lock ECU

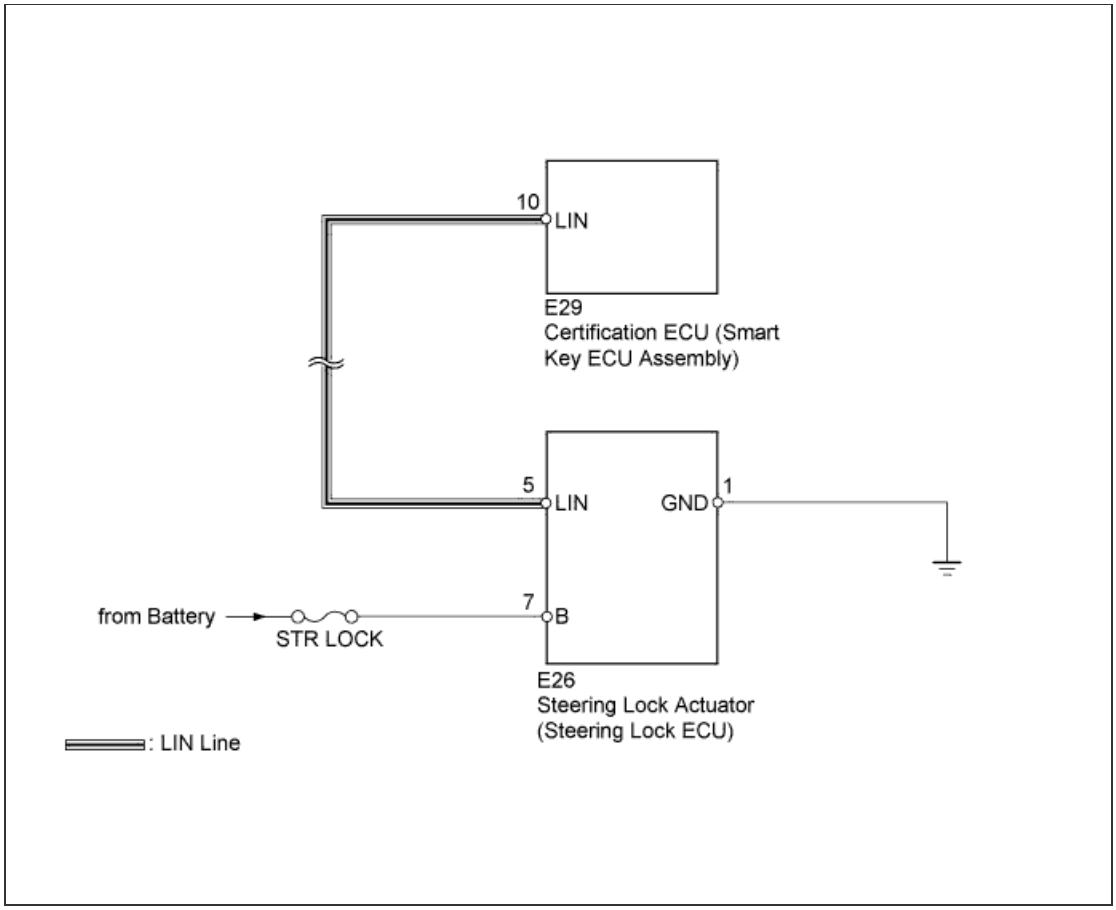
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the certification ECU (smart key ECU assembly) and steering lock actuator (steering lock ECU) stops for 10 seconds or more.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2786 | Periodic transmission from the steering lock ECU stops for 10 seconds or more. | • Steering lock actuator (Steering lock ECU)<br>• Certification ECU (smart key ECU assembly)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2785 is stored when the communication between the steering lock ECU and certification ECU (smart key ECU assembly) stops.

#### 1.CLEAR DTC

a. Clear the DTC (Click here).

**NEXT**

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2786 is output | A |
| DTC B2786 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

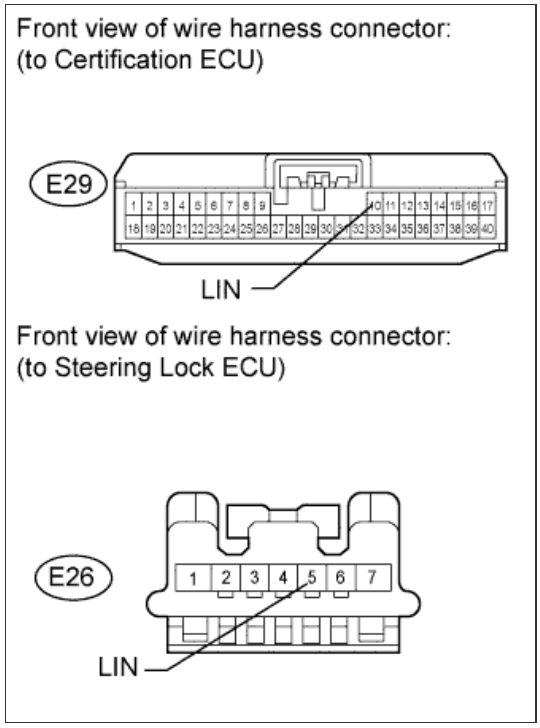
## 3.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - STEERING LOCK ECU)

a. Disconnect the E29 and E26 ECU connectors.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-10 (LIN) - E26-5 (LIN) | Always | Below 1 Ω |
| E29-10 (LIN) or E26-5 (LIN) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK HARNESS AND CONNECTOR (STEERING LOCK ACTUATOR - BATTERY AND BODY GROUND)

a. Disconnect the E26 ECU connector.

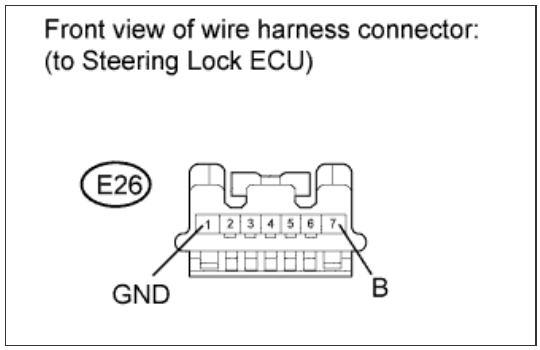
b. Measure the resistance and voltage according to the value(s) in the tables below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E26-1 (GND) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E26-7 (B) - Body ground | Always | 11 to 14 V |



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 5.REPLACE STEERING LOCK ACTUATOR ASSEMBLY

a. Temporarily replace the steering lock actuator with a new or normally functioning one ( Click here).

b. Clear the DTC (Click here).

NEXT

### 6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2786 is not output | A |
| DTC B2786 is output | B |

B → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

A

### END (STEERING LOCK ECU IS DEFECTIVE)

## DTC B2323 Rear Door RH ECU Communication Stop

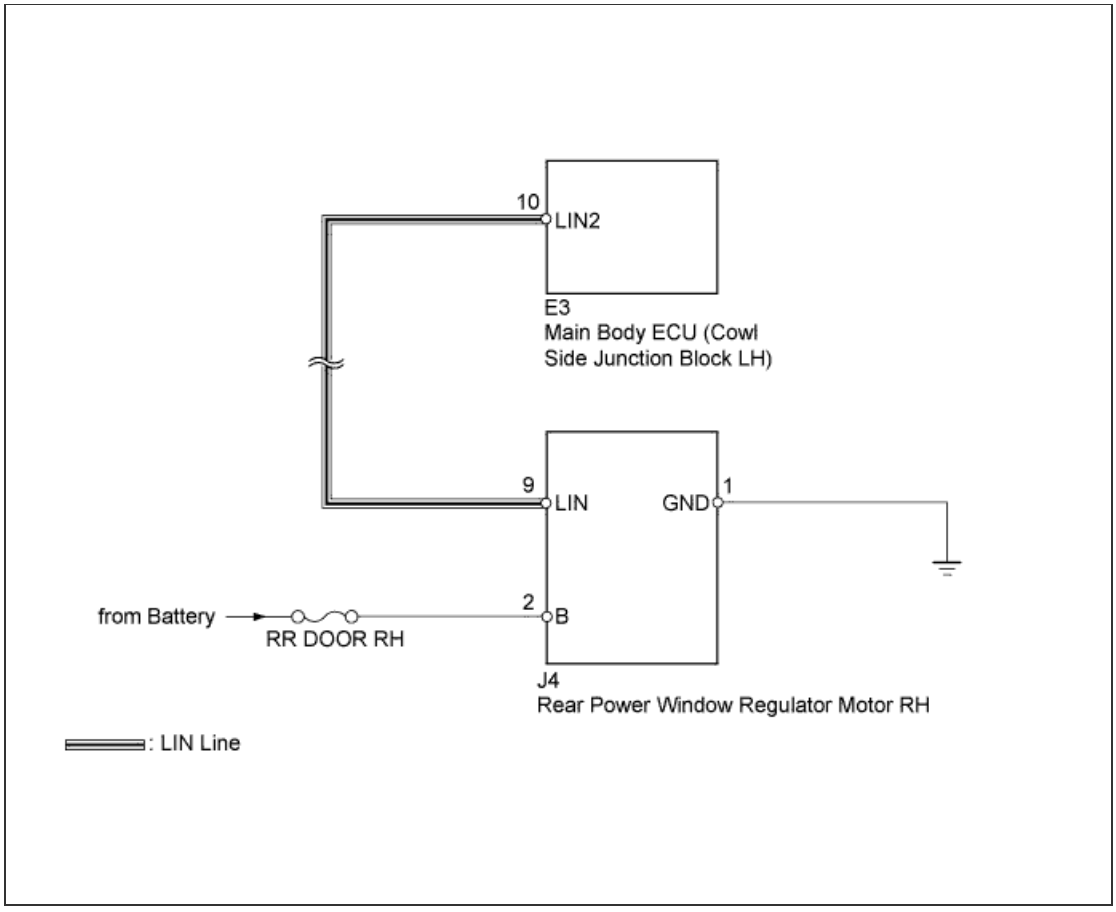
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the rear power window regulator motor RH and main body ECU (cowl side junction block LH) stops for 10 seconds or more.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2323 | No communication between the rear power window regulator motor RH and main body ECU (cowl side junction block LH) for 10 seconds or more. | • Rear power window regulator motor RH<br>• Main body ECU (cowl side junction block LH)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2325 is stored when the communication between the rear power window regulator motor and main body ECU (cowl side junction block LH) stops.

#### 1.CLEAR DTC

a. Clear the DTC (Click here).

NEXT

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2323 is output | A |
| DTC B2323 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - REAR POWER WINDOW REGULATOR MOTOR RH)

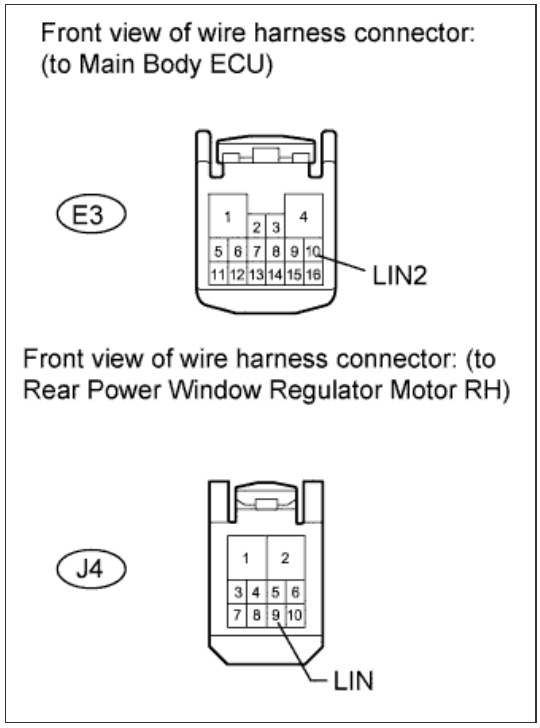
a. Disconnect the E3 ECU connector.

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 |
|---|---|---|
| E3-10 (LIN2) - J4-9 (LIN) | Always | Below 1 Ω |
| E3-10 (LIN2) or J4-9 (LIN) - Body ground | Always | 10 kΩ or higher |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

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

a. Disconnect the J4 motor connector.

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

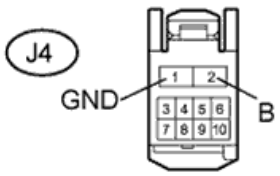
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| J4-1 (GND) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

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

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




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

### 5.REPLACE REAR POWER WINDOW REGULATOR MOTOR ASSEMBLY RH

a. Temporarily replace the rear power window regulator motor RH with a new or normally functioning one ( Click here).

b. Clear the DTC (Click here).

NEXT

### 6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2323 is not output | A |
| DTC B2323 is output | B |

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

A

END (REAR POWER WINDOW REGULATOR MOTOR RH IS DEFECTIVE)

## DTC B2789 No Response from ID BOX

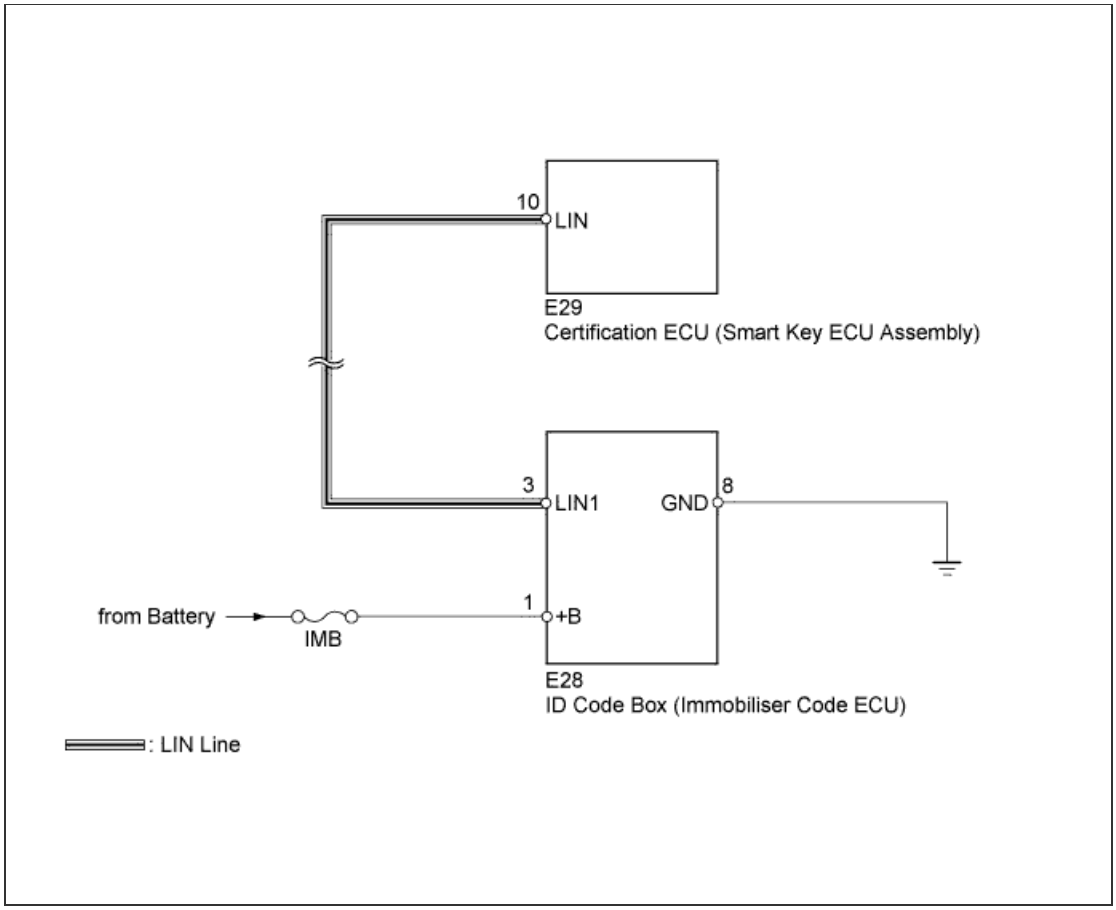
**for Preparation** Click here

### DESCRIPTION

This DTC is stored when LIN communication between the certification ECU (smart key ECU assembly) and ID code box (immobiliser code ECU) stops for 10 seconds or more.

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| B2789 | No communication between the certification ECU (smart key ECU assembly) and ID code box (immobiliser code ECU) for 10 seconds or more. | • ID code box (immobiliser code ECU)<br>• Certification ECU (smart key ECU assembly)<br>• Harness or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

**HINT:**

DTC B2785 is stored when the communication between the ID code box (immobiliser code ECU) and certification ECU (smart key ECU assembly) stops.

#### 1.CLEAR DTC

a. Clear the DTC (Click here).

NEXT

## 2.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2789 is output | A |
| DTC B2789 is not output | B |

B → USE SIMULATION METHOD TO CHECK (Click here)

A

## 3.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - ID CODE BOX)

a. Disconnect the E29 ECU connector.

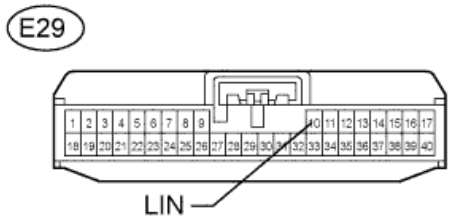
b. Disconnect the E28 box connector.

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

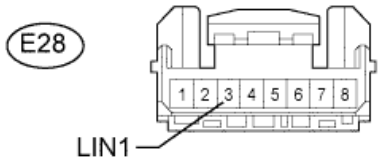
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-10 (LIN) - E28-3 (LIN1) | Always | Below 1 Ω |
| E29-10 (LIN) or E28-3 (LIN1) - Body ground | Always | 10 kΩ or higher |

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




Front view of wire harness connector:
(to ID Code Box)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 4.CHECK HARNESS AND CONNECTOR (ID CODE BOX - BATTERY AND BODY GROUND)

a. Disconnect the E28 box connector.

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

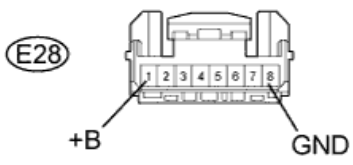
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-8 (GND) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E28-1 (+B) - Body ground | Always | 11 to 14 V |

Front view of wire harness connector:
(to ID Code Box)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

## 5.REPLACE ID CODE BOX (IMMOBILISER CODE ECU)

a. Temporarily replace the ID code box (immobiliser code ECU) with a new or normally functioning one.

b. Clear the DTC (Click here).

NEXT

## 6.CHECK FOR DTC

a. Recheck for DTCs (Click here).

**Result**

| Result | Proceed to |
|---|---|
| DTC B2789 is output | A |
| DTC B2789 is not output | B |

B → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

A

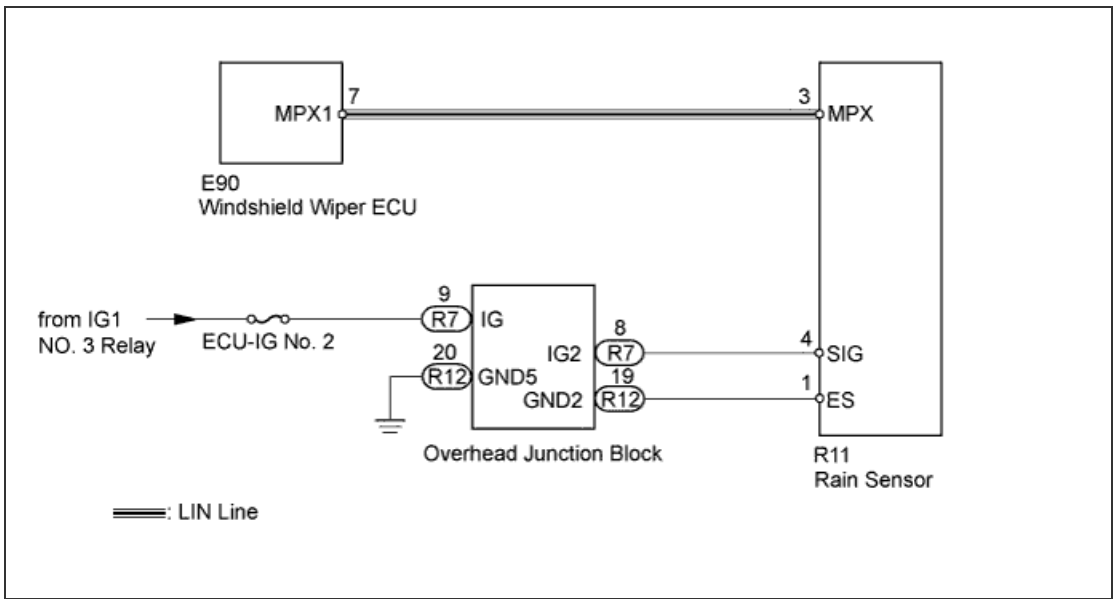
## END (ID CODE BOX IS DEFECTIVE)

**for Preparation** Click here

## DESCRIPTION

The LIN communication of the components related to the rain sensor occurs between the rain sensor and windshield wiper ECU.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

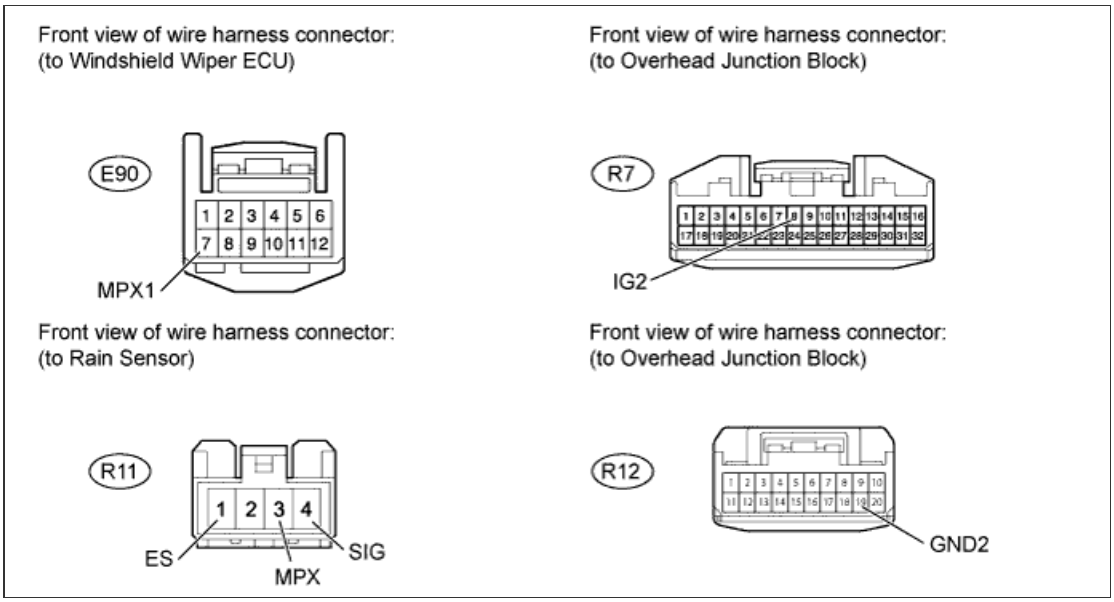
**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

### 1.CHECK HARNESS AND CONNECTOR (RAIN SENSOR - WINDSHIELD WIPER ECU AND OVERHEAD JUNCTION BLOCK)

a. Disconnect the E90 ECU connector.



b. Disconnect the R11 sensor connector.

c. Disconnect the R7 and R12 junction block connectors.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| R11-3 (MPX) - E90-7 (MPX1) | Always | Below 1 Ω |
| R11-4 (SIG) - R7-8 (IG2) | Always | Below 1 Ω |
| R11-1 (ES) - R12-19 (GND2) | Always | Below 1 Ω |
| R11-3 (MPX) - Body ground | Always | 10 kΩ or higher |
| R11-4 (SIG) - Body ground | Always | 10 kΩ or higher |
| R11-1 (ES) - Body ground | Always | 10 kΩ or higher |

e. Reconnect the R7 and R12 junction block connectors.

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| R11-4 (SIG) - Body ground | Engine switch on (IG) | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

2.REPLACE RAIN SENSOR

a. Temporarily replace the rain sensor with a new one ( Click here).

b. Check the rain sensor function is normal.

**OK:**
**Rain sensor function is normal**

NG → REPLACE WINDSHIELD WIPER ECU (Click here)

OK ↓

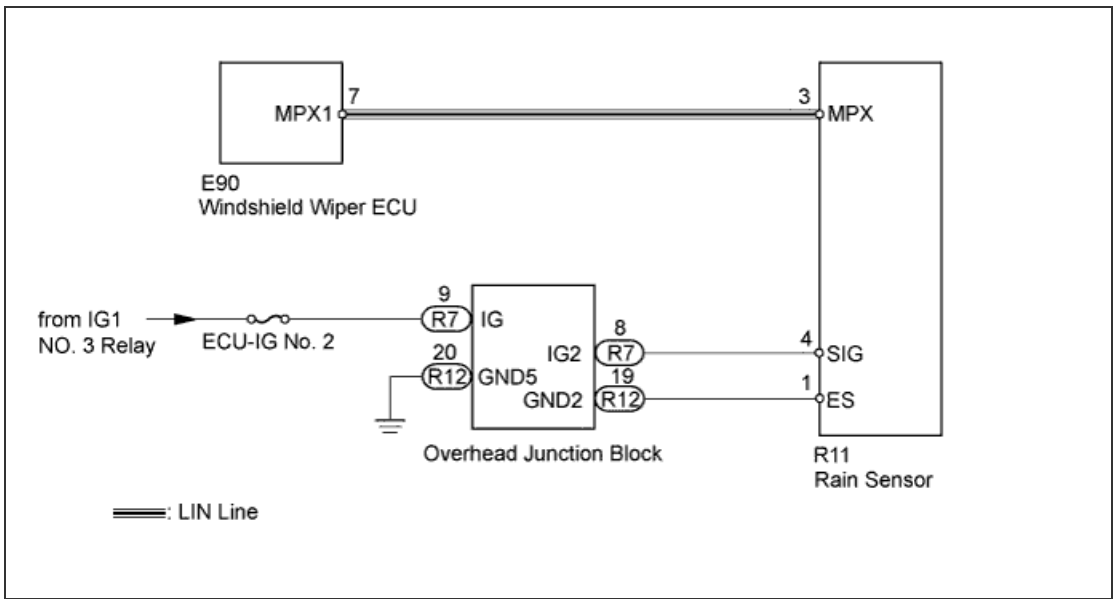
END (RAIN SENSOR IS DEFECTIVE)

**for Preparation** Click here

## DESCRIPTION

The LIN communication of the components related to the rain sensor occurs between the rain sensor and windshield wiper ECU.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

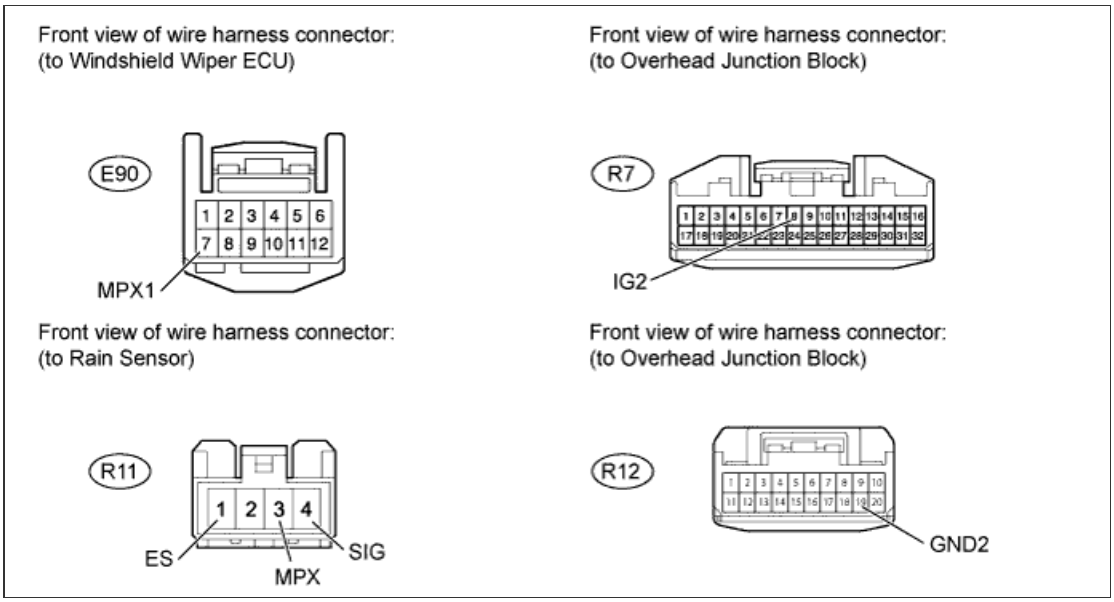
**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

### 1.CHECK HARNESS AND CONNECTOR (RAIN SENSOR - WINDSHIELD WIPER ECU AND OVERHEAD JUNCTION BLOCK)

a. Disconnect the E90 ECU connector.



b. Disconnect the R11 sensor connector.

c. Disconnect the R7 and R12 junction block connectors.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| R11-3 (MPX) - E90-7 (MPX1) | Always | Below 1 Ω |
| R11-4 (SIG) - R7-8 (IG2) | Always | Below 1 Ω |
| R11-1 (ES) - R12-19 (GND2) | Always | Below 1 Ω |
| R11-3 (MPX) - Body ground | Always | 10 kΩ or higher |
| R11-4 (SIG) - Body ground | Always | 10 kΩ or higher |
| R11-1 (ES) - Body ground | Always | 10 kΩ or higher |

e. Reconnect the R7 and R12 junction block connectors.

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| R11-4 (SIG) - Body ground | Engine switch on (IG) | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

2.REPLACE RAIN SENSOR

a. Temporarily replace the rain sensor with a new one ( Click here).

b. Check the rain sensor function is normal.

**OK:**
**Rain sensor function is normal**

NG → REPLACE WINDSHIELD WIPER ECU (Click here)

OK ↓

END (RAIN SENSOR IS DEFECTIVE)

**for Preparation** Click here

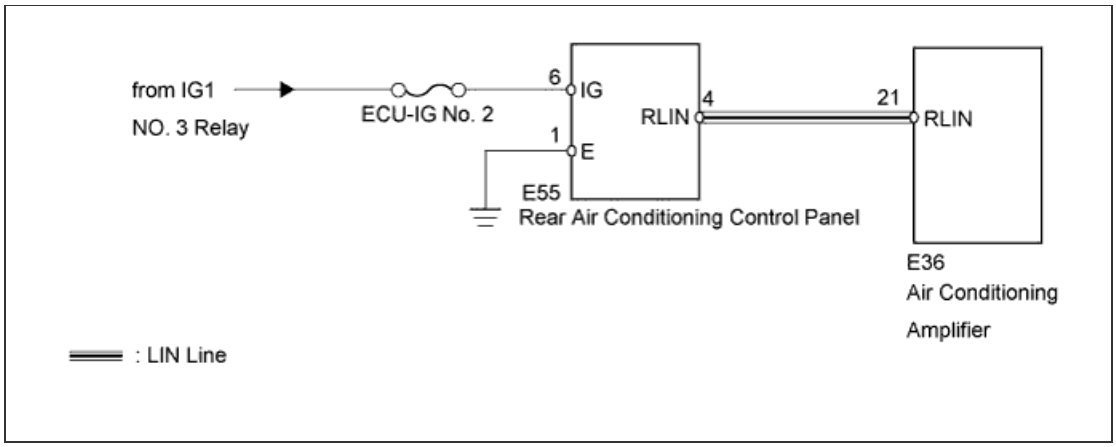
## DESCRIPTION

The LIN communication of the components related to the rear heater occurs between the air conditioning amplifier (A/C ECU) and rear air conditioning control panel.

**HINT:**

"Rear heater control panel" refers to the rear air conditioning control panel.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

### 1.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - REAR AIR CONDITIONING CONTROL PANEL)

a. Disconnect the E36 amplifier connector.

b. Disconnect the E55 panel connector.

c. Measure the resistance and voltage according to the value(s) in the tables below.

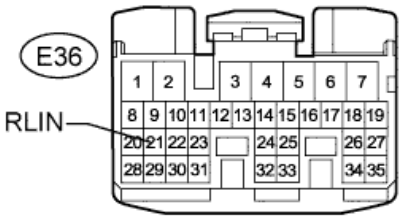
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-21 (RLIN) - E55-4 (RLIN) | Always | Below 1 Ω |
| E36-21 (RLIN) - Body ground | Always | 10 kΩ or higher |

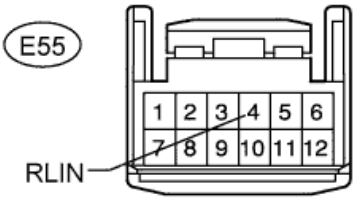
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-21 (RLIN) - Body ground | Always | Below 1 V |

Front view of wire harness connector:
(to Air Conditioning Amplifier)




Front view of wire harness connector:
(to Rear Air Conditioning Control Panel)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

2.CHECK REAR AIR CONDITIONING CONTROL PANEL (BATTERY VOLTAGE AND BODY GROUND)

a. Disconnect the E55 panel connector.

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

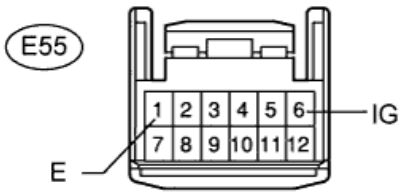
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E55-1 (E) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E55-6 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector:
(to Rear Air Conditioning Control Panel)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3.CHECK REAR AIR CONDITIONING CONTROL PANEL

a. Temporarily replace the rear air conditioning control panel with a new or normally functioning one ( Click here).

b. Check that the rear air conditioning function is normal.

**OK:**
**Rear air conditioning function is normal.**

NG → REPLACE AIR CONDITIONING AMPLIFIER (**Click here**)

OK

END (REAR AIR CONDITIONING CONTROL PANEL IS DEFECTIVE)

**for Preparation** Click here

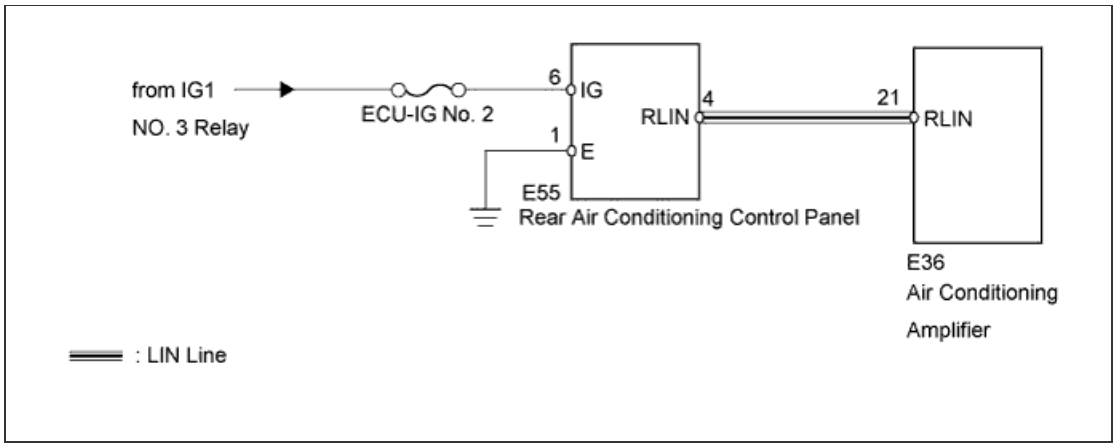
## DESCRIPTION

The LIN communication of the components related to the rear heater occurs between the air conditioning amplifier (A/C ECU) and rear air conditioning control panel.

**HINT:**

"Rear heater control panel" refers to the rear air conditioning control panel.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

When using the intelligent tester with the engine switch off to troubleshoot:

Connect the intelligent tester to the vehicle, and turn a courtesy switch on and off at 1.5 second intervals until communication between the intelligent tester and vehicle begins.

### 1.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - REAR AIR CONDITIONING CONTROL PANEL)

a. Disconnect the E36 amplifier connector.

b. Disconnect the E55 panel connector.

c. Measure the resistance and voltage according to the value(s) in the tables below.

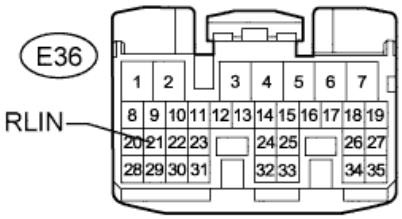
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-21 (RLIN) - E55-4 (RLIN) | Always | Below 1 Ω |
| E36-21 (RLIN) - Body ground | Always | 10 kΩ or higher |

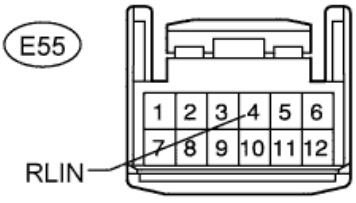
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-21 (RLIN) - Body ground | Always | Below 1 V |

Front view of wire harness connector:
(to Air Conditioning Amplifier)




Front view of wire harness connector:
(to Rear Air Conditioning Control Panel)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

2.CHECK REAR AIR CONDITIONING CONTROL PANEL (BATTERY VOLTAGE AND BODY GROUND)

a. Disconnect the E55 panel connector.

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

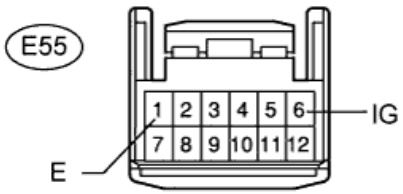
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E55-1 (E) - Body ground | Always | Below 1 Ω |

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E55-6 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector:
(to Rear Air Conditioning Control Panel)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3.CHECK REAR AIR CONDITIONING CONTROL PANEL

a. Temporarily replace the rear air conditioning control panel with a new or normally functioning one ( Click here).

b. Check that the rear air conditioning function is normal.

**OK:**
**Rear air conditioning function is normal.**

NG → REPLACE AIR CONDITIONING AMPLIFIER (**Click here**)

OK

END (REAR AIR CONDITIONING CONTROL PANEL IS DEFECTIVE)

**for Preparation** Click here

## 1.STEERING SYSTEM HANDLING PRECAUTIONS

a. Care must be taken when replacing parts. Incorrect replacement could affect the performance of the steering system and result in hazards when driving.

## 2.SRS AIRBAG SYSTEM HANDLING PRECAUTIONS

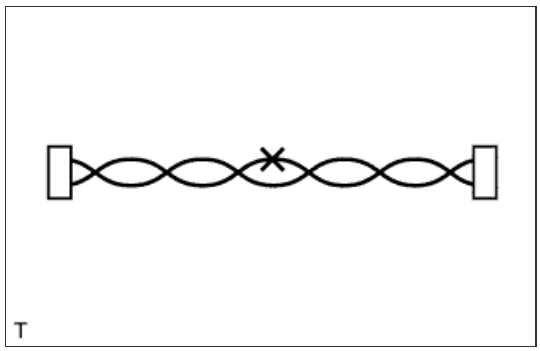
a. This vehicle is equipped with an SRS (Supplemental Restraint System), such as the driver airbag and front passenger airbag. Failure to carry out service operations in the correct sequence could cause unexpected SRS deployment during servicing and may lead to a serious accident. Before servicing (including installation/removal, inspection and replacement of parts), be sure to read the precautionary notice for the Supplemental Restraint System (Click here).

## 3.BUS LINE REPAIR

a. After repairing the bus line with solder, wrap the repaired part with vinyl tape (Click here).

**NOTICE:**

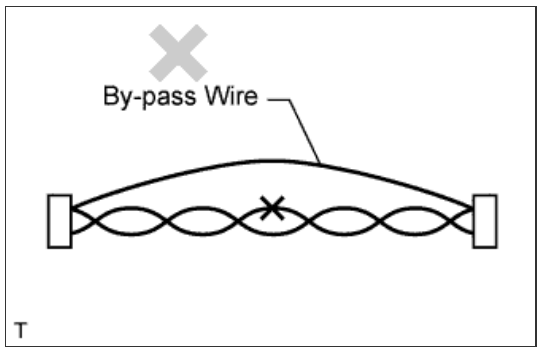
- **The CANL bus line and CANH bus line must be installed together.**
- **When installing the CAN bus lines, make sure to twist them.**
- **CAN bus lines are likely to be influenced by noise if the bus lines are not twisted together.**
- **The difference in length between the CANL bus line and CANH bus line should be less than 100 mm (3.94 in.).**
- **Leave approximately 80 mm (3.15 in.) loose in the twisted wires around the connectors.**




b. Do not use by-pass wiring between the connectors.

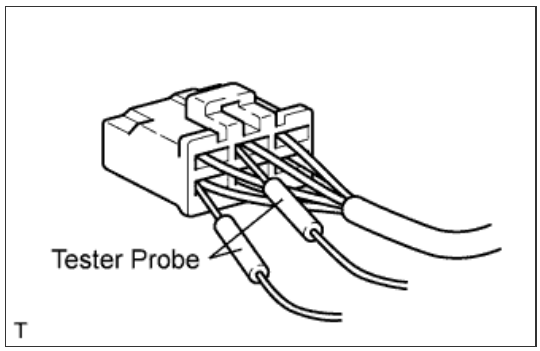
**NOTICE:**

The feature of the twisted wire harness will be lost if bypass wiring is used.

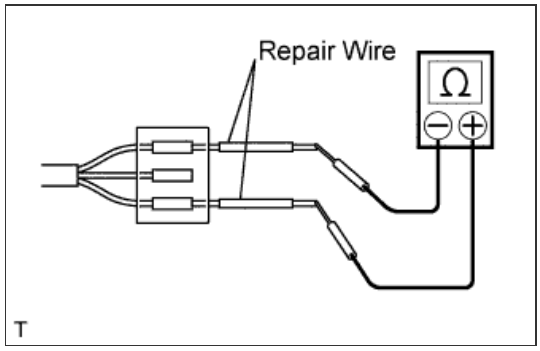



## 4.CONNECTOR HANDLING

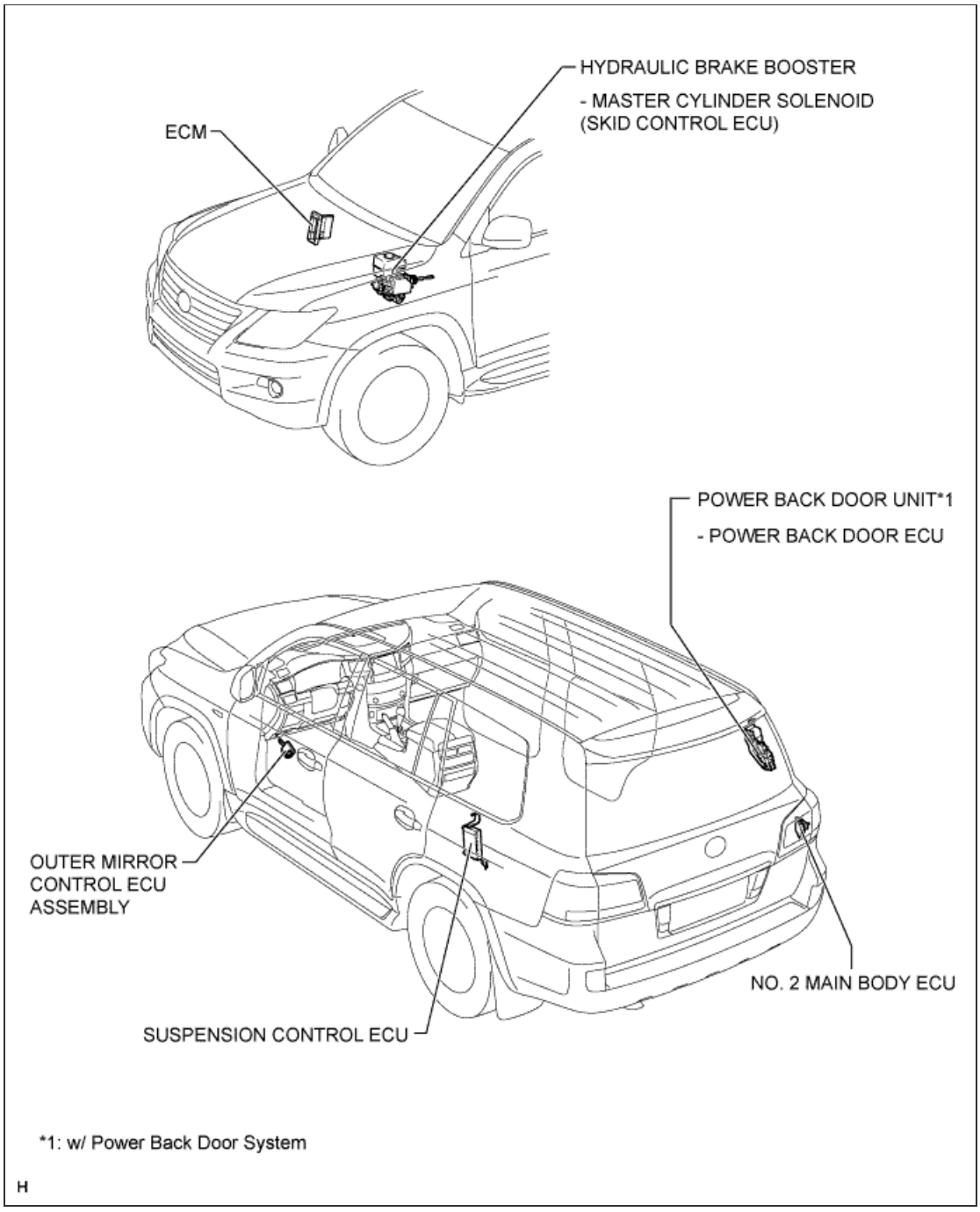
a. When inserting probes into a connector, insert them from the rear of the connector.

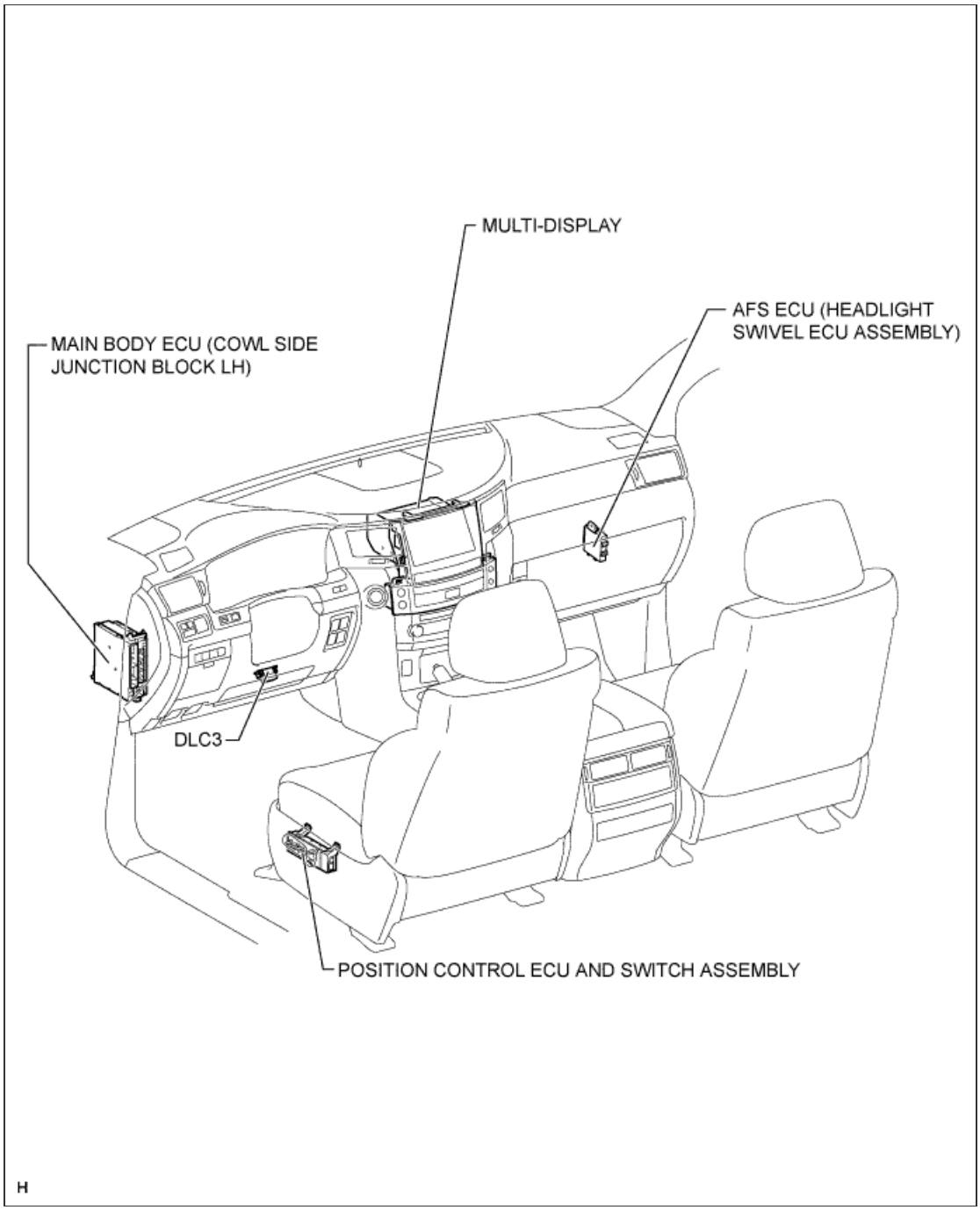


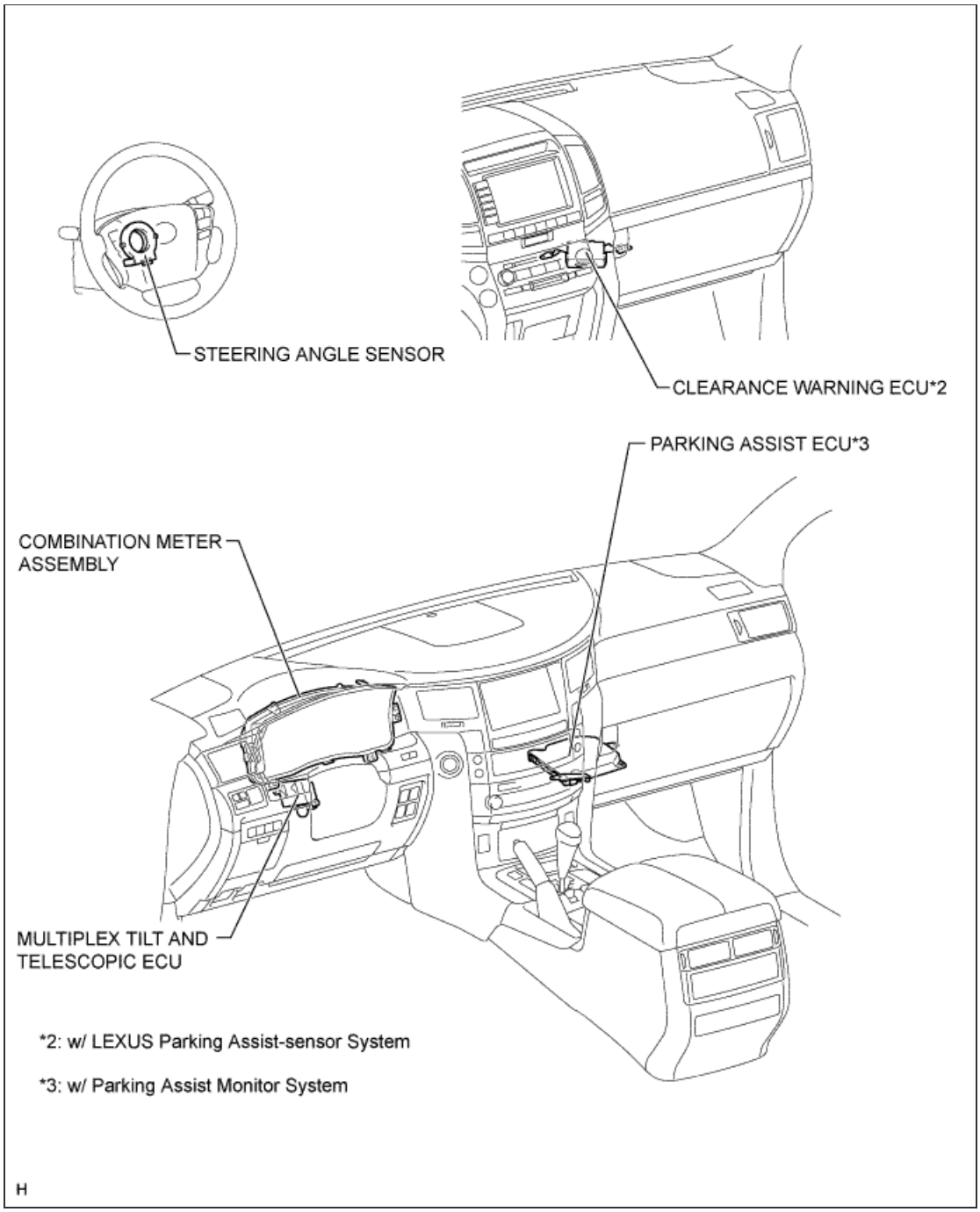
b. Use a repair wire to check the connector if it is impossible to check resistance from the rear of the connector.

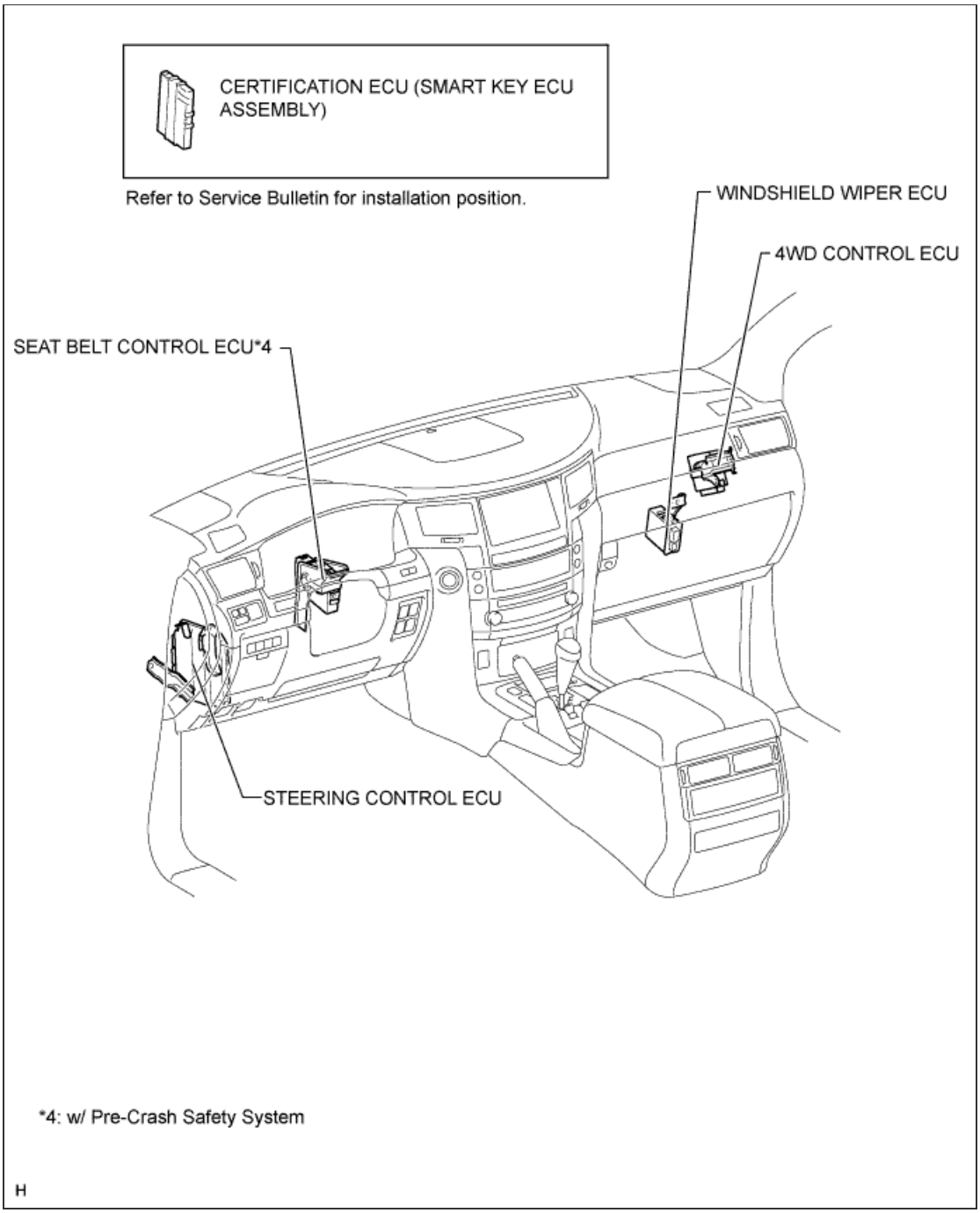


**for Preparation** Click here



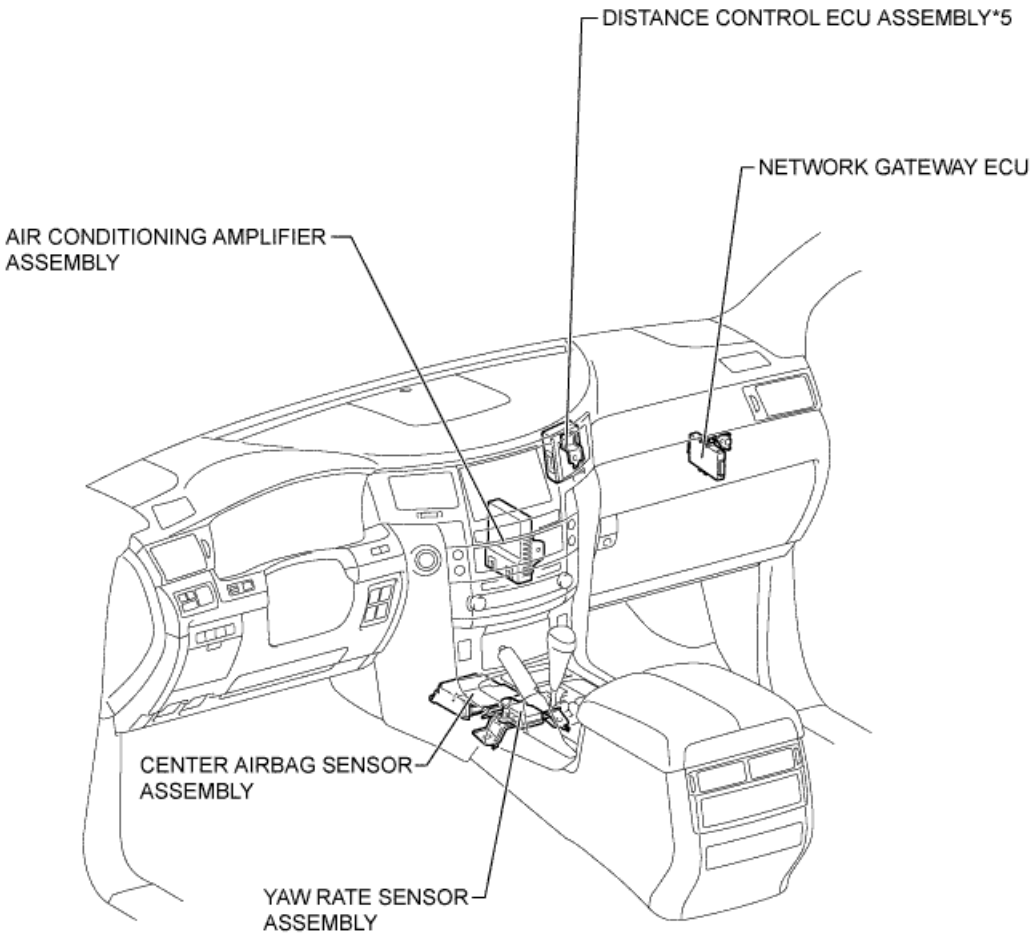

MULTI-DISPLAY
AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY)
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
DLC3
POSITION CONTROL ECU AND SWITCH ASSEMBLY
H


STEERING ANGLE SENSOR
CLEARANCE WARNING ECU*2
PARKING ASSIST ECU*3
COMBINATION METER ASSEMBLY
MULTIPLEX TILT AND TELESCOPIC ECU
*2: w/ LEXUS Parking Assist-sensor System
*3: w/ Parking Assist Monitor System
H



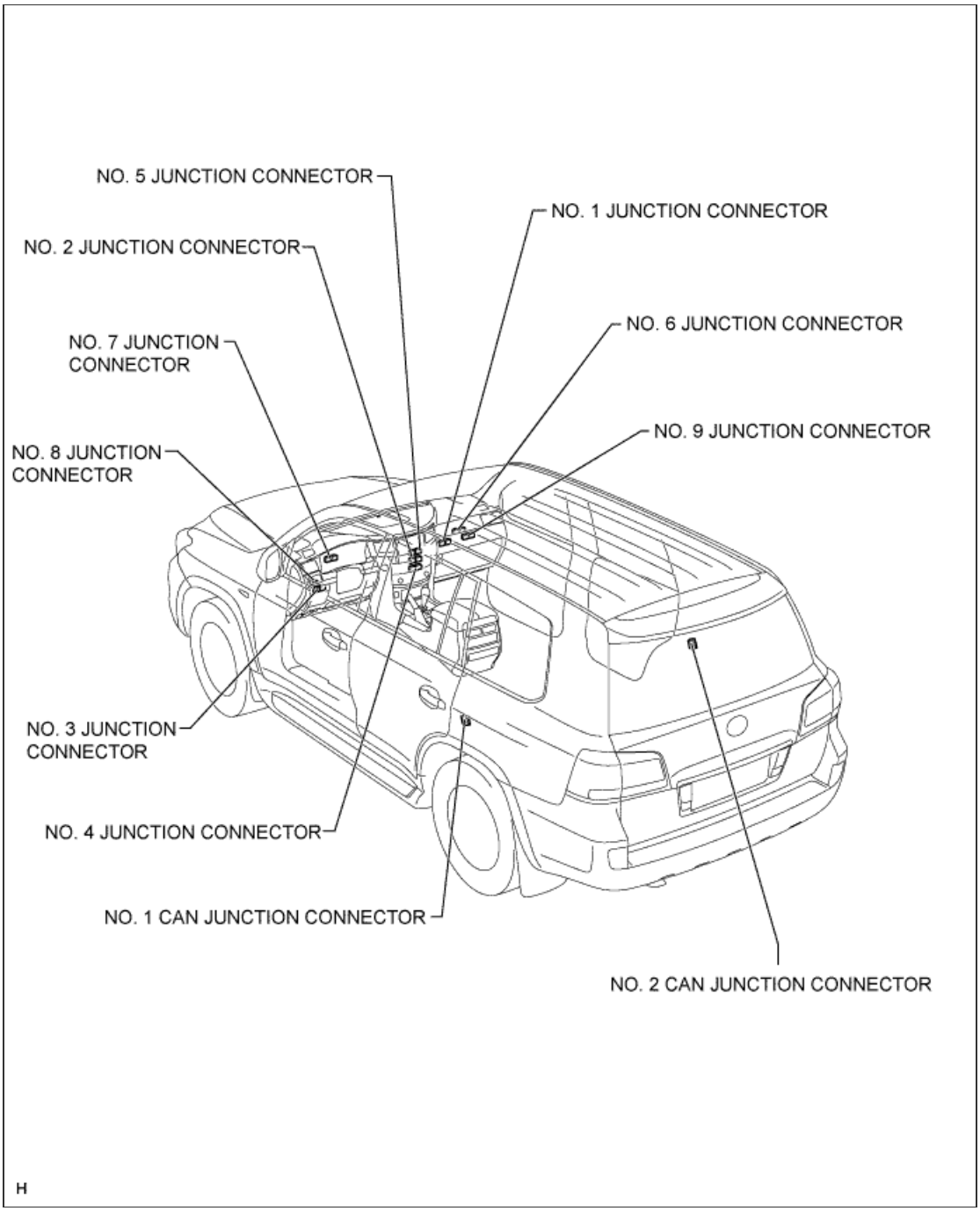

*4: w/ Pre-Crash Safety System

H

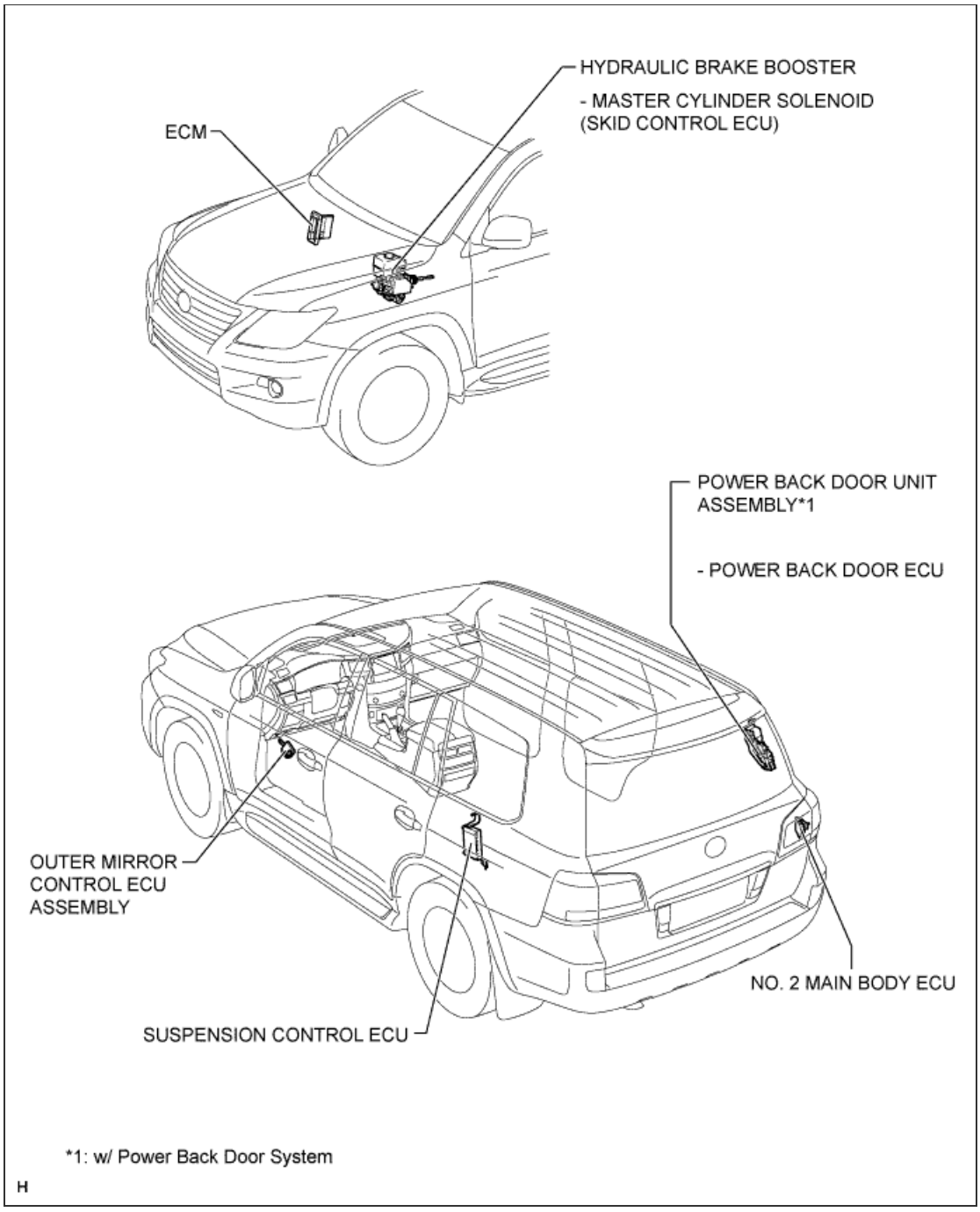


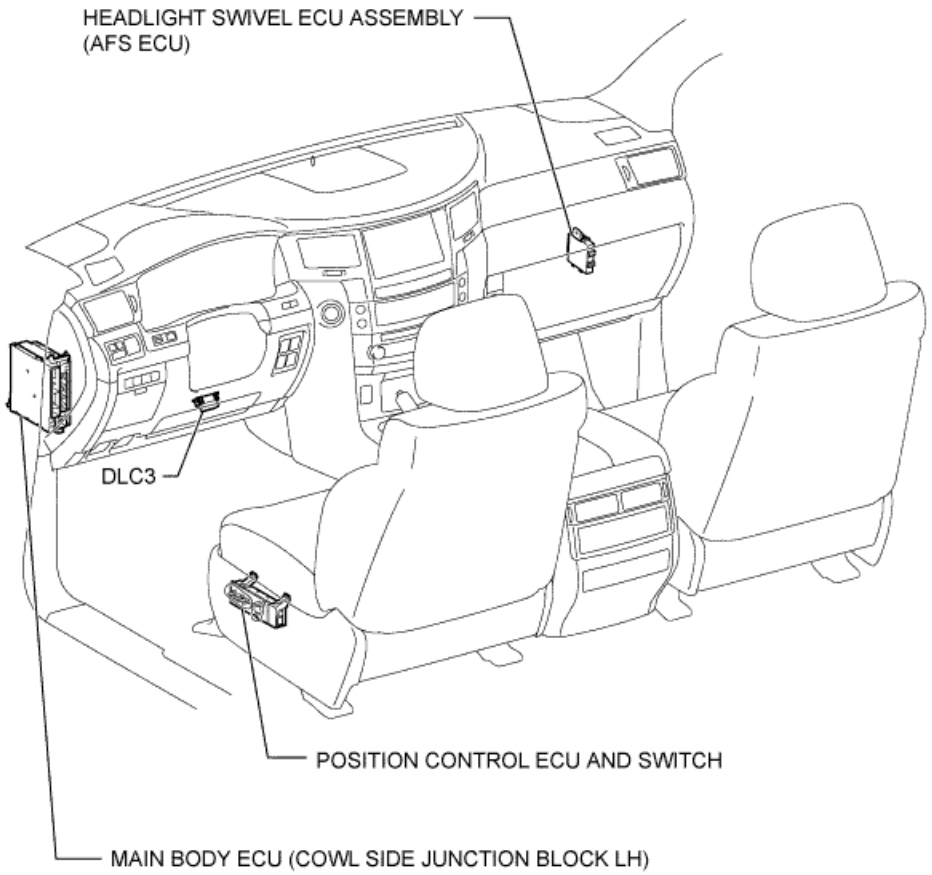

*5: w/ Dynamic Radar Cruise Control System

H

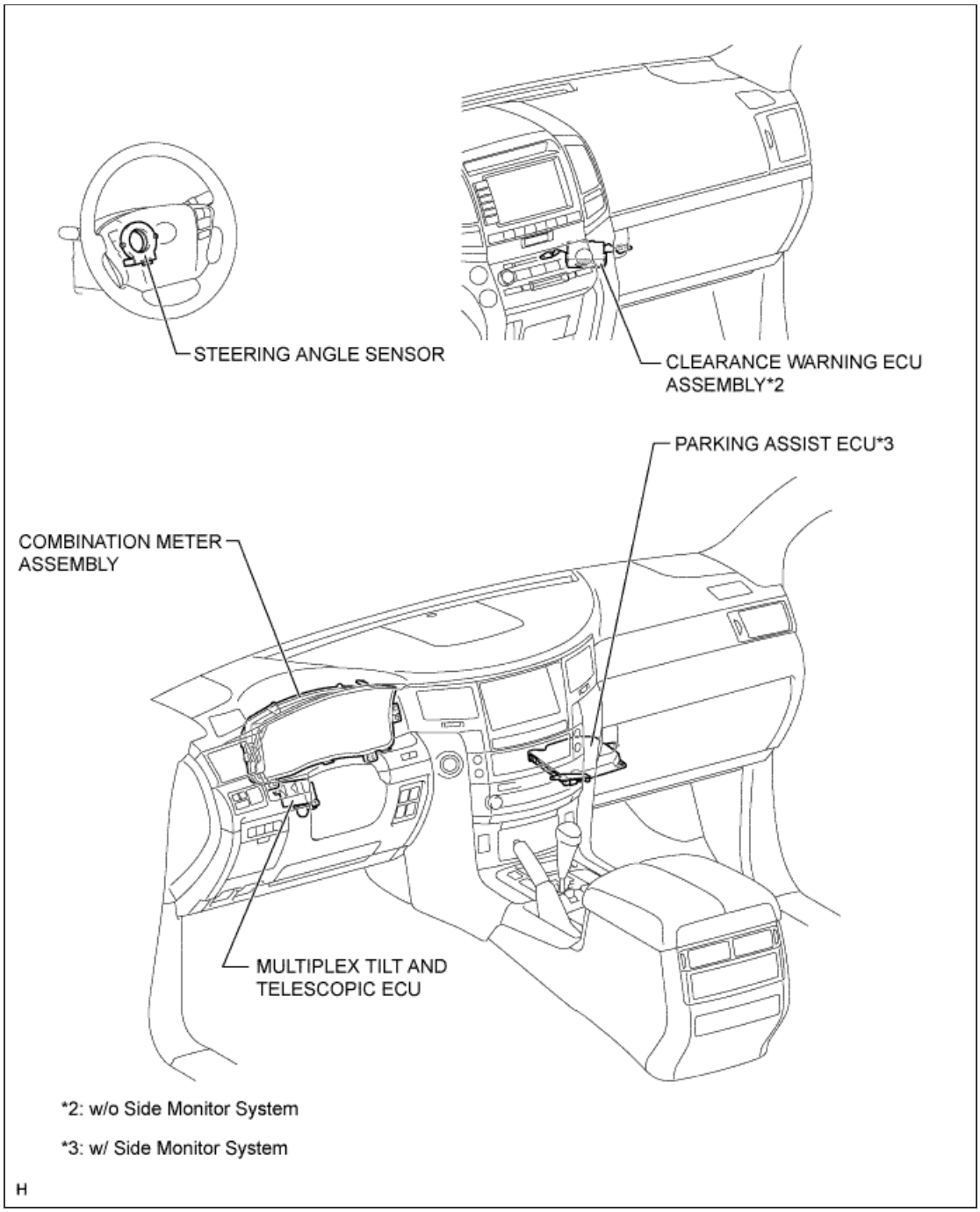

NO. 5 JUNCTION CONNECTOR
NO. 1 JUNCTION CONNECTOR
NO. 2 JUNCTION CONNECTOR
NO. 6 JUNCTION CONNECTOR
NO. 7 JUNCTION CONNECTOR
NO. 9 JUNCTION CONNECTOR
NO. 8 JUNCTION CONNECTOR
NO. 3 JUNCTION CONNECTOR
NO. 4 JUNCTION CONNECTOR
NO. 1 CAN JUNCTION CONNECTOR
NO. 2 CAN JUNCTION CONNECTOR
H

**for Preparation** Click here




HEADLIGHT SWIVEL ECU ASSEMBLY
(AFS ECU)
DLC3
POSITION CONTROL ECU AND SWITCH
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

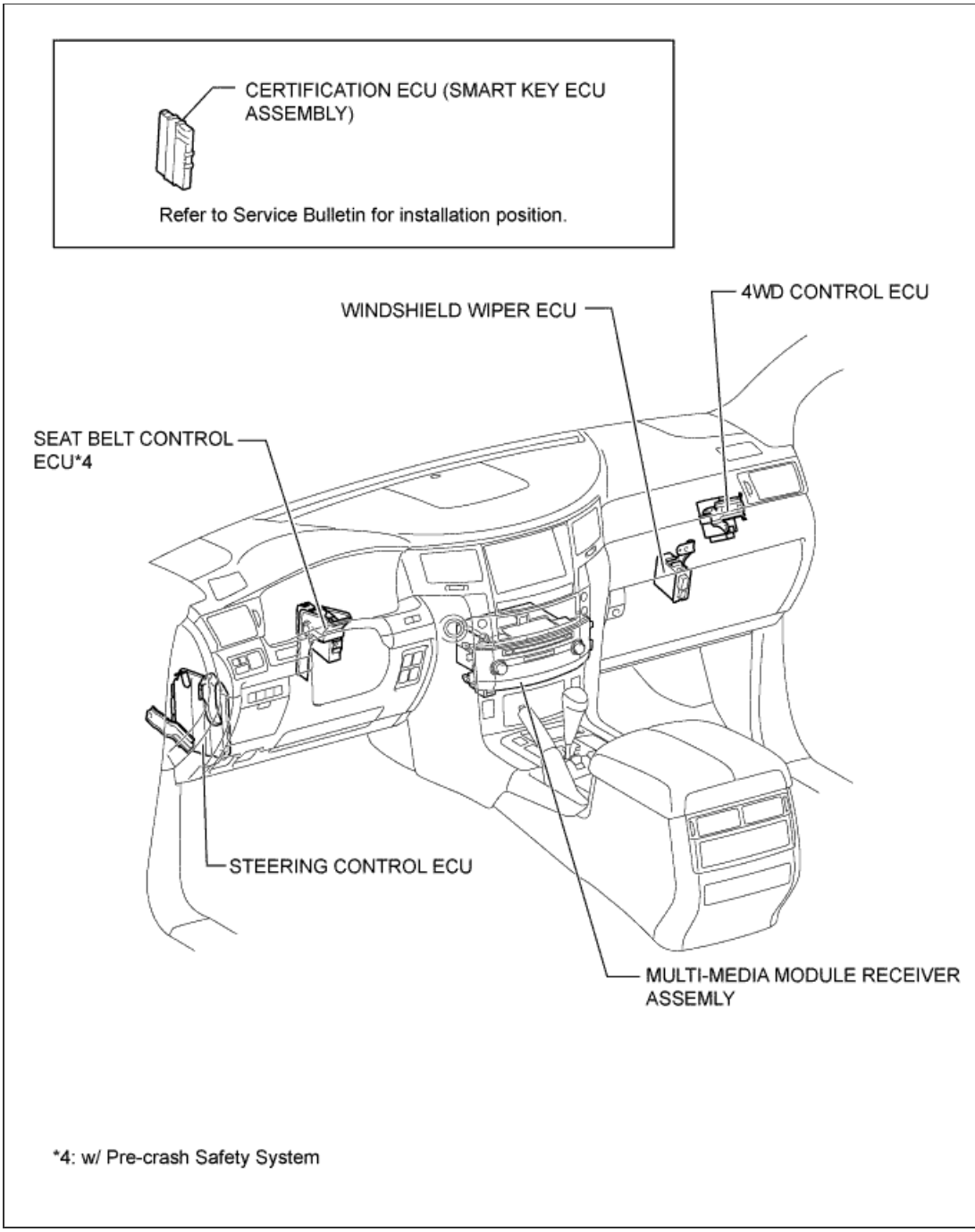
H



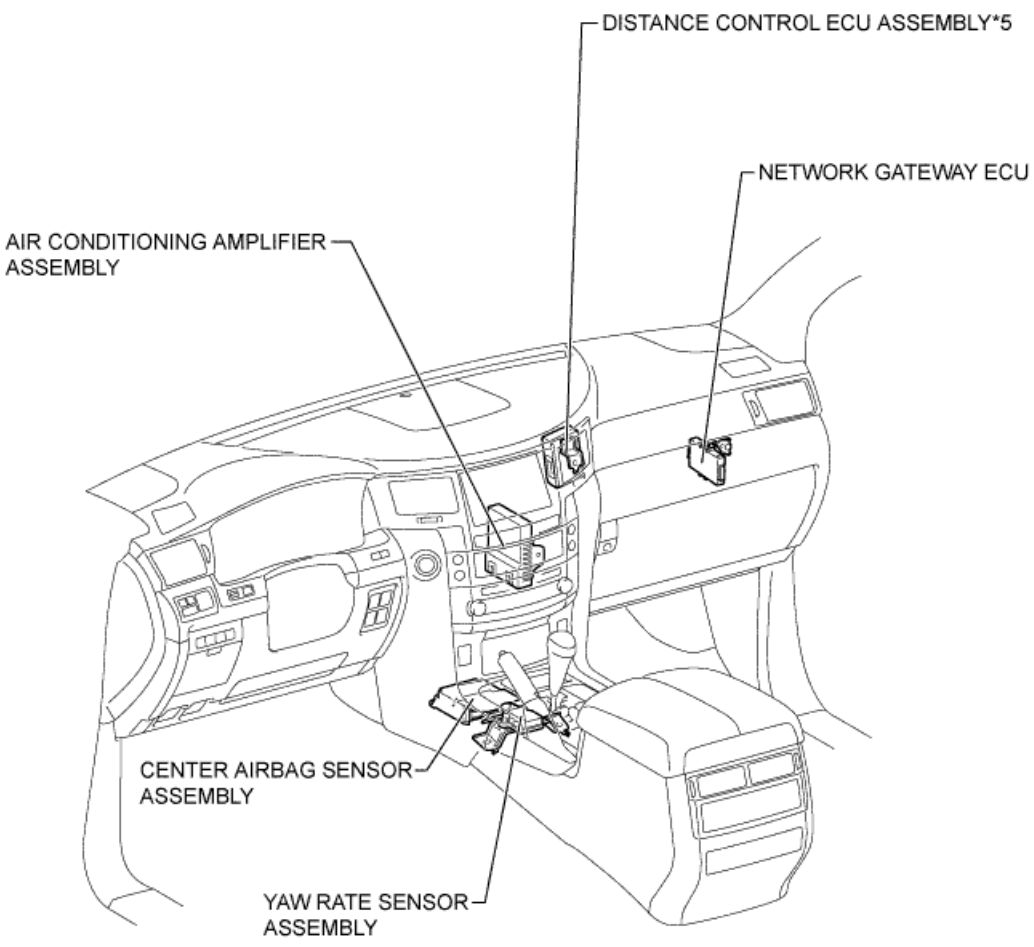

*2: w/o Side Monitor System

*3: w/ Side Monitor System

H

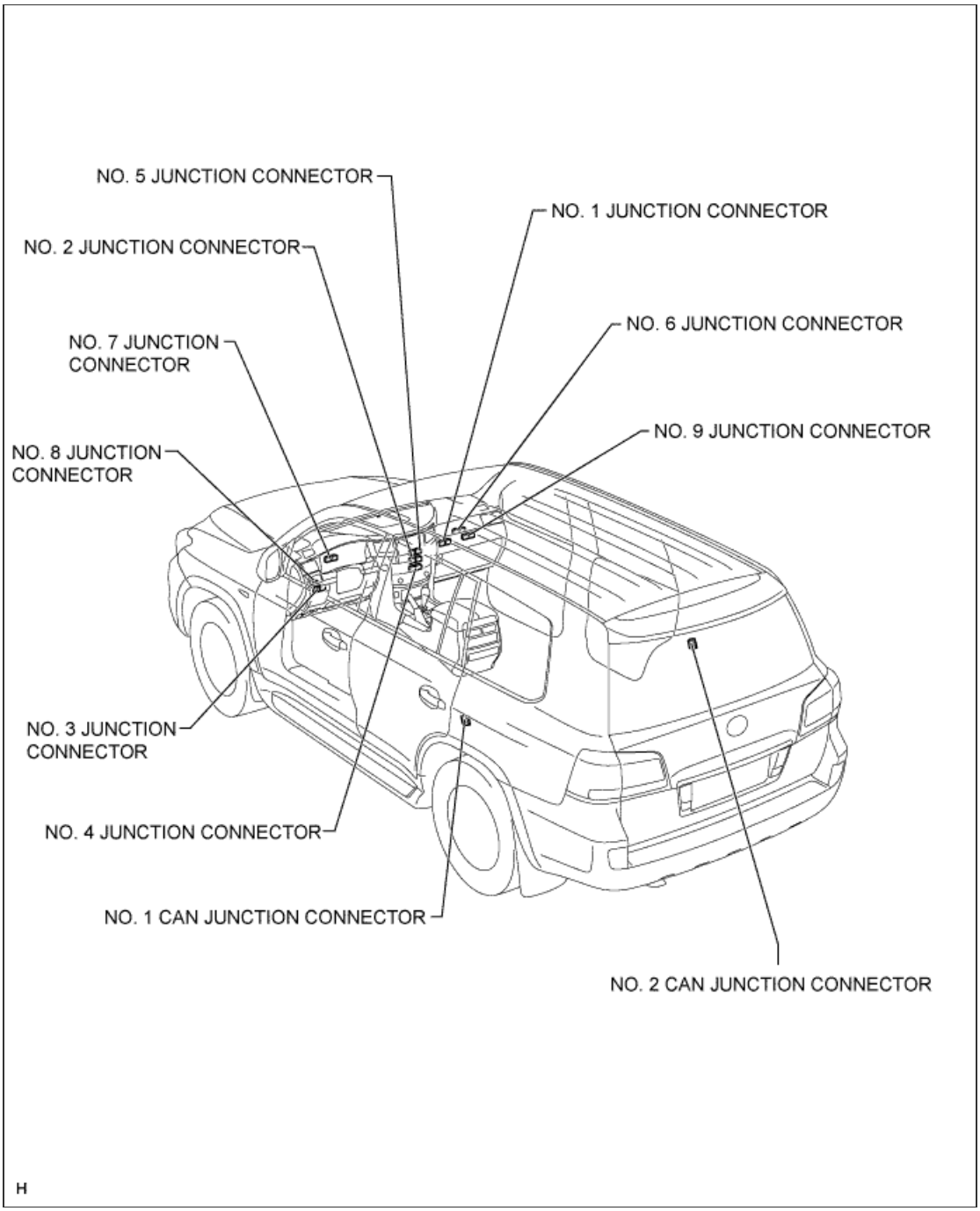



*4: w/ Pre-crash Safety System

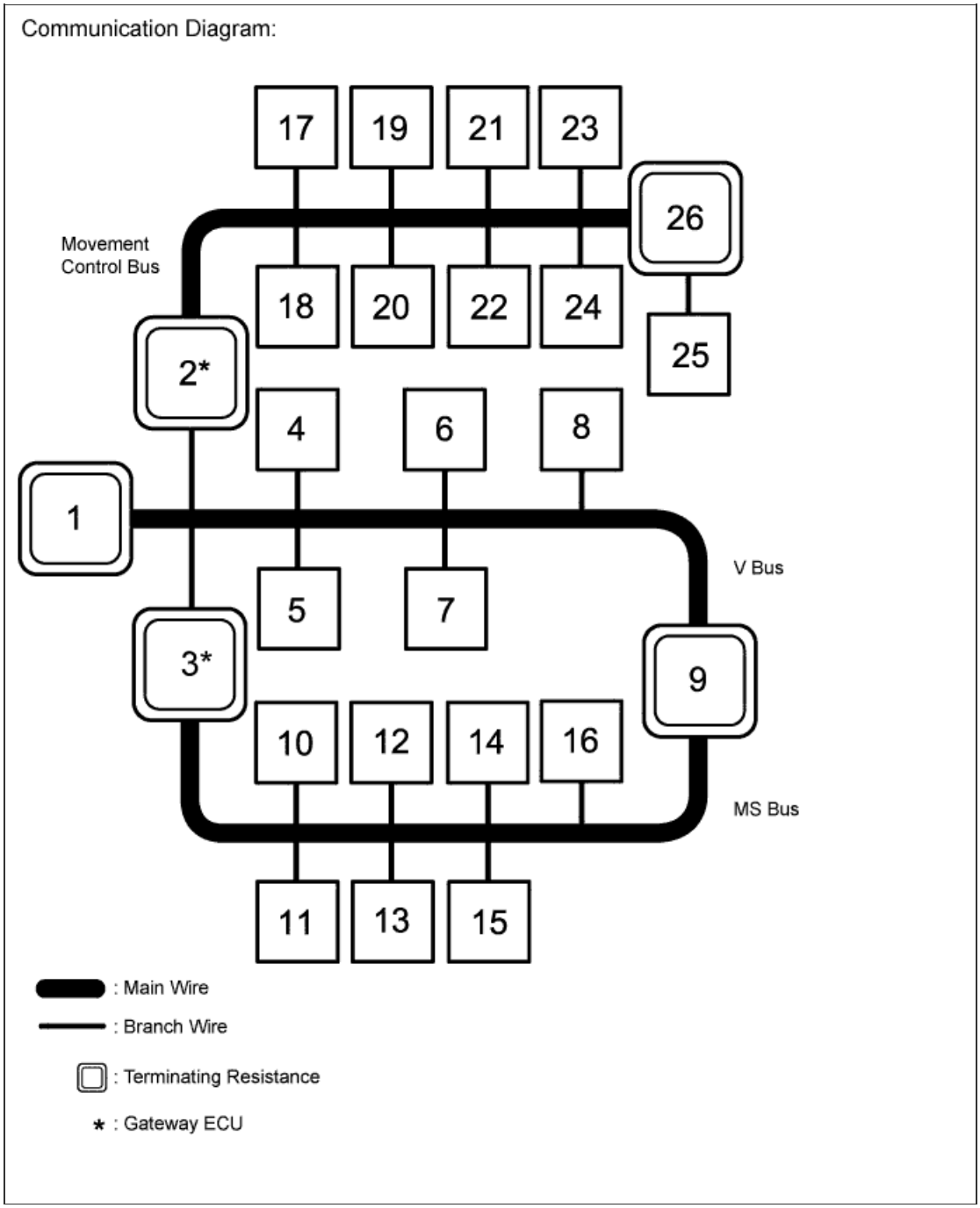



*5: w/ Dynamic Radar Cruise Control System

H


NO. 5 JUNCTION CONNECTOR
NO. 1 JUNCTION CONNECTOR
NO. 2 JUNCTION CONNECTOR
NO. 6 JUNCTION CONNECTOR
NO. 7 JUNCTION CONNECTOR
NO. 9 JUNCTION CONNECTOR
NO. 8 JUNCTION CONNECTOR
NO. 3 JUNCTION CONNECTOR
NO. 4 JUNCTION CONNECTOR
NO. 1 CAN JUNCTION CONNECTOR
NO. 2 CAN JUNCTION CONNECTOR
H

**for Preparation** Click here

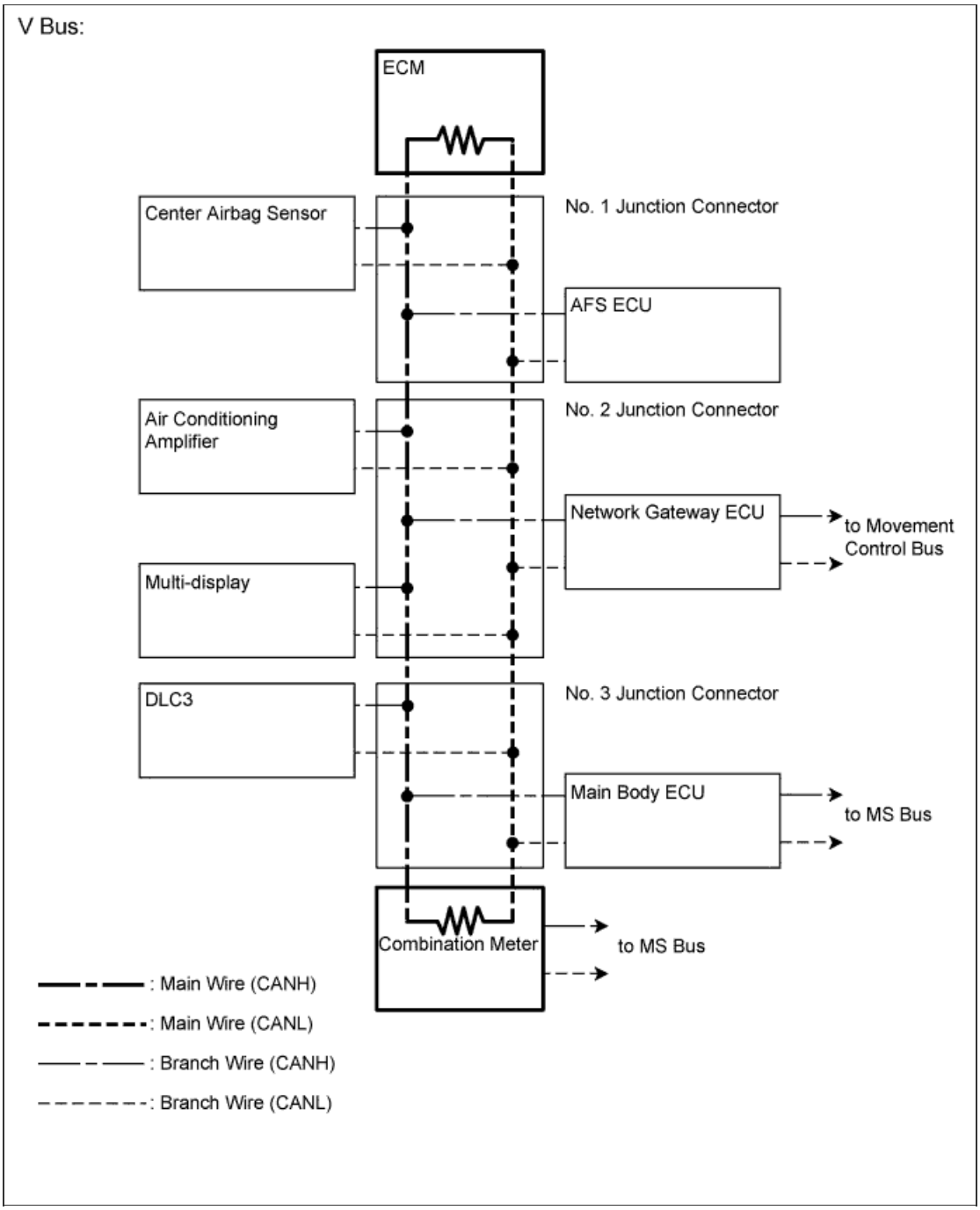


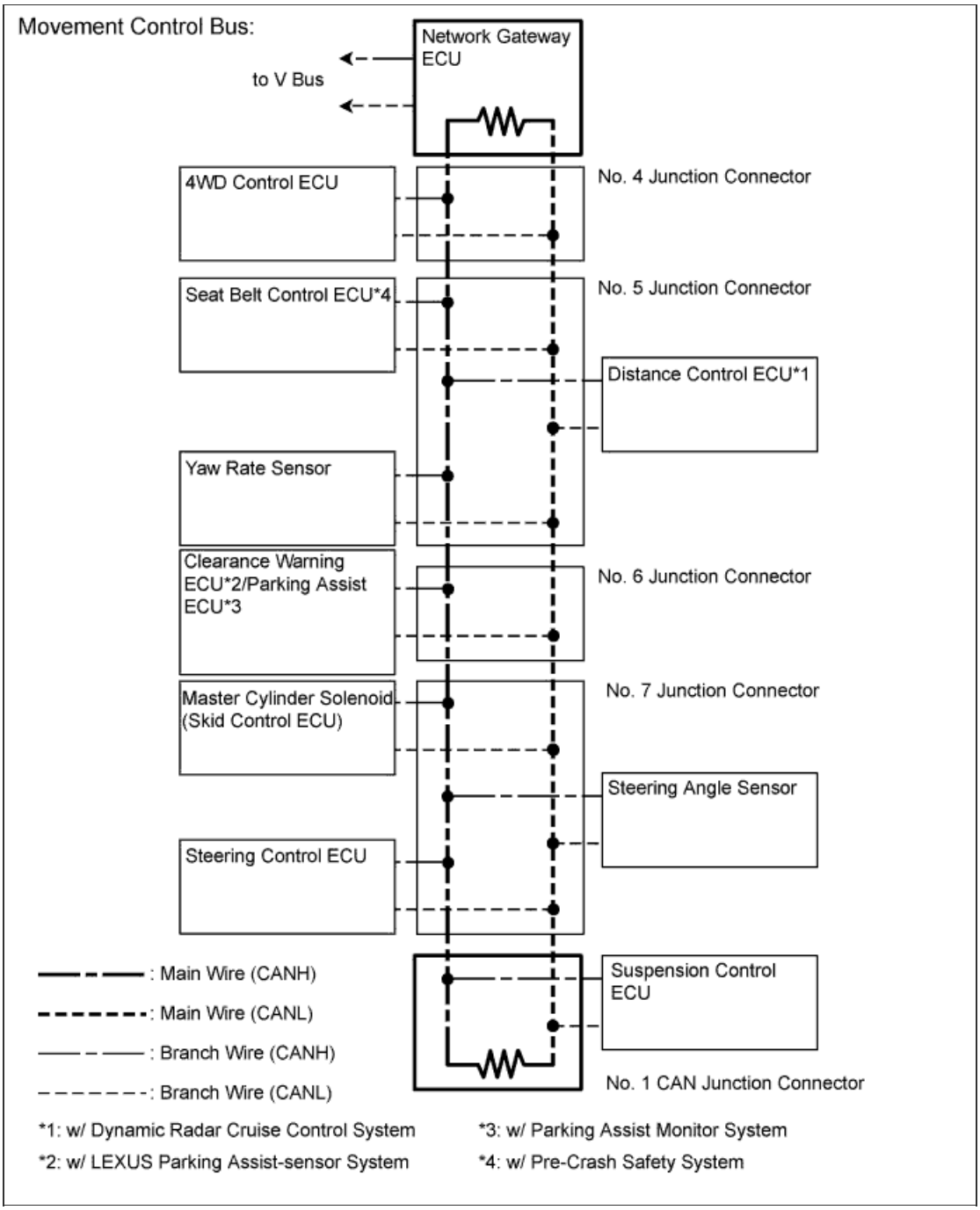

| No. | ECU/Sensor Name |
|---|---|
| 1 | ECM |
| 2 | Network Gateway ECU |
| 3 | Main Body ECU (Cowl Side Junction Block LH) |
| 4 | DLC3 |
| 5 | Air Conditioning Amplifier |
| 6 | Center Airbag Sensor |
| 7 | Multi-display |
| 8 | AFS ECU (Headlight Swivel ECU) |
| 9 | Combination Meter |
| 10 | Certification ECU (Smart Key ECU) |
| 11 | Multiplex Tilt and Telescopic ECU |
| | |

| | |
|---|---|
| 12 | Outer Mirror Control ECU |
| 13 | Position Control ECU and Switch |
| 14 | No. 2 Main Body ECU |
| 15 | Power Back Door Unit (Back Door ECU)*1 |
| 16 | Windshield Wiper ECU |
| 17 | Master Cylinder Solenoid (Skid Control ECU) |
| 18 | Yaw Rate Sensor |
| 19 | Steering Angle Sensor |
| 20 | 4WD Control ECU |
| 21 | Parking Assist ECU*2<br>Clearance Warning ECU*3 |
| 22 | Seat Belt Control ECU*4 |
| 23 | Distance Control ECU*5 |
| 24 | Steering Control ECU |
| 25 | Suspension Control ECU |
| 26 | No. 1 CAN Junction Connector |

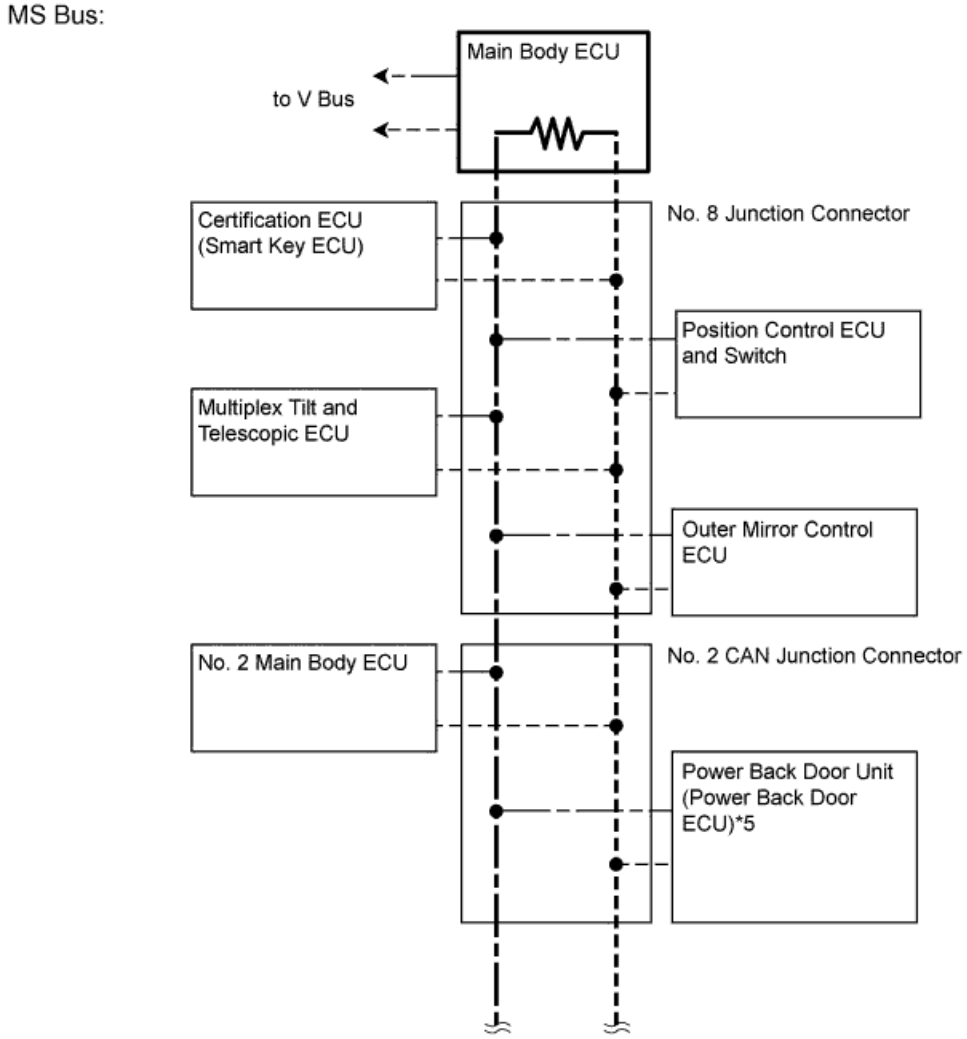
*1: w/ Power Back Door System
*2: w/ Parking Assist Monitor System
*3: w/ LEXUS Parking Assist-sensor System
*4: w/ Pre-Crash Safety System
*5: w/ Dynamic Radar Cruise Control System

V Bus:


ECM
Center Airbag Sensor
No. 1 Junction Connector
AFS ECU
Air Conditioning Amplifier
No. 2 Junction Connector
Network Gateway ECU
to Movement Control Bus
Multi-display
DLC3
No. 3 Junction Connector
Main Body ECU
to MS Bus
Combination Meter
to MS Bus
: Main Wire (CANH)
: Main Wire (CANL)
: Branch Wire (CANH)
: Branch Wire (CANL)


Movement Control Bus:
Network Gateway ECU
to V Bus
4WD Control ECU
No. 4 Junction Connector
Seat Belt Control ECU*4
No. 5 Junction Connector
Distance Control ECU*1
Yaw Rate Sensor
Clearance Warning ECU*2/Parking Assist ECU*3
No. 6 Junction Connector
Master Cylinder Solenoid (Skid Control ECU)
No. 7 Junction Connector
Steering Angle Sensor
Steering Control ECU
Suspension Control ECU
No. 1 CAN Junction Connector
: Main Wire (CANH)
: Main Wire (CANL)
: Branch Wire (CANH)
: Branch Wire (CANL)
*1: w/ Dynamic Radar Cruise Control System
*2: w/ LEXUS Parking Assist-sensor System
*3: w/ Parking Assist Monitor System
*4: w/ Pre-Crash Safety System

MS Bus:



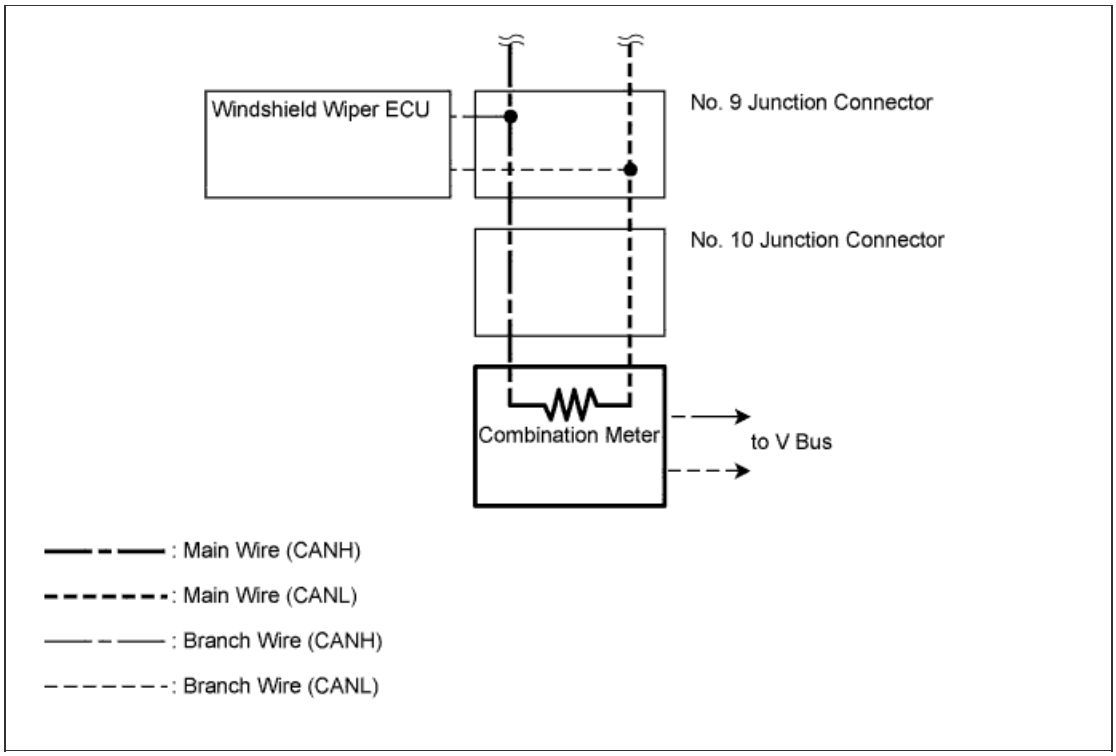

: Main Wire (CANH)

: Main Wire (CANL)

: Branch Wire (CANH)

: Branch Wire (CANL)

*5: w/ Power Back Door System




**HINT:**

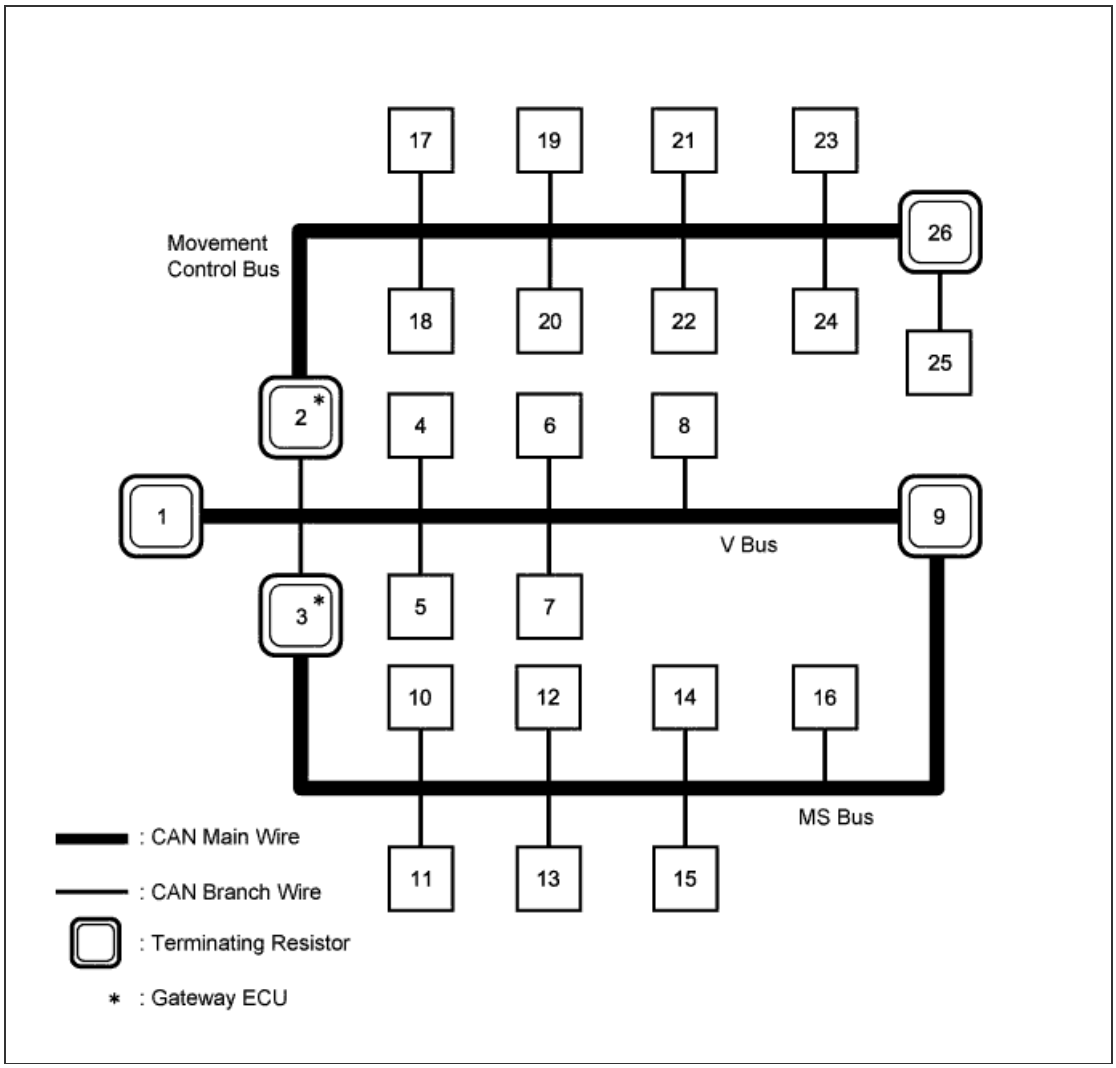
- **The master cylinder solenoid (skid control ECU) stores steering sensor and yaw rate sensor DTCs and performs DTC communication by receiving information from the steering sensor and yaw rate sensor.**
- **The ECM uses the CAN communication system to perform DTC communication instead of the conventional communication line (SIL).**

**for Preparation** Click here

**HINT:**

- **The master cylinder solenoid (skid control ECU) stores steering sensor and yaw rate sensor assembly DTCs and performs DTC communication by receiving information from the steering sensor and yaw rate sensor.**
- **The ECM uses the CAN communication system to perform DTC communication instead of the conventional communication line (SIL).**

## System Diagram

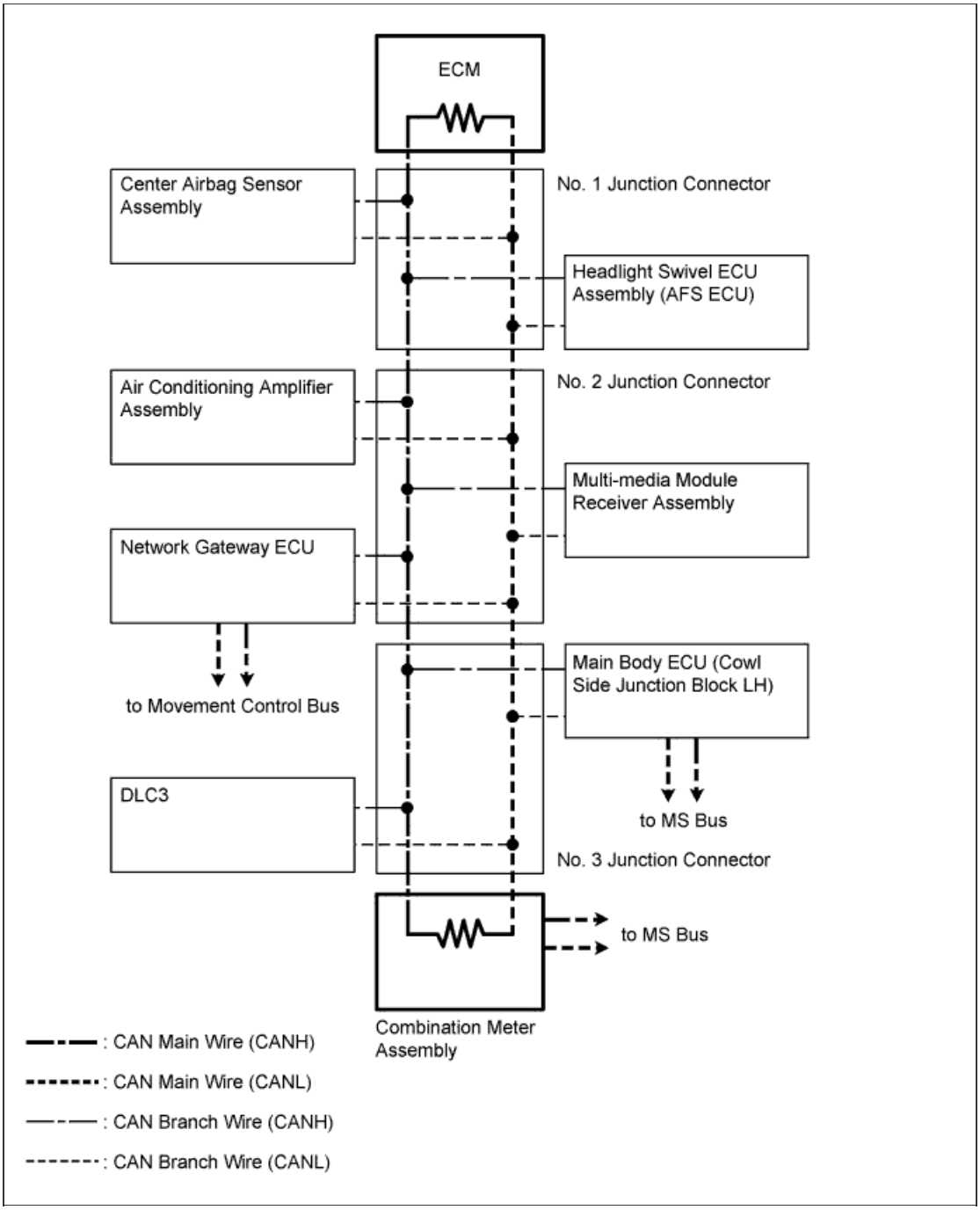



| No. | ECU/Sensor Name |
|---|---|
| 1 | ECM |
| 2 | Network gateway ECU |
| 3 | Main body ECU (cowl side junction block LH) |
| 4 | DLC3 |
| 5 | Air conditioning amplifier assembly |
| 6 | Center airbag sensor assembly |
| 7 | Multi-media module receiver assembly |
| 8 | Headlight swivel ECU assembly (AFS ECU) |
| 9 | Combination meter assembly |
| 10 | Certification ECU (smart key ECU assembly) |
| 11 | Multiplex tilt and telescopic ECU |
| 12 | Outer mirror control ECU assembly |

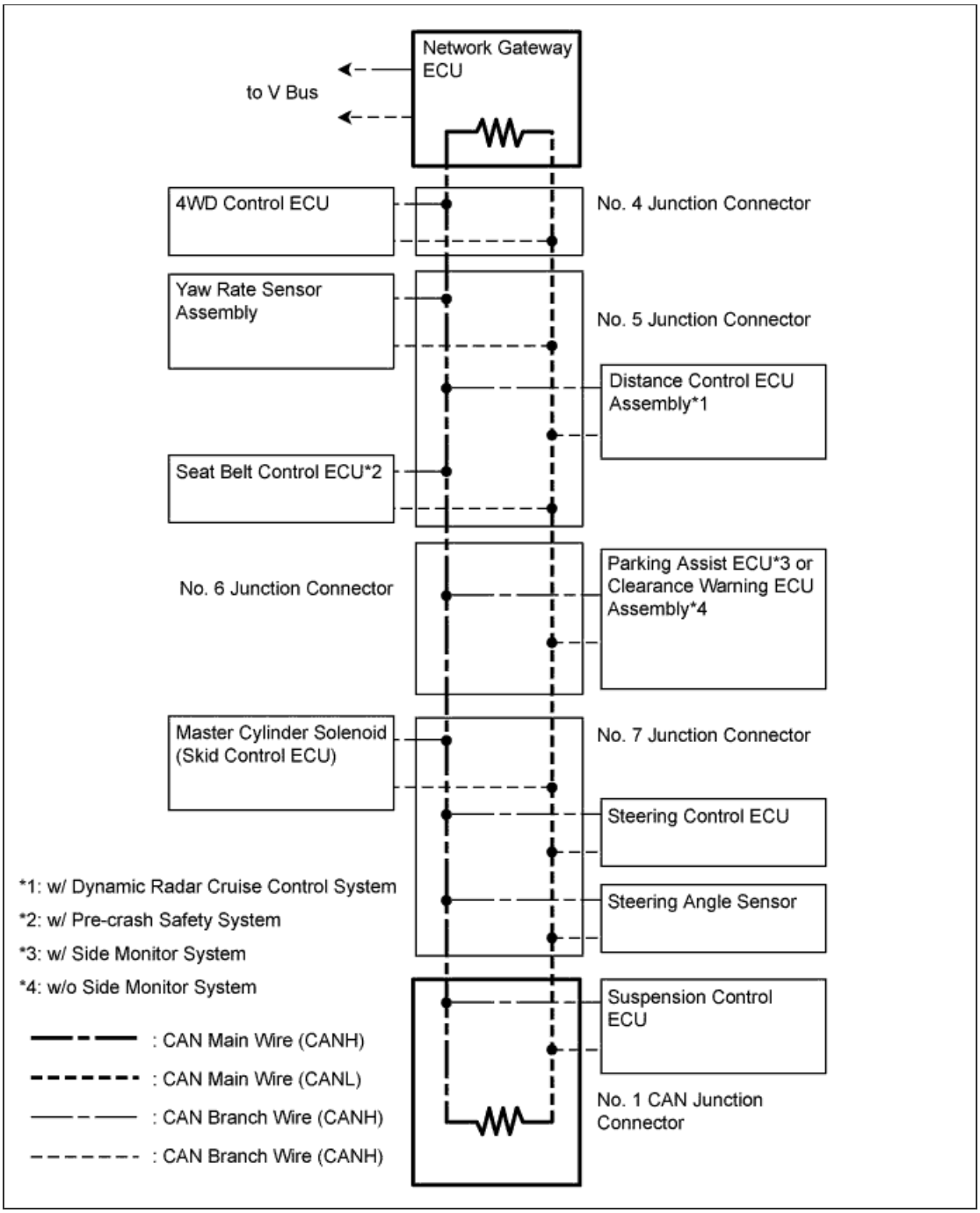
| | |
|---|---|
| 13 | Position control ECU and switch |
| 14 | No. 2 main body ECU |
| 15 | Power back door unit assembly (Power back door ECU)*1 |
| 16 | Windshield wiper ECU |
| 17 | Master cylinder solenoid (skid Control ECU) |
| 18 | Yaw rate sensor assembly |
| 19 | Steering angle sensor |
| 20 | 4WD control ECU |
| 21 | • Parking assist ECU*2<br>• Clearance warning ECU assembly*3 |
| 22 | Seat belt control ECU*4 |
| 23 | Distance control ECU assembly*5 |
| 24 | Steering control ECU |
| 25 | Suspension control ECU |
| 26 | No. 1 CAN junction connector |

*1: w/ Power Back Door System
*2: w/ Side Monitor System
*3: w/o Side Monitor System
*4: w/ Pre-crash Safety System
*5: w/ Dynamic Radar Cruise Control System

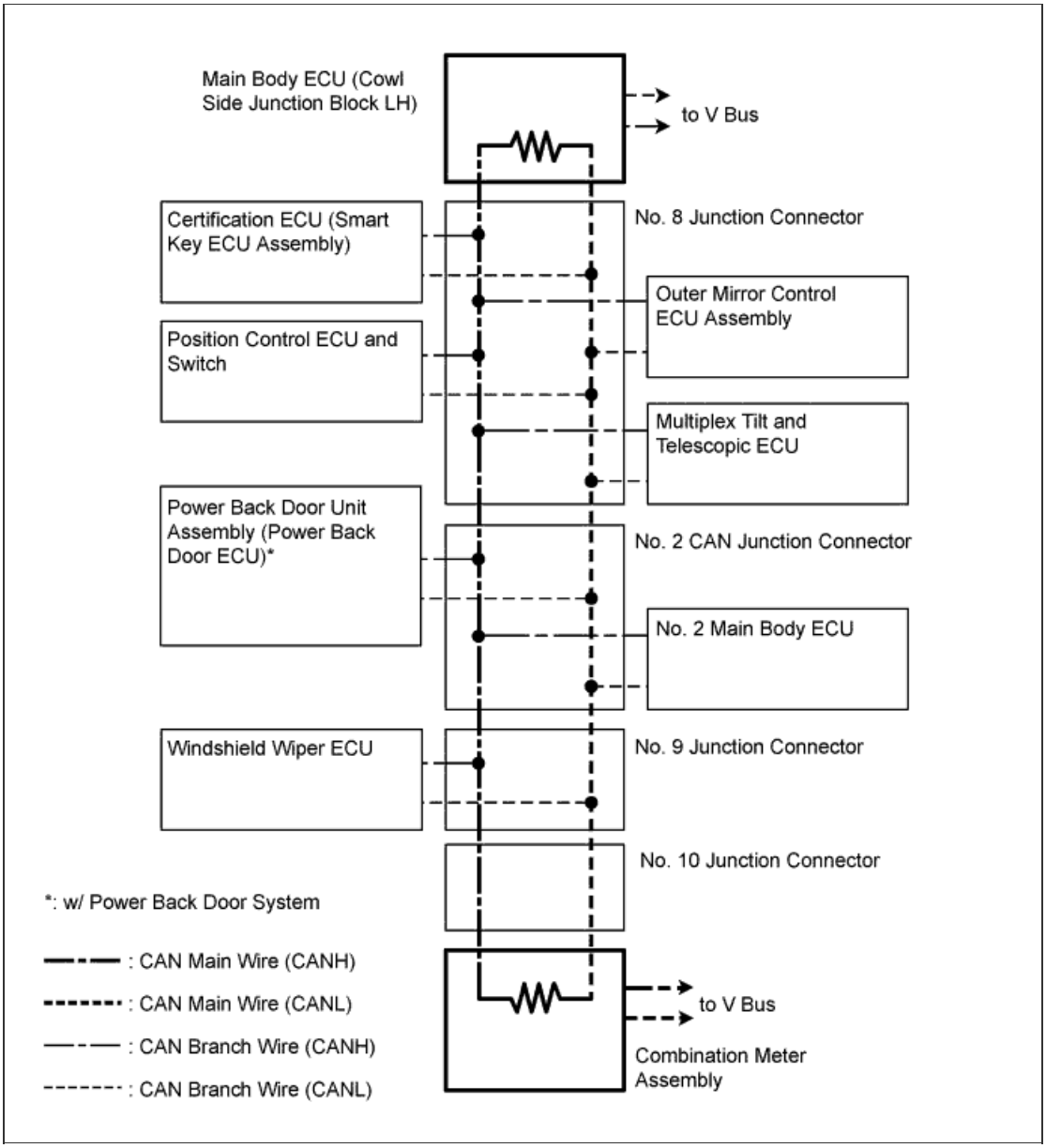
**V Bus**




**Movement Control Bus**


Network Gateway ECU
to V Bus
4WD Control ECU
No. 4 Junction Connector
Yaw Rate Sensor Assembly
No. 5 Junction Connector
Distance Control ECU Assembly*1
Seat Belt Control ECU*2
No. 6 Junction Connector
Parking Assist ECU*3 or Clearance Warning ECU Assembly*4
Master Cylinder Solenoid (Skid Control ECU)
No. 7 Junction Connector
Steering Control ECU
Steering Angle Sensor
Suspension Control ECU
No. 1 CAN Junction Connector
*1: w/ Dynamic Radar Cruise Control System
*2: w/ Pre-crash Safety System
*3: w/ Side Monitor System
*4: w/o Side Monitor System
: CAN Main Wire (CANH)
: CAN Main Wire (CANL)
: CAN Branch Wire (CANH)
: CAN Branch Wire (CANH)

MS Bus


Main Body ECU (Cowl Side Junction Block LH)
to V Bus
Certification ECU (Smart Key ECU Assembly)
No. 8 Junction Connector
Outer Mirror Control ECU Assembly
Position Control ECU and Switch
Multiplex Tilt and Telescopic ECU
Power Back Door Unit Assembly (Power Back Door ECU)*
No. 2 CAN Junction Connector
No. 2 Main Body ECU
Windshield Wiper ECU
No. 9 Junction Connector
No. 10 Junction Connector
*: w/ Power Back Door System
: CAN Main Wire (CANH)
: CAN Main Wire (CANL)
: CAN Branch Wire (CANH)
: CAN Branch Wire (CANL)
to V Bus
Combination Meter Assembly

**for Preparation** Click here

## BRIEF DESCRIPTION

a. The CAN (Controller Area Network) is a serial data communication system for real time application. It is a vehicle multiplex communication system which has a high communication speed (500 kbps, 250 kbps) and the ability to detect malfunctions.

b. By pairing the CANH and CANL bus lines, the CAN performs communication based on differential voltages.

c. Many ECUs (sensors) installed on the vehicle operate by sharing information and communicating with each other.

d. The CAN has 2 resistors of 120 Ω which are necessary to communicate with the main wire.

## DEFINITION OF TERMS

a. Main wire

    i. The main wire is a wire harness between the 2 termination circuits on the bus (communication line). This is the main bus in the CAN communication system.

b. Branch wire

    i. The branch wire is a wire harness which diverges from the main wire to an ECU or sensor.

c. Termination circuits

    i. The termination circuit is a circuit which converts the communication current of the CAN communication into the bus voltage. It consists of a resistor and condenser. 2 termination circuits are necessary on a bus.

d. CAN junction connector

    i. The CAN junction connector is designed so that it can be used with CAN communication which has a termination circuit and CAN communication which does not have a termination circuit.

## CIRCUIT DESCRIPTION

a. The V bus, movement control bus and MS bus each have termination circuits with resistance of 120 Ω x 2. High speed communication at 500 kbps and 250 kbps is possible.

## ECU OR SENSOR WHICH COMMUNICATE VIA CAN COMMUNICATION SYSTEM

a. Master cylinder solenoid (skid control ECU)

b. Air conditioning amplifier

c. ECM

d. Main body ECU (cowl side junction block LH)

e. Combination meter

f. Center airbag sensor

g. Multi-display

h. Steering angle sensor

i. Yaw rate sensor

j. Seat belt control ECU*1

k. Clearance warning ECU*2

l. Parking assist ECU*3

m. Outer mirror control ECU

n. Multiplex tilt and telescopic ECU

o. Certification ECU (smart key ECU)

p. Position control ECU and switch

q. Network gateway ECU

r. 4WD control ECU

s. No. 2 main body ECU

t. Power back door unit (power back door ECU)*4

u. Distance control ECU*5

v. Steering control ECU

w. Suspension control ECU

x. AFS ECU (headlight swivel ECU)

y. Windshield wiper ECU

*1: w/ Pre-Crash Safety System
*2: w/ LEXUS Parking Assist-sensor System
*3: w/ Parking Assist Monitor System
*4: w/ Power Back Door System
*5: w/ Dynamic Radar Cruise Control System

## DIAGNOSTIC CODES FOR CAN COMMUNICATION SYSTEM

a. DTCs for the CAN communication system are as follows: U0073, U0100, U0101, U0114/38, U0122, U0123, U0124, U0126, U0129, U0130, U0132, U0140, U0141, U0151, U0155, U0199, U0208, U0230, U0327, U1002 (CAN MS BUS), U1002 (CAN No. 2 BUS), U1100, U1101, U1110, U1111, U1115, U1126, B1499, B2427, B2621, B2624, C1AEF and C2179.

## NOTES REGARDING TROUBLESHOOTING

a. Trouble in the CAN bus (communication line) can be checked through the DLC3 (except when there is a wire break in the branch wire of the DLC3).

b. DTCs regarding the CAN communication system can be checked using the intelligent tester.

c. The CAN communication system cannot detect trouble in the branch line of the DLC3 even though the DLC3 is also connected to the CAN communication system.

## HOW TO DISTINGUISH CAN JUNCTION CONNECTOR CONNECTOR

a. In the CAN communication system, the shape of all connectors connected to the CAN junction connector is the same.
The connectors connected to the CAN junction connector can be distinguished by the colors of the bus line and the connecting side of the connector.

**HINT:**

See "Terminals of ECU" (Click here) for bus line color or the type of connecting surface.

**for Preparation** Click here

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c. ECM

d. Main body ECU (cowl side junction block LH)

e. Combination meter

f. Center airbag sensor

g. Display and navigation module display

h. Steering angle sensor

i. Yaw rate sensor

j. Seat belt control ECU*1

k. Clearance warning ECU*2

l. Parking assist ECU*3

m. Outer mirror control ECU

n. Multiplex tilt and telescopic ECU

o. Certification ECU (smart key ECU)

p. Position control ECU and switch

q. Network gateway ECU

r. 4WD control ECU

s. No. 2 main body ECU

t. Power back door unit (power back door ECU)*4

u. Distance control ECU*5

v. Steering control ECU

w. Suspension control ECU

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y. Windshield wiper ECU

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## ECU OR SENSOR WHICH COMMUNICATE VIA CAN COMMUNICATION SYSTEM

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b. Air conditioning amplifier assembly

c. ECM

d. Main body ECU (cowl side junction block LH)

e. Combination meter assembly

f. Center airbag sensor assembly

g. Multi-media module receiver assembly

h. Steering angle sensor

i. Yaw rate sensor assembly

j. Seat belt control ECU*1

k. Clearance warning ECU assembly*2

l. Parking assist ECU*3

m. Outer mirror control ECU assembly

n. Multiplex tilt and telescopic ECU

o. Certification ECU (smart key ECU assembly)

p. Position control ECU and switch

q. Network gateway ECU

r. 4WD control ECU

s. No. 2 main body ECU

t. Power back door unit assembly (power back door ECU)*4

u. Distance control ECU assembly*5

v. Steering control ECU

w. Suspension control ECU

x. Headlight swivel ECU assembly (AFS ECU )

y. Windshield wiper ECU

*1: w/ Pre-crash Safety System
*2: w/o Side Monitor System
*3: w/ Side Monitor System
*4: w/ Power Back Door System
*5: w/ Dynamic Radar Cruise Control System

## DIAGNOSTIC CODES FOR CAN COMMUNICATION SYSTEM

a. DTCs for the CAN communication system are as follows: U0073, U0100, U0101, U0104, U0114/38, U0122, U0123, U0124, U0125, U0126, U0129, U0130, U0132, U0140, U0141, U0151, U0155, U0199, U0208, U0230, U0235, U0327, U1002 (CAN MS BUS), U1002 (CAN No. 2 BUS), U1100, U1101, U1102, U110B, U1110, U1111, U1115, B2427, B2621, B2624 and C1AEF.

## NOTES REGARDING TROUBLESHOOTING

a. Trouble in the CAN bus (communication line) can be checked through the DLC3 (except when there is a wire break in the branch wire of the DLC3).

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The connectors connected to the CAN junction connector can be distinguished by the colors of the bus line and the connecting side of the connector.

**HINT:**

See "Terminals of ECU" (Click here) for bus line color or the type of connecting surface.

**for Preparation** Click here

Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

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

**NOTICE:**

- **DTCs for the CAN communication system are as follows: U0073, U0100, U0101, U0114/38, U0122, U0123, U0124, U0126, U0129, U0130, U0132, U0140, U0141, U0151, U0155, U0199, U0208, U0230, U0327, U1002 (CAN MS BUS), U1002 (CAN No. 2 BUS), U1100, U1101, U1110, U1111, U1115, U1126, B1499, B2427, B2621, B2624, C1AEF and C2179.**
- **Refer to the troubleshooting procedures of each system if DTCs regarding the CAN communication system are not output.**
- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

- **Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.**
- ***: 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 AND CLEAR DTC*

a. Using the intelligent tester, perform the all DTCs check.

**NOTICE:**

- **If there is a CAN communication trouble code that indicates that an ECU or sensor has a power malfunction or interior malfunction which is causing a communication stop, the problem may not be in the communication line.**
- **When CAN communication related connectors are disconnected with the engine switch on (IG) or on (ACC), the ECU related to the connector and ECUs of related systems will store a CAN communication DTC.**

**NEXT**

## 4.CHECK INSTALLED SYSTEMS (ECU AND SENSOR) THAT USE CAN COMMUNICATION

a. Based on the vehicle equipment and specifications, confirm the systems that use CAN communication ( Click here).

**NEXT**

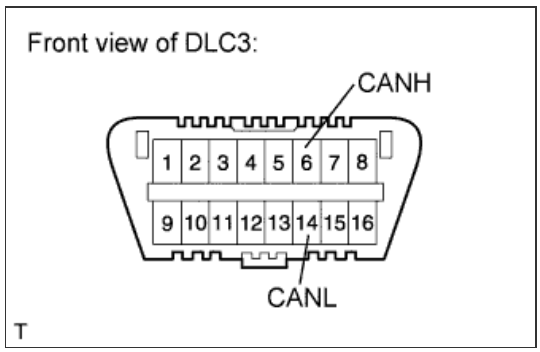
## 5.CHECK DLC3 BRANCH WIRE AND V BUS CIRCUIT MAIN WIRE (CANH - CANL)

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

b. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Proceed to |
|---|---|---|---|
| 6 (CANH) - 14 (CANL) | Engine switch off | OK (54 to 69 Ω) | A |
| 6 (CANH) - 14 (CANL) | Engine switch off | NG (70 Ω or higher) | B |
| 6 (CANH) - 14 (CANL) | Engine switch off | NG (Below 54 Ω) | C |




B. Go to CAN MAIN WIRE FOR DISCONNECTION (Click here)

C. Go to CHECK CAN BUS LINES FOR SHORT CIRCUIT (Click here)

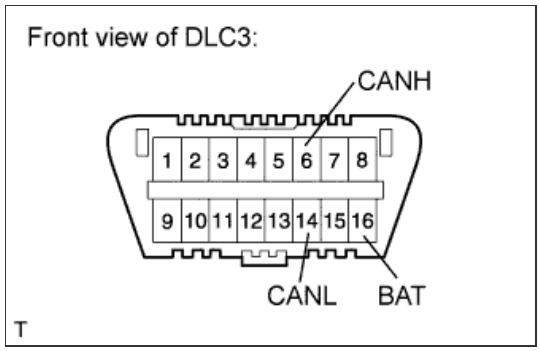
A

## 6.CHECK V BUS CIRCUIT +B (CANH, CANL - BAT)

a. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (CANH) - 16 (BAT) | Engine switch off | 6 kΩ or higher |
| 14 (CANL) - 16 (BAT) | Engine switch off | 6 kΩ or higher |




NG. Go to CHECK CAN BUS LINE FOR SHORT TO +B (Click here)

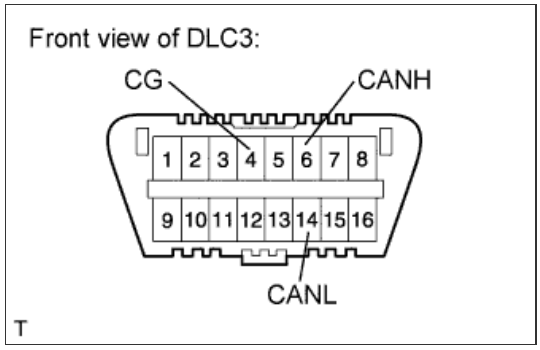
OK

## 7.CHECK V BUS CIRCUIT GND (CANH, CANL - CG)

a. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (CANH) - 4 (CG) | Engine switch off | 200 Ω or higher |
| 14 (CANL) - 4 (CG) | Engine switch off | 200 Ω or higher |




NG. Go to CHECK CAN BUS LINE FOR SHORT TO GND (Click here)

OK

## 8.CHECK ECUS CONNECTED TO CAN BUS*

a. 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).

b. Select "Bus Check" from "System Select".

c. Wait 1 minute and then check the display of the connected ECUs and sensors.

**Result**

| Inspection Result | Proceed to |
|---|---|
| All ECUs and sensors connected to the CAN communication system are displayed on the screen. | A |
| Except for the main body ECU (cowl side junction block LH), no ECUs connected to the MS bus are displayed.<br>The main body ECU (cowl side junction block LH) outputs the MS bus trouble code (U1002) (the MS bus main wire open or short malfunction). | B |
| No ECUs connected to the MS bus are displayed (the branch wire between the main body ECU (cowl side junction block LH) and V bus circuit is open). | C |
| Except for the network gateway ECU, no ECUs connected to the movement control bus are displayed.<br>The network gateway ECU outputs the movement control bus trouble code (U1002) (the movement control bus main wire open or short malfunction). | D |
| No ECUs connected to the movement control bus are displayed (the branch wire between the network gateway ECU and movement control bus is open). | E |
| An ECU or sensor that should be connected to the CAN communication system is not displayed (the ECU or sensor branch wire is open). | F |
| An ECU or sensor that should be connected to the CAN communication system is not displayed or display is intermittent during check (the ECU or sensor branch wire is open on one side). | G |

**NOTICE:**

The ECUs and sensors that are not present will not be displayed. Be careful not to mistake them for communication stop malfunctions.

**HINT:**

- **If the display of an ECU is intermittent during the check, one side of an ECU or sensor branch wire is open (The signal of the ECU is treated as noise, which affects the response and display of the intelligent tester).**
- **The main body ECU (cowl side junction block LH) checks for proper ECU communication for ECUs that are connected to the CAN MS bus circuit, and the results are displayed on the intelligent tester.**
- **The gateway ECU built into the main body ECU (cowl side junction block LH) may be malfunctioning if both of the following occurs: 1) all ECUs connected to the MS bus are not displayed on the intelligent tester; and 2) DTC U1002 is not output.**
- **If communication stops between an ECU and the main body ECU (cowl side junction block LH) or network gateway ECU for 10 seconds or more, the ECU disappears from the intelligent tester display.**
- **For communication stop mode of ECUs connected to the CAN MS bus circuit or movement control bus, refer to the DTC flowchart of the respective communication stop.**

| | |
|---|---|
| B. | Go to DTC U1002 FLOWCHART (Click here) |
| C. | Go to MAIN BODY ECU COMMUNICATION STOP MODE FLOWCHART (Click here) |
| D. | Go to DTC U1002 FLOWCHART (Click here) |
| E. | Go to NETWORK GATEWAY ECU COMMUNICATION STOP MODE FLOWCHART (Click here) |
| F. | Go to PROBLEM SYMPTOMS TABLE (Click here) |
| G. | Go to OPEN IN ONE SIDE OF CAN BRANCH WIRE FLOWCHART (Click here) |

A

## 9.CHECK COMMUNICATION MALFUNCTION DTC (PAST DTC CHECK)*

a. Select "Bus Check" from "System Select".

b. Write down all of the DTCs stored in each ECU.

**HINT:**

- **If there are communication malfunction DTCs stored but the intelligent tester "Bus Check - Communication Bus Check" screen displays all of the ECUs and sensors connected to the CAN system, the communication malfunction DTCs may be past malfunctions that are no longer present.**
- **For V bus main wire malfunctions, related ECUs are also detected. Therefore, determine the malfunctioning area based on all of the DTCs that are output.**
- **For MS bus malfunctions, DTCs are stored based on the detection of communication stop malfunctions and network malfunctions of ECUs that are connected by the main body ECU (cowl side junction block LH).**
- **For movement control bus malfunctions, DTCs are stored based on the detection of communication stop malfunctions and network malfunctions of ECUs that are connected by the network gateway ECU.**

**Result**

| Inspection Result | Proceed to |
|---|---|
| An ECU connected to the V bus main wire has stored a communication trouble code (V bus main wire past malfunction). | A |
| The main body ECU (cowl side junction block LH) outputs the MS bus trouble code (U1002) (MS bus past malfunction). | B |
| The main body ECU (cowl side junction block LH) outputs a trouble code other than MS bus trouble code (U1002) (past malfunction of ECU branch wire connected to MS bus). | C |
| The network gateway ECU outputs the movement control bus trouble code (U1002) (movement control bus past malfunction). | D |
| The network gateway ECU outputs a trouble code other than movement control bus trouble code (U1002) (past malfunction of branch wire connected to movement control bus). | E |

| | |
|---|---|
| **B.** | **Go to DTC U1002 FLOWCHART (Click here)** |
| **C.** | **Go to PROBLEM SYMPTOMS TABLE (Click here)** |
| **D.** | **Go to DTC U1002 FLOWCHART (Click here)** |
| **E.** | **Go to PROBLEM SYMPTOMS TABLE (Click here)** |

**A**

## 10.CHECK DTC COMBINATION TABLE (V BUS CIRCUIT BRANCH WIRE OPEN PAST MALFUNCTION)

a. Based on the combination of stored CAN communication system DTCs, determine which ECUs and sensors have a communication stop malfunction (Click here).

**NEXT**

## 11.PERFORM MALFUNCTION SIMULATION TEST (V BUS CIRCUIT MAIN WIRE PAST MALFUNCTION)*

a. Using the intelligent tester, clear all DTCs.

b. Perform a malfunction simulation test on all harnesses and connectors related to the V bus circuit main wire.

c. Check the DTCs that were stored as a result of the malfunction simulation test. Then determine the malfunctioning area.

**NEXT**

## 12.ADJUST, REPAIR AND REPLACE

**NEXT**

## 13.CONFIRMATION TEST


NEXT
END

**for Preparation** Click here

Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

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

**NOTICE:**

- **DTCs for the CAN communication system are as follows: U0073, U0100, U0101, U0114/38, U0122, U0123, U0124, U0126, U0129, U0130, U0132, U0140, U0141, U0151, U0155, U0164, U0199, U0208, U0230, U0327, U1002 (CAN MS BUS), U1002 (CAN No. 2 BUS), U1100, U1101, U1110, U1111, U1115, U1126, B1499, B2427, B2621, B2624, C1AEF and C2179.**
- **Refer to the troubleshooting procedures of each system if DTCs regarding the CAN communication system are not output.**
- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

- **Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.**
- ***: 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 AND CLEAR DTC*

a. Using the intelligent tester, perform the all DTCs check.

**NOTICE:**

- **If there is a CAN communication trouble code that indicates that an ECU or sensor has a power malfunction or interior malfunction which is causing a communication stop, the problem may not be in the communication line.**
- **When CAN communication related connectors are disconnected with the engine switch on (IG) or on (ACC), the ECU related to the connector and ECUs of related systems will store a CAN communication DTC.**

**NEXT**

## 4.CHECK INSTALLED SYSTEMS (ECU AND SENSOR) THAT USE CAN COMMUNICATION

a. Based on the vehicle equipment and specifications, confirm the systems that use CAN communication ( Click here).

**NEXT**

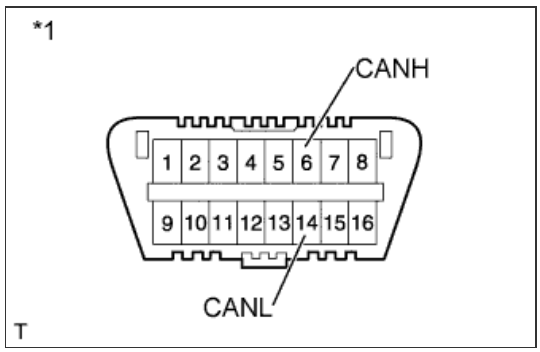
## 5.CHECK DLC3 BRANCH WIRE AND V BUS CIRCUIT MAIN WIRE (CANH - CANL)

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

b. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Proceed to |
|---|---|---|---|
| 6 (CANH) - 14 (CANL) | Engine switch off | OK (54 to 69 Ω) | A |
| 6 (CANH) - 14 (CANL) | Engine switch off | NG (70 Ω or higher) | B |
| 6 (CANH) - 14 (CANL) | Engine switch off | NG (Below 54 Ω) | C |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

**B.** → Go to CAN MAIN WIRE FOR DISCONNECTION (Click here)

**C.** → Go to CHECK CAN BUS LINES FOR SHORT CIRCUIT (Click here)

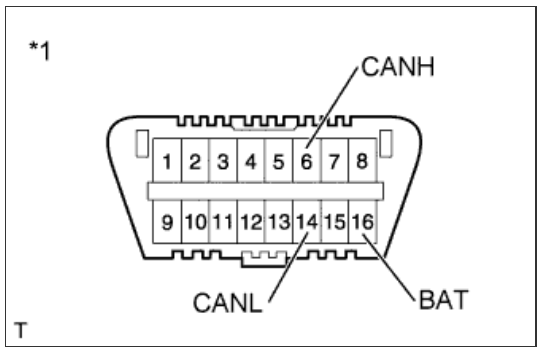
**A**

## 6.CHECK V BUS CIRCUIT +B (CANH, CANL - BAT)

a. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (CANH) - 16 (BAT) | Engine switch off | 6 kΩ or higher |
| 14 (CANL) - 16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

**NG.** → Go to CHECK CAN BUS LINE FOR SHORT TO +B (Click here)

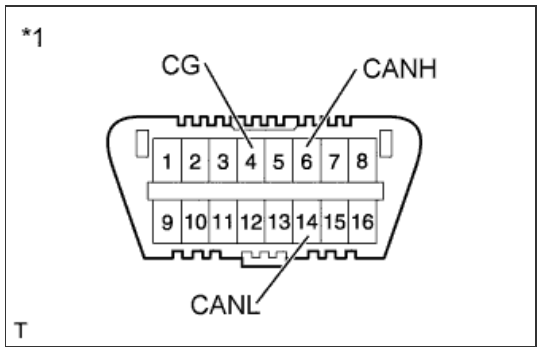
**OK**

## 7.CHECK V BUS CIRCUIT GND (CANH, CANL - CG)

a. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (CANH) - 4 (CG) | Engine switch off | 200 Ω or higher |
| 14 (CANL) - 4 (CG) | Engine switch off | 200 Ω or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG. → Go to CHECK CAN BUS LINE FOR SHORT TO GND (Click here)

OK

## 8.CHECK ECUS CONNECTED TO CAN BUS*

a. 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).

b. Select "Bus Check" from "System Select".

c. Wait 1 minute and then check the display of the connected ECUs and sensors.

**Result**

| Inspection Result | Proceed to |
|---|---|
| All ECUs and sensors connected to the CAN communication system are displayed on the screen. | A |
| Except for the main body ECU (cowl side junction block LH), no ECUs connected to the MS bus are displayed.<br>The main body ECU (cowl side junction block LH) outputs the MS bus trouble code (U1002) (the MS bus main wire open or short malfunction). | B |
| No ECUs connected to the MS bus are displayed (the branch wire between the main body ECU (cowl side junction block LH) and V bus circuit is open). | C |
| Except for the network gateway ECU, no ECUs connected to the movement control bus are displayed.<br>The network gateway ECU outputs the movement control bus trouble code (U1002) (the movement control bus main wire open or short malfunction). | D |
| No ECUs connected to the movement control bus are displayed (the branch wire between the network gateway ECU and movement control bus is open). | E |
| An ECU or sensor that should be connected to the CAN communication system is not displayed (the ECU or sensor branch wire is open). | F |
| An ECU or sensor that should be connected to the CAN communication system is not displayed or display is intermittent during check (the ECU or sensor branch wire is open on one side). | G |

**NOTICE:**

The ECUs and sensors that are not present will not be displayed. Be careful not to mistake them for communication stop malfunctions.

**HINT:**

- **If the display of an ECU is intermittent during the check, one side of an ECU or sensor branch wire is open (The signal of the ECU is treated as noise, which affects the response and display of the intelligent tester).**
- **The main body ECU (cowl side junction block LH) checks for proper ECU communication for ECUs that are connected to the CAN MS bus circuit, and the results are displayed on the intelligent tester.**
- **The gateway ECU built into the main body ECU (cowl side junction block LH) may be malfunctioning if both of the following occurs: 1) all ECUs connected to the MS bus are not displayed on the intelligent tester; and 2) DTC U1002 is not output.**
- **If communication stops between an ECU and the main body ECU (cowl side junction block LH) or network gateway ECU for 10 seconds or more, the ECU disappears from the intelligent tester display.**
- **For communication stop mode of ECUs connected to the CAN MS bus circuit or movement control bus, refer to the DTC flowchart of the respective communication stop.**

B. → Go to DTC U1002 FLOWCHART (Click here)

C. → Go to MAIN BODY ECU COMMUNICATION STOP MODE FLOWCHART (Click here)

D. → Go to DTC U1002 FLOWCHART (Click here)

E. → Go to NETWORK GATEWAY ECU COMMUNICATION STOP MODE FLOWCHART (Click here)

F. → Go to PROBLEM SYMPTOMS TABLE (Click here)

G. → Go to OPEN IN ONE SIDE OF CAN BRANCH WIRE FLOWCHART (Click here)

A

## 9.CHECK COMMUNICATION MALFUNCTION DTC (PAST DTC CHECK)*

a. Select "Bus Check" from "System Select".

b. Write down all of the DTCs stored in each ECU.

**HINT:**

- **If there are communication malfunction DTCs stored but the intelligent tester "Bus Check - Communication Bus Check" screen displays all of the ECUs and sensors connected to the CAN system, the communication malfunction DTCs may be past malfunctions that are no longer present.**
- **For V bus main wire malfunctions, related ECUs are also detected. Therefore, determine the malfunctioning area based on all of the DTCs that are output.**
- **For MS bus malfunctions, DTCs are stored based on the detection of communication stop malfunctions and network malfunctions of ECUs that are connected by the main body ECU (cowl side junction block LH).**
- **For movement control bus malfunctions, DTCs are stored based on the detection of communication stop malfunctions and network malfunctions of ECUs that are connected by the network gateway ECU.**

**Result**

| Inspection Result | Proceed to |
|---|---|
| An ECU connected to the V bus main wire has stored a communication trouble code (V bus main wire past malfunction). | A |
| The main body ECU (cowl side junction block LH) outputs the MS bus trouble code (U1002) (MS bus past malfunction). | B |
| The main body ECU (cowl side junction block LH) outputs a trouble code other than MS bus trouble code (U1002) (past malfunction of ECU branch wire connected to MS bus). | C |
| The network gateway ECU outputs the movement control bus trouble code (U1002) (movement control bus past malfunction). | D |
| The network gateway ECU outputs a trouble code other than movement control bus trouble code (U1002) (past malfunction of branch wire connected to movement control bus). | E |

**B.** Go to DTC U1002 FLOWCHART (Click here)

**C.** Go to PROBLEM SYMPTOMS TABLE (Click here)

**D.** Go to DTC U1002 FLOWCHART (Click here)

**E.** Go to PROBLEM SYMPTOMS TABLE (Click here)

**A**

## 10.CHECK DTC COMBINATION TABLE (V BUS CIRCUIT BRANCH WIRE OPEN PAST MALFUNCTION)

a. Based on the combination of stored CAN communication system DTCs, determine which ECUs and sensors have a communication stop malfunction (Click here).

**NEXT**

## 11.PERFORM MALFUNCTION SIMULATION TEST (V BUS CIRCUIT MAIN WIRE PAST MALFUNCTION)*

a. Using the intelligent tester, clear all DTCs.

b. Perform a malfunction simulation test on all harnesses and connectors related to the V bus circuit main wire.

c. Check the DTCs that were stored as a result of the malfunction simulation test. Then determine the malfunctioning area.

**NEXT**

## 12.ADJUST, REPAIR AND REPLACE

NEXT

13.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

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

**NOTICE:**

- **DTCs for the CAN communication system are as follows: U0073, U0100, U0101, U0104, U0114/38, U0122, U0123, U0124, U0125, U0126, U0129, U0130, U0132, U0140, U0141, U0151, U0155, U0199, U0208, U0230, U0235, U0327, U1002 (CAN MS BUS), U1002 (CAN No. 2 BUS), U1100, U1101, U1102, U110B, U1110, U1111, U1115, B2427, B2621, B2624 and C1AEF.**
- **Refer to the troubleshooting procedures of each system if DTCs regarding the CAN communication system are not output.**
- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

- **Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.**
- ***: 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 AND CLEAR DTC*

a. Using the intelligent tester, perform the all DTCs check.

**NOTICE:**

- **If there is a CAN communication trouble code that indicates that an ECU or sensor has a power malfunction or interior malfunction which is causing a communication stop, the problem may not be in the communication line.**
- **When CAN communication related connectors are disconnected with the engine switch on (IG) or on (ACC), the ECU related to the connector and ECUs of related systems will store a CAN communication DTC.**

**NEXT**

## 4.CHECK INSTALLED SYSTEMS (ECU AND SENSOR) THAT USE CAN COMMUNICATION

a. Based on the vehicle equipment and specifications, confirm the systems that use CAN communication ( Click here).

**NEXT**

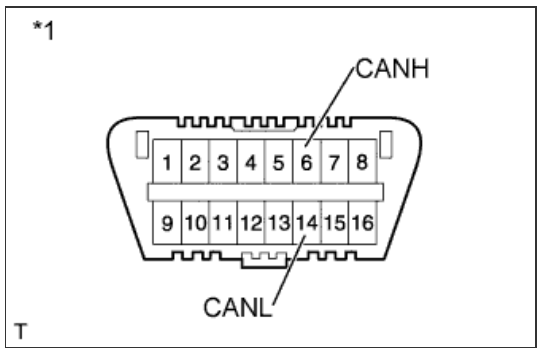
## 5.CHECK DLC3 BRANCH WIRE AND V BUS CIRCUIT MAIN WIRE (CANH - CANL)

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

b. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Proceed to |
|---|---|---|---|
| 6 (CANH) - 14 (CANL) | Engine switch off | OK (54 to 69 Ω) | A |
| 6 (CANH) - 14 (CANL) | Engine switch off | NG (70 Ω or higher) | B |
| 6 (CANH) - 14 (CANL) | Engine switch off | NG (Below 53 Ω) | C |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

**B.** → Go to CAN MAIN WIRE FOR DISCONNECTION (Click here)

**C.** → Go to CHECK CAN BUS LINES FOR SHORT CIRCUIT (Click here)

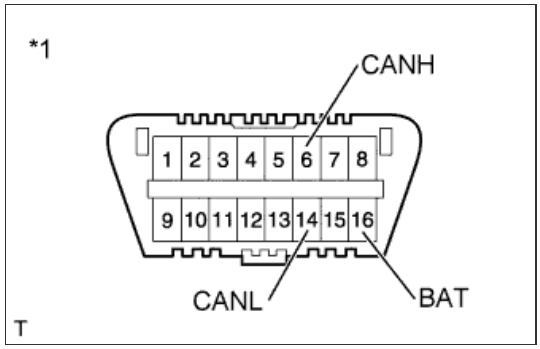
**A**

## 6.CHECK V BUS CIRCUIT +B (CANH, CANL - BAT)

a. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (CANH) - 16 (BAT) | Engine switch off | 6 kΩ or higher |
| 14 (CANL) - 16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

**NG.** → Go to CHECK CAN BUS LINE FOR SHORT TO +B (Click here)

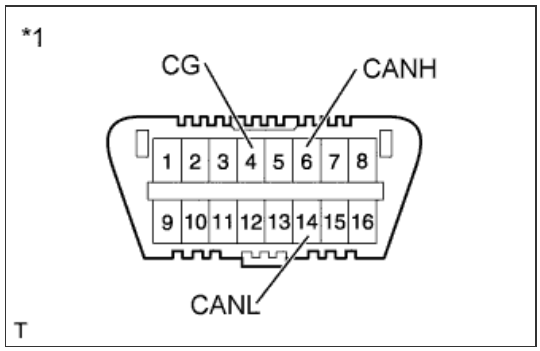
**OK**

## 7.CHECK V BUS CIRCUIT GND (CANH, CANL - CG)

a. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (CANH) - 4 (CG) | Engine switch off | 200 Ω or higher |
| 14 (CANL) - 4 (CG) | Engine switch off | 200 Ω or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG. → Go to CHECK CAN BUS LINE FOR SHORT TO GND (Click here)

OK

## 8.CHECK ECUS CONNECTED TO CAN BUS*

a. 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).

b. Select "Bus Check" from "System Select" ( Click here).

c. Wait 1 minute and then check the display of the connected ECUs and sensors.

**Result**

| Inspection Result | Proceed to |
|---|---|
| All ECUs and sensors connected to the CAN communication system are displayed on the screen. | A |
| Except for the main body ECU (cowl side junction block LH), no ECUs connected to the MS bus are displayed.<br>The main body ECU (cowl side junction block LH) outputs the MS bus trouble code (U1002) (the MS bus main wire open or short malfunction). | B |
| No ECUs connected to the MS bus are displayed (the branch wire between the main body ECU (cowl side junction block LH) and V bus circuit is open). | C |
| Except for the network gateway ECU, no ECUs connected to the movement control bus are displayed.<br>The network gateway ECU outputs the movement control bus trouble code (U1002) (the movement control bus main wire open or short malfunction). | D |
| No ECUs connected to the movement control bus are displayed (the branch wire between the network gateway ECU and movement control bus is open). | E |
| An ECU or sensor that should be connected to the CAN communication system is not displayed (the ECU or sensor branch wire is open). | F |
| An ECU or sensor that should be connected to the CAN communication system is not displayed or display is intermittent during check (the ECU or sensor branch wire is open on one side). | G |

**NOTICE:**

The ECUs and sensors that are not present will not be displayed. Be careful not to mistake them for communication stop malfunctions.

**HINT:**

- **If the display of an ECU is intermittent during the check, one side of an ECU or sensor branch wire is open (The signal of the ECU is treated as noise, which affects the response and display of the intelligent tester).**
- **The main body ECU (cowl side junction block LH) checks for proper ECU communication for ECUs that are connected to the CAN MS bus circuit, and the results are displayed on the intelligent tester.**
- **The gateway ECU built into the main body ECU (cowl side junction block LH) may be malfunctioning if both of the following occurs: 1) all ECUs connected to the MS bus are not displayed on the intelligent tester; and 2) DTC U1002 is not output.**
- **If communication stops between an ECU and the main body ECU (cowl side junction block LH) or network gateway ECU for 10 seconds or more, the ECU disappears from the intelligent tester display.**
- **For communication stop mode of ECUs connected to the CAN MS bus circuit or movement control bus, refer to the DTC flowchart of the respective communication stop.**

B. → Go to DTC U1002 FLOWCHART (Click here)

C. → Go to MAIN BODY ECU COMMUNICATION STOP MODE FLOWCHART (Click here)

D. → Go to DTC U1002 FLOWCHART (Click here)

E. → Go to NETWORK GATEWAY ECU COMMUNICATION STOP MODE FLOWCHART (Click here)

F. → Go to PROBLEM SYMPTOMS TABLE (Click here)

G. → Go to OPEN IN ONE SIDE OF CAN BRANCH WIRE FLOWCHART (Click here)

A

## 9.CHECK COMMUNICATION MALFUNCTION DTC (PAST DTC CHECK)*

a. Select "Bus Check" from "System Select" (Click here).

b. Write down all of the DTCs stored in each ECU.

**HINT:**

- **If there are communication malfunction DTCs stored but the intelligent tester "Bus Check - Communication Bus Check" screen displays all of the ECUs and sensors connected to the CAN system, the communication malfunction DTCs may be past malfunctions that are no longer present.**
- **For V bus main wire malfunctions, related ECUs are also detected. Therefore, determine the malfunctioning area based on all of the DTCs that are output.**
- **For MS bus malfunctions, DTCs are stored based on the detection of communication stop malfunctions and network malfunctions of ECUs that are connected by the main body ECU (cowl side junction block LH).**
- **For movement control bus malfunctions, DTCs are stored based on the detection of communication stop malfunctions and network malfunctions of ECUs that are connected by the network gateway ECU.**

**Result**

| Inspection Result | Proceed to |
|---|---|
| An ECU connected to the V bus main wire has stored a communication trouble code (V bus main wire past malfunction). | A |
| The main body ECU (cowl side junction block LH) outputs the MS bus trouble code (U1002) (MS bus past malfunction). | B |
| The main body ECU (cowl side junction block LH) outputs a trouble code other than MS bus trouble code (U1002) (past malfunction of ECU branch wire connected to MS bus). | C |
| The network gateway ECU outputs the movement control bus trouble code (U1002) (movement control bus past malfunction). | D |
| The network gateway ECU outputs a trouble code other than movement control bus trouble code (U1002) (past malfunction of branch wire connected to movement control bus). | E |

**B.** Go to DTC U1002 FLOWCHART (**Click here**)

**C.** Go to PROBLEM SYMPTOMS TABLE (**Click here**)

**D.** Go to DTC U1002 FLOWCHART (**Click here**)

**E.** Go to PROBLEM SYMPTOMS TABLE (**Click here**)

**A**

## 10.CHECK DTC COMBINATION TABLE (V BUS CIRCUIT BRANCH WIRE OPEN PAST MALFUNCTION)

a. Based on the combination of stored CAN communication system DTCs, determine which ECUs and sensors have a communication stop malfunction (Click here).

**NEXT**

## 11.PERFORM MALFUNCTION SIMULATION TEST (V BUS CIRCUIT MAIN WIRE PAST MALFUNCTION)*

a. Using the intelligent tester, clear all DTCs.

b. Perform a malfunction simulation test on all harnesses and connectors related to the V bus circuit main wire.

c. Check the DTCs that were stored as a result of the malfunction simulation test. Then determine the malfunctioning area.

**NEXT**

## 12.ADJUST, REPAIR AND REPLACE

NEXT

13.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

**HINT:**

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

### Result List of Check CAN Bus Line

| Symptom | Suspected Area | See page |
|---|---|---|
| The result of "How to Proceed with Troubleshooting" is "Open in CAN Main Wire". | Open in CAN Main Wire | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short in CAN Bus Lines". | Short in CAN Bus Lines | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short to +B in CAN Bus Line". | Short to B+ in CAN Bus Line | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short to GND in CAN Bus Line". | Short to GND in CAN Bus Line | Click here |
| The result of "How to Proceed with Troubleshooting" is "Open in One Side of CAN Branch Line". | Open in One Side of CAN Branch Line | Click here |

### Communication Stop Mode Table

| Symptom | Suspected Area | See page |
|---|---|---|
| "Air Conditioner" not displayed on the intelligent tester. | Air Conditioning Amplifier Communication Stop Mode | Click here |
| "CAN Gateway" not displayed on the intelligent tester. | Gateway ECU Communication Stop Mode | Click here |
| "Engine" not displayed on the intelligent tester. | ECM Communication Stop Mode | Click here |
| "Main Body" not displayed on the intelligent tester. | Main Body ECU (cowl side junction block LH) Communication Stop Mode | Click here |
| "Combination Meter" not displayed on the intelligent tester. | Combination Meter ECU Communication Stop Mode | Click here |
| "SRS Airbag" not displayed on the intelligent tester. | Airbag ECU Communication Stop Mode | Click here |
| "AFS/HL AutoLeveling" not displayed on the intelligent tester. | AFS ECU Communication Stop Mode | Click here |
| "AVN" not displayed on the intelligent tester. | Display and Navigation Assembly Communication Stop Mode | 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.**

### Result List of Check CAN Bus Line

| Symptom | Suspected Area | See page |
|---|---|---|
| The result of "How to Proceed with Troubleshooting" is "Open in CAN Main Wire". | Open in CAN Main Wire | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short in CAN Bus Lines". | Short in CAN Bus Lines | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short to +B in CAN Bus Line". | Short to B+ in CAN Bus Line | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short to GND in CAN Bus Line". | Short to GND in CAN Bus Line | Click here |
| The result of "How to Proceed with Troubleshooting" is "Open in One Side of CAN Branch Line". | Open in One Side of CAN Branch Line | Click here |

### Communication Stop Mode Table

| Symptom | Suspected Area | See page |
|---|---|---|
| "Air Conditioner" not displayed on the intelligent tester. | Air Conditioning Amplifier Communication Stop Mode | Click here |
| "CAN Gateway" not displayed on the intelligent tester. | Gateway ECU Communication Stop Mode | Click here |
| "Engine" not displayed on the intelligent tester. | ECM Communication Stop Mode | Click here |
| "Main Body" not displayed on the intelligent tester. | Main Body ECU (cowl side junction block LH) Communication Stop Mode | Click here |
| "Combination Meter" not displayed on the intelligent tester. | Combination Meter ECU Communication Stop Mode | Click here |
| "SRS Airbag" not displayed on the intelligent tester. | Airbag ECU Communication Stop Mode | Click here |
| "AFS/HL AutoLeveling" not displayed on the intelligent tester. | AFS ECU Communication Stop Mode | Click here |
| "AVN" not displayed on the intelligent tester. | Display and Navigation Assembly Communication Stop Mode | 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.**

### Result List of Check CAN Bus Line

| Symptom | Suspected Area | See page |
|---|---|---|
| The result of "How to Proceed with Troubleshooting" is "Open in CAN Main Wire". | Open in CAN Main Wire | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short in CAN Bus Lines". | Short in CAN Bus Lines | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short to +B in CAN Bus Line". | Short to B+ in CAN Bus Line | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short to GND in CAN Bus Line". | Short to GND in CAN Bus Line | Click here |
| The result of "How to Proceed with Troubleshooting" is "Open in One Side of CAN Branch Line". | Open in One Side of CAN Branch Line | Click here |

### Communication Stop Mode Table

| Symptom | Suspected Area | See page |
|---|---|---|
| "Air Conditioning Amplifier" not displayed on the intelligent tester. | Air Conditioning Amplifier Communication Stop Mode | Click here |
| "CAN Gateway" not displayed on the intelligent tester. | Gateway ECU Communication Stop Mode | Click here |
| "ECM (Engine)" not displayed on the intelligent tester. | ECM Communication Stop Mode | Click here |
| "Main Body" not displayed on the intelligent tester. | Main Body ECU Communication Stop Mode | Click here |
| "Combination Meter" not displayed on the intelligent tester. | Combination Meter ECU Communication Stop Mode | Click here |
| "Airbag" not displayed on the intelligent tester. | Center Airbag Sensor Communication Stop Mode | Click here |
| "Headlight swivel (AFS)" not displayed on the intelligent tester. | AFS ECU Communication Stop Mode | Click here |
| "Display and Navigation (AVN)" not displayed on the intelligent tester. | Multi-media Module Receiver Assembly Communication Stop Mode | Click here |

**for Preparation** Click here

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

## DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

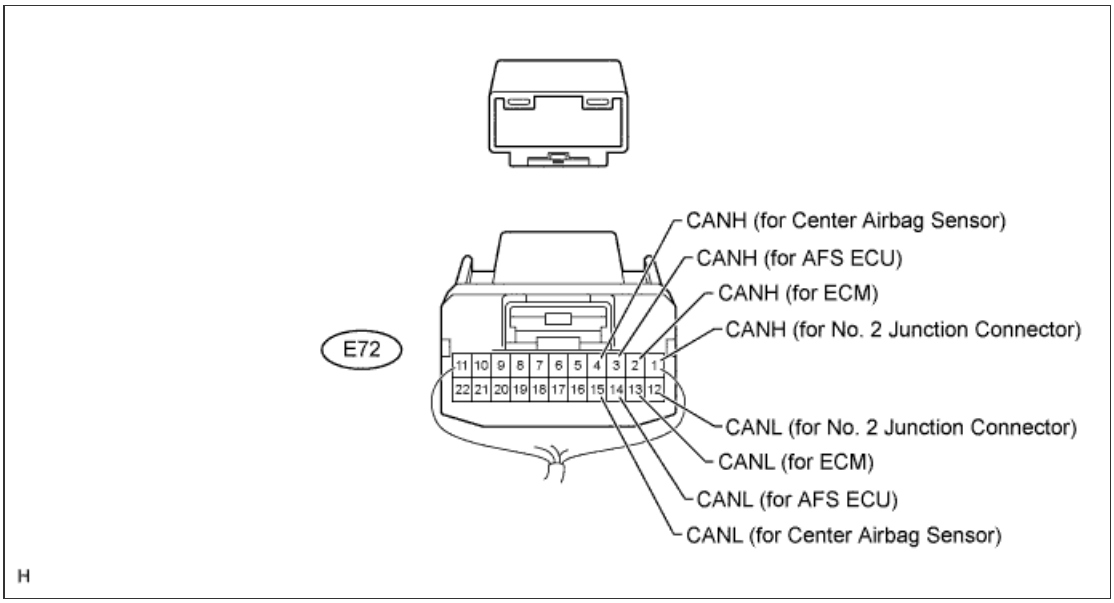
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

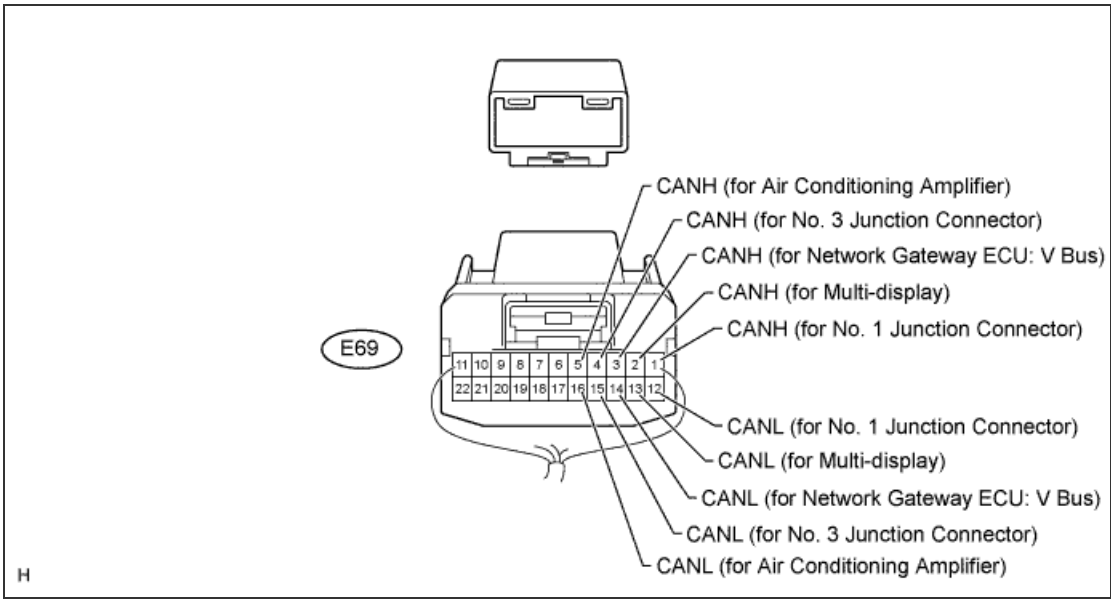
## JUNCTION CONNECTOR

a. NO. 1 JUNCTION CONNECTOR



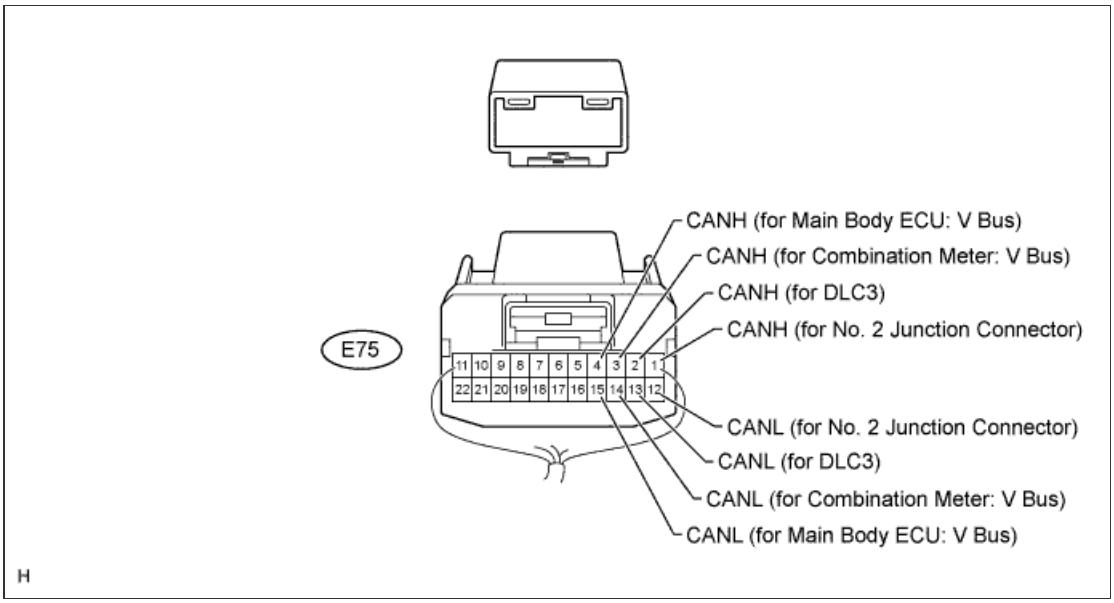

| No. 1 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E72-1 (CANH) | Y | No. 2 junction connector |
| E72-12 (CANL) | B | |
| E72-2 (CANH) | P | ECM |
| E72-13 (CANL) | B | |
| E72-3 (CANH) | LG | AFS ECU (headlight swivel ECU) |
| E72-14 (CANL) | B | |
| E72-4 (CANH) | GR | Center airbag sensor |
| E72-15 (CANL) | B | |

b. NO. 2 JUNCTION CONNECTOR




| No. 2 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E69-1 (CANH) | Y | No. 1 junction connector |
| E69-12 (CANL) | B | |
| E69-2 (CANH) | P | Multi-display |
| E69-13 (CANL) | B | |
| E69-3 (CANH) | BR | Network gateway ECU (V bus) |
| E69-14 (CANL) | B | |
| E69-4 (CANH) | W | No. 3 junction connector |
| E69-15 (CANL) | B | |
| E69-5 (CANH) | G | Air conditioning amplifier |
| E69-16 (CANL) | B | |

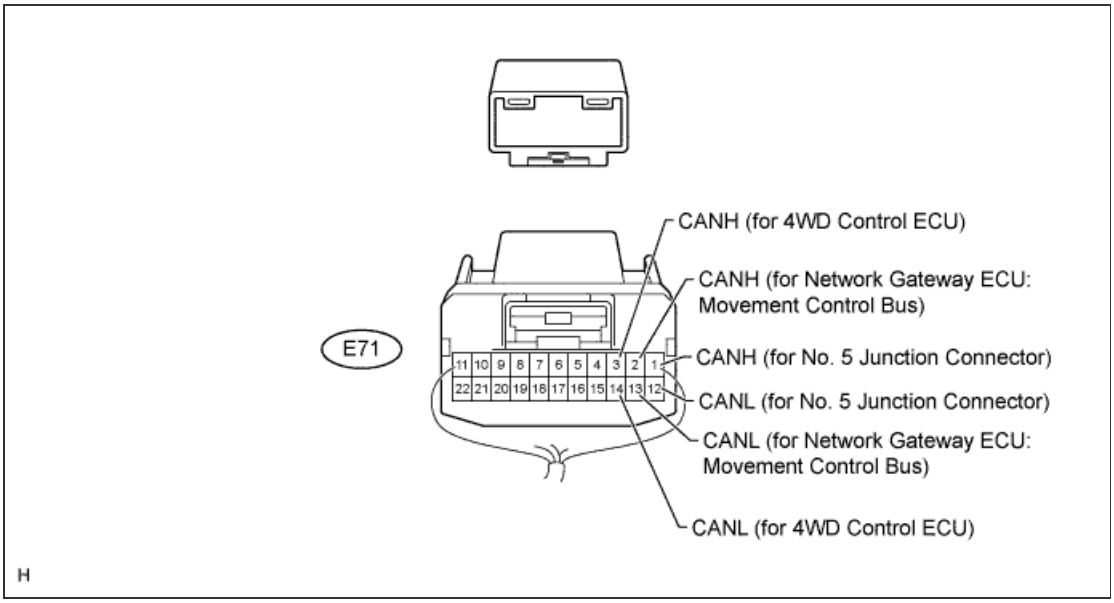
c. NO. 3 JUNCTION CONNECTOR




| No. 3 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E75-1 (CANH) | W | No. 2 junction connector |
| E75-12 (CANL) | B | |
| E75-2 (CANH) | G | DLC3 |
| E75-13 (CANL) | B | |

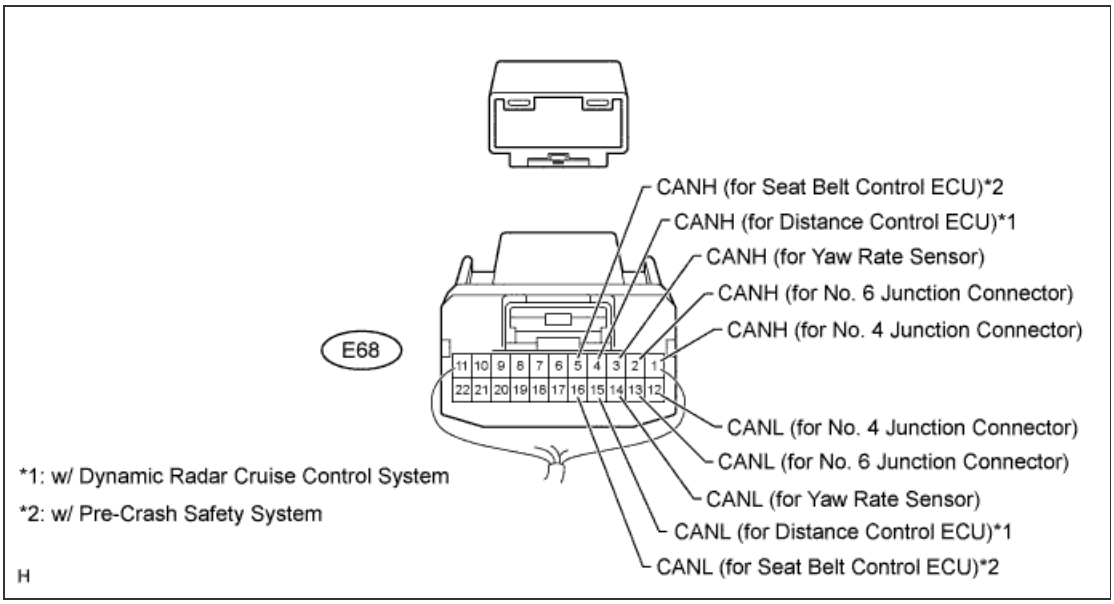
| | | |
|---|---|---|
| E75-3 (CANH) | V | Combination meter (V bus) |
| E75-14 (CANL) | B | |
| E75-4 (CANH) | SB | Main body ECU (cowl side junction block LH) (V bus) |
| E75-15 (CANL) | B | |

d. NO. 4 JUNCTION CONNECTOR




| No. 4 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E71-1 (CANH) | W | No. 5 junction connector |
| E71-12 (CANL) | L | |
| E71-2 (CANH) | SB | Network gateway ECU (movement control bus) |
| E71-13 (CANL) | L | |
| E71-3 (CANH) | P | 4WD control ECU |
| E71-14 (CANL) | L | |

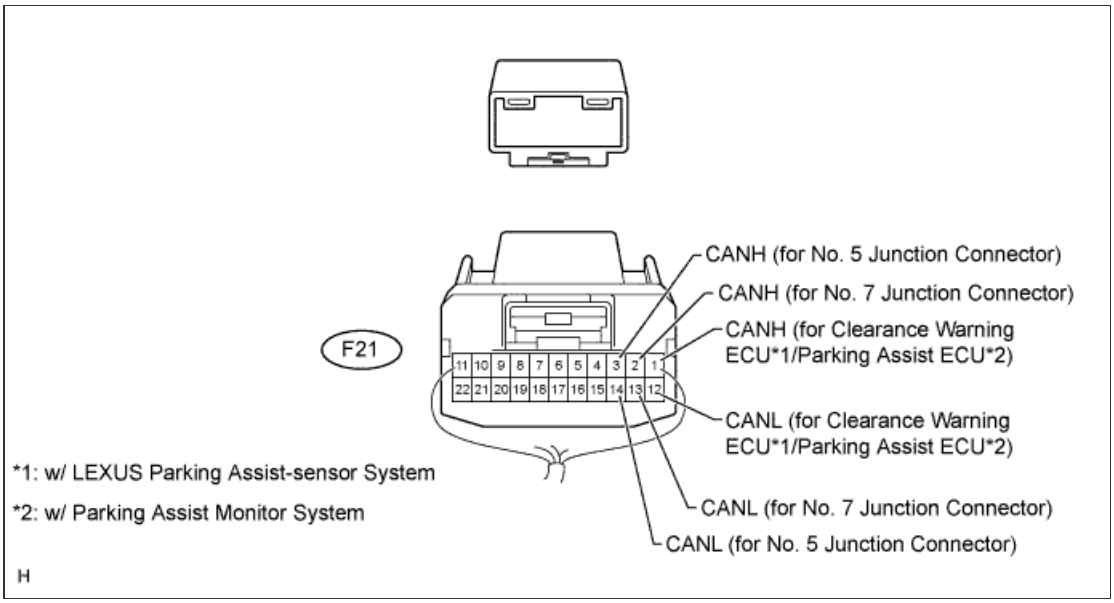
e. NO. 5 JUNCTION CONNECTOR



| No. 5 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E68-1 (CANH) | W | No. 4 junction connector |
| E68-12 (CANL) | L | |
| E68-2 (CANH) | Y | No. 6 junction connector |
| E68-13 (CANL) | L | |
| E68-3 (CANH) | BR | Yaw rate sensor |
| E68-14 (CANL) | L | |
| E68-4 (CANH)*1 | SB | Distance control ECU |
| E68-15 (CANL)*1 | L | |
| E68-5 (CANH)*2 | G | Seat belt control ECU |
| E68-16 (CANL)*2 | L | |

*1: w/ Dynamic Radar Cruise Control System
*2: w/ Pre-Crash Safety System

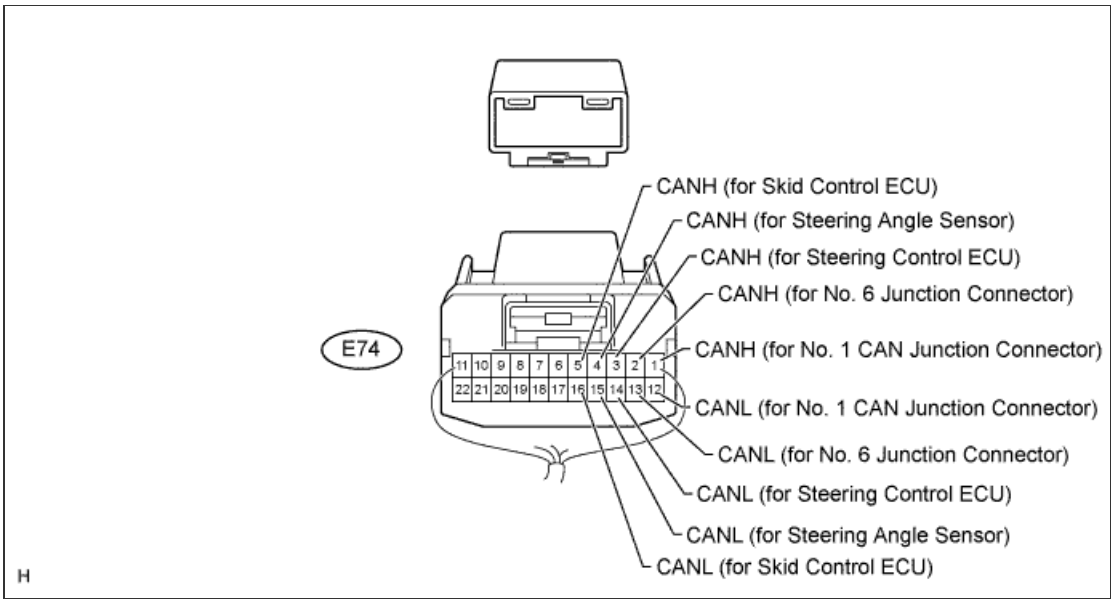
f. NO. 6 JUNCTION CONNECTOR




| No. 6 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| F21-1 (CANH)*1 | V | Clearance warning ECU |
| F21-12 (CANL)*1 | L | |
| F21-1 (CANH)*2 | V | Parking assist ECU |
| F21-12 (CANL)*2 | L | |
| F21-2 (CANH) | Y | No. 7 junction connector |
| F21-13 (CANL) | L | |
| F21-3 (CANH) | Y | No. 5 junction connector |
| F21-14 (CANL) | L | |

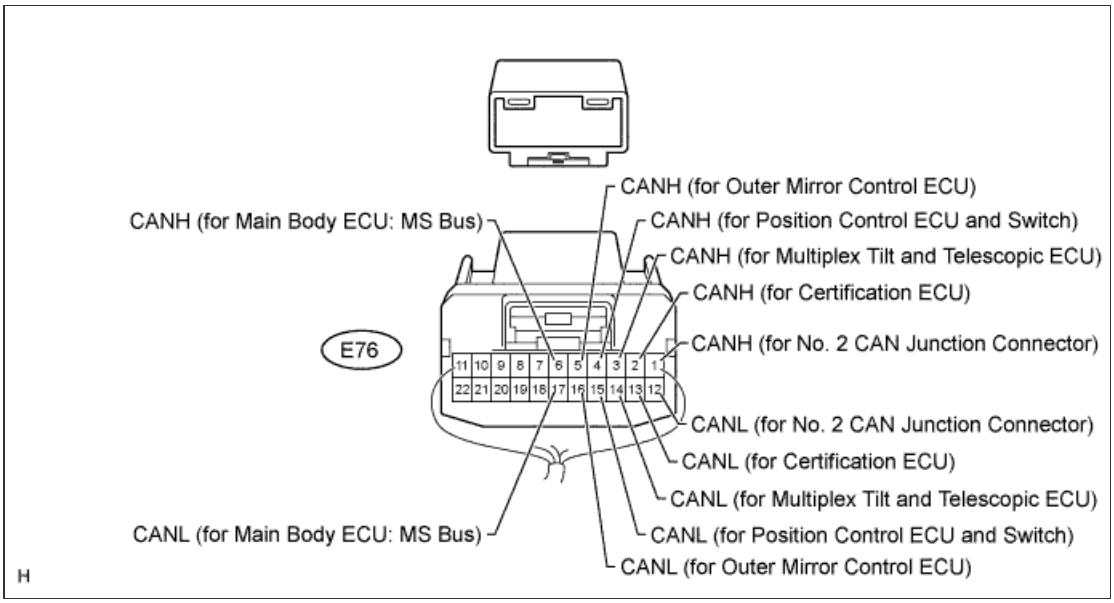
*1: w/ LEXUS Parking Assist-sensor System
*2: w/ Parking Assist Monitor System

g. NO. 7 JUNCTION CONNECTOR




| No. 7 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E74-1 (CANH) | W | No. 1 CAN junction connector |
| E74-12 (CANL) | L | |
| E74-2 (CANH) | Y | No. 6 junction connector |
| E74-13 (CANL) | L | |
| E74-3 (CANH) | LG | Steering control ECU |
| E74-14 (CANL) | L | |
| E74-4 (CANH) | GR | Steering angle sensor |
| E74-15 (CANL) | L | |
| E74-5 (CANH) | V | Master cylinder solenoid (skid control ECU) |
| E74-16 (CANL) | L | |

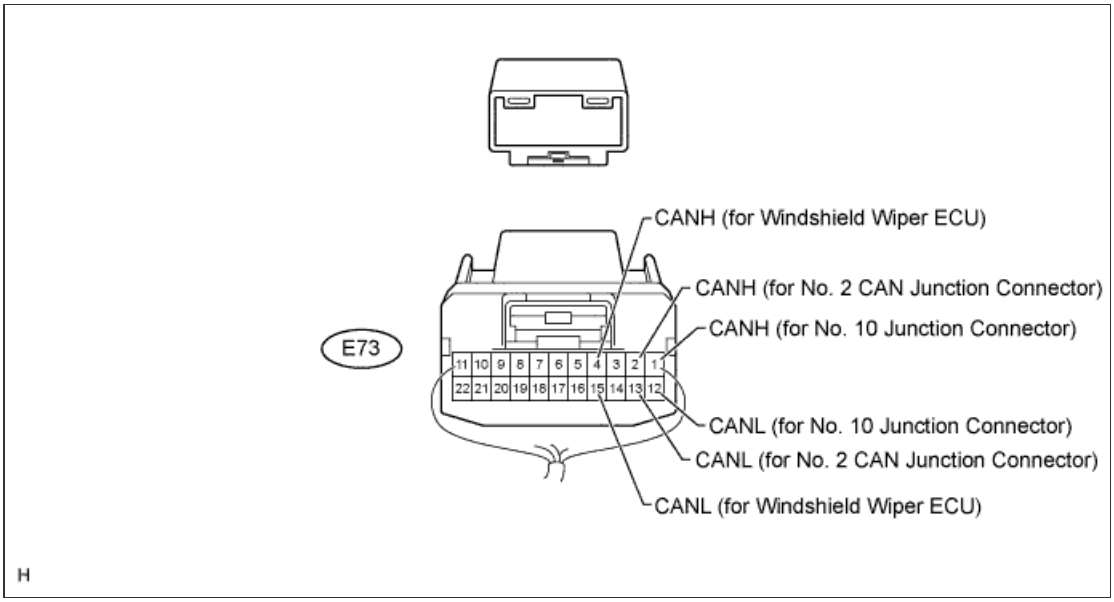
h. NO. 8 JUNCTION CONNECTOR




| No. 8 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E76-1 (CANH) | W | No. 2 CAN junction connector |
| E76-12 (CANL) | R | |
| E76-2 (CANH) | LG | Certification ECU (smart key ECU) |
| E76-13 (CANL) | R | |
| E76-3 (CANH) | P | |

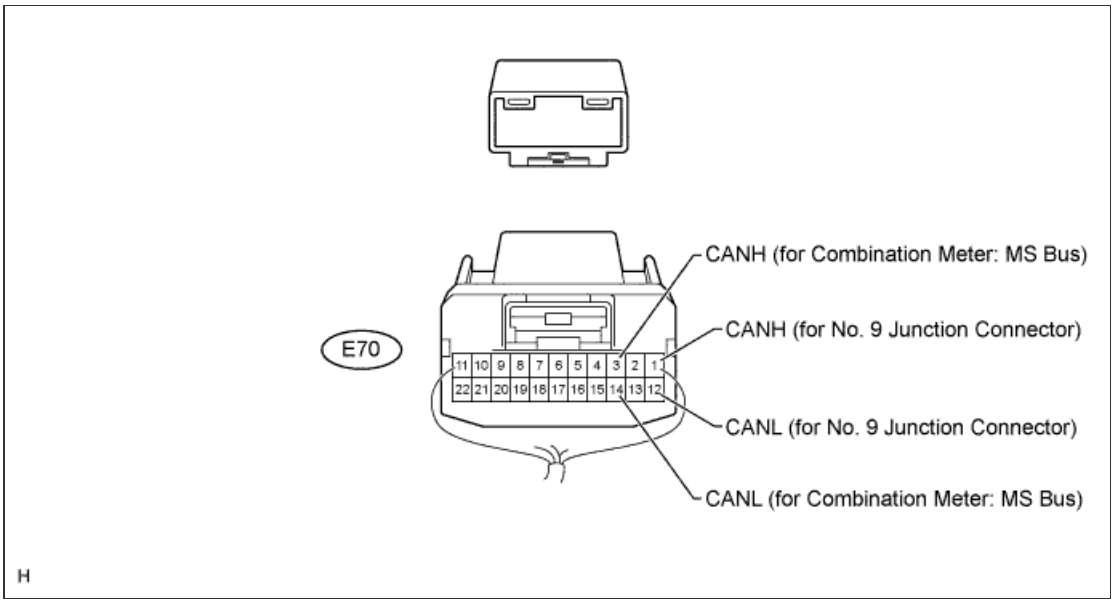
| | | |
|---|---|---|
| E76-14 (CANL) | R | Multiplex tilt and telescopic ECU |
| E76-4 (CANH) | V | Position control ECU and switch |
| E76-15 (CANL) | R | |
| E76-5 (CANH) | BR | Outer mirror control ECU |
| E76-16 (CANL) | R | |
| E76-6 (CANH) | GR | Main body ECU (cowl side junction block LH) (MS bus) |
| E76-17 (CANL) | R | |

i. NO. 9 JUNCTION CONNECTOR



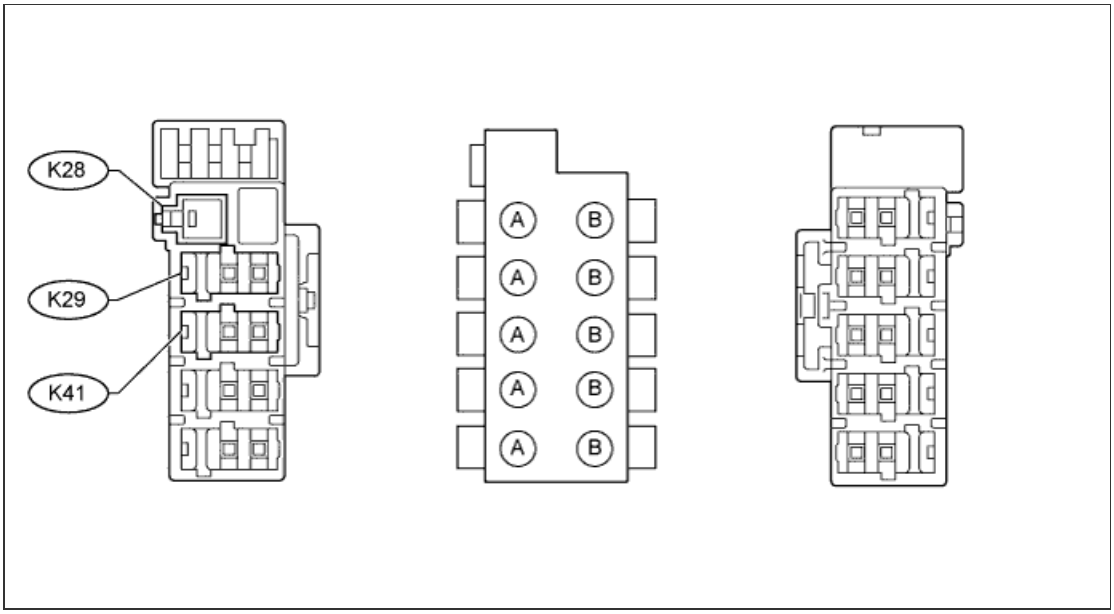

| No. 9 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E73-1 (CANH) | W | No. 10 junction connector |
| E73-12 (CANL) | R | |
| E73-2 (CANH) | Y | No. 2 CAN junction connector |
| E73-13 (CANL) | R | |
| E73-4 (CANH) | LG | Windshield wiper ECU |
| E73-15 (CANL) | R | |

j. NO. 10 JUNCTION CONNECTOR



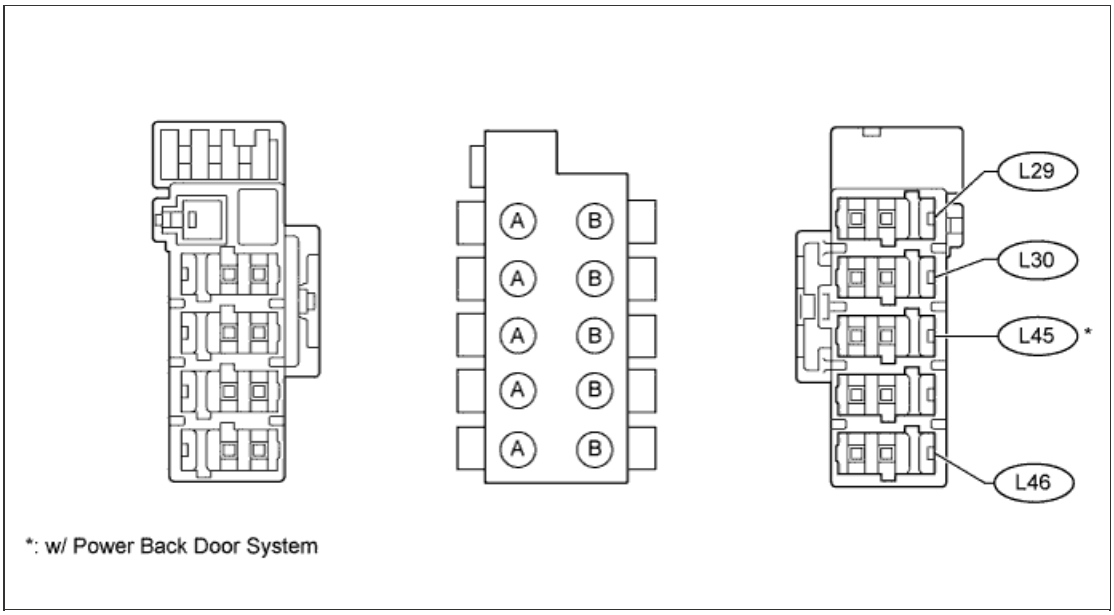

| No. 10 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E70-1 (CANH) | W | No. 9 Junction Connector |
| E70-12 (CANL) | R | |
| E70-3 (CANH) | LG | Combination Meter (MS bus) |
| E70-14 (CANL) | R | |

k. NO. 1 CAN JUNCTION CONNECTOR




| Junction Connector A Side | Wiring Color (CANH Side) | Wiring Color (CANL Side) |
|---|---|---|
| Body ground (K28) | - | W-B |
| No. 7 junction connector (K29) | W | L |
| Suspension control ECU (K41) | V | L |

l. NO. 2 CAN JUNCTION CONNECTOR

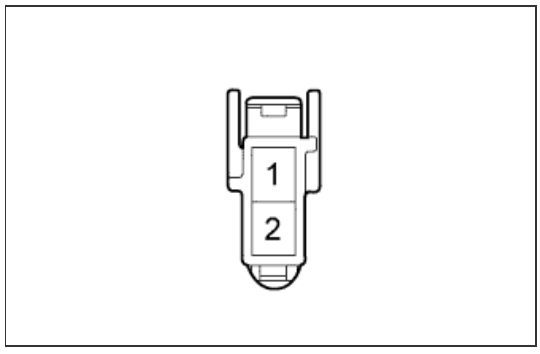



| Junction Connector B Side | Wiring Color (CANH Side) | Wiring Color (CANL Side) |
|---|---|---|
| No. 8 junction connector (L29) | W | R |
| No. 9 junction connector (L30) | Y | R |
| Power back door ECU (L45)* | V | R |
| No. 2 main body ECU (L46) | LG | R |

*: w/ Power Back Door System

## TERMINALS OF CONNECTORS FOR JUNCTION CONNECTOR (CAN JUNCTION CONNECTOR)

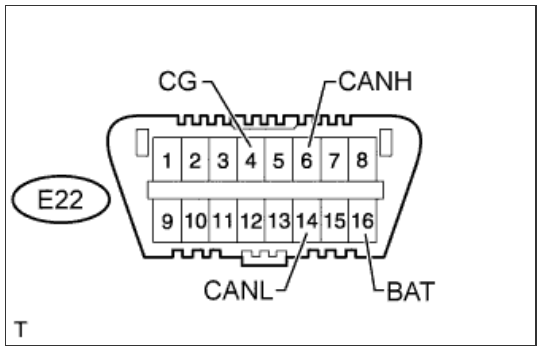
| Terminal No. | Symbol |
|---|---|
| 1 | CANH |
| 2 | CANL |




## CHECK DLC3

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

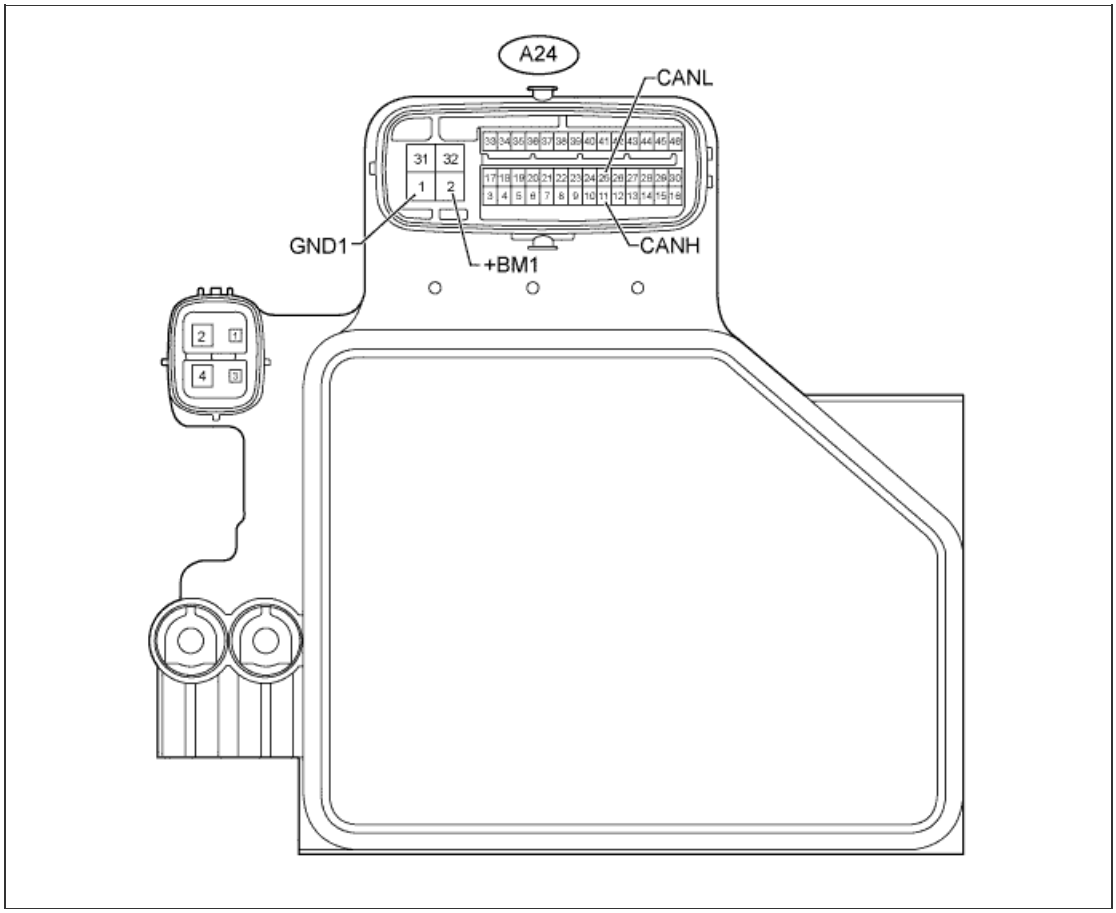
b. Measure the resistance according to the value(s) in the table below.




| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | G - B | Engine switch off | 54 to 69 Ω |
| E22-6 (CANH) - E22-4 (CG) | G - W-B | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | B - W-B | Engine switch off | 200 Ω or higher |
| E22-6 (CANH) - E22-16 (BAT) | G - O | Engine switch off | 6 kΩ or higher |

| | | | |
|---|---|---|---|
| E22-14 (CANL) - E22-16 (BAT) | B - O | Engine switch off | 6 kΩ or higher |

## CHECK MASTER CYLINDER SOLENOID (SKID CONTROL ECU)

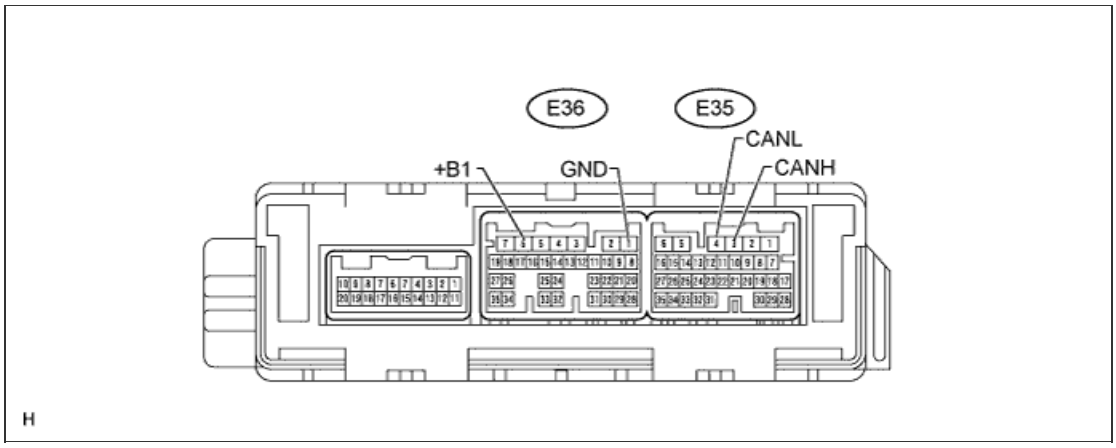



a. Disconnect the A24 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| A24-11 (CANH) - A24-1 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| A24-25 (CANL) - A24-1 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| A24-11 (CANH) - A24-2 (+BM1) | V - B | Engine switch off | 6 kΩ or higher |
| A24-25 (CANL) - A24-2 (+BM1) | L - B | Engine switch off | 6 kΩ or higher |

## CHECK AIR CONDITIONING AMPLIFIER

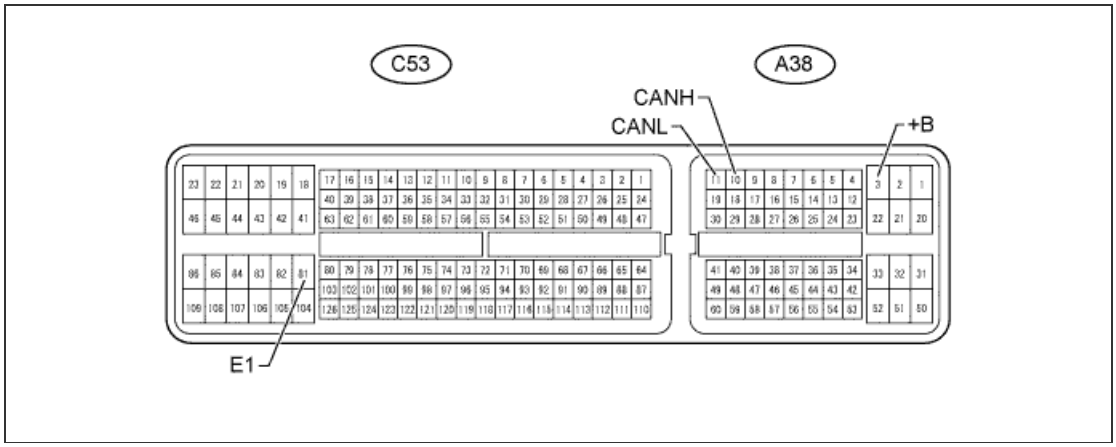



a. Disconnect the E35 and E36 amplifier connectors.

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

| Terminal No. (Symbol) | Wiring Color | Condition | Specified Condition |
|---|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | G - B | Engine switch off | 54 to 69 Ω |
| E35-3 (CANH) - E36-1 (GND) | G - W-B | Engine switch off | 200 Ω or higher |
| E35-4 (CANL) - E36-1 (GND) | B - W-B | Engine switch off | 200 Ω or higher |
| E35-3 (CANH) - E36-6 (+B1) | G - R | Engine switch off | 6 kΩ or higher |
| E35-4 (CANL) - E36-6 (+B1) | B - R | Engine switch off | 6 kΩ or higher |

## CHECK ECM

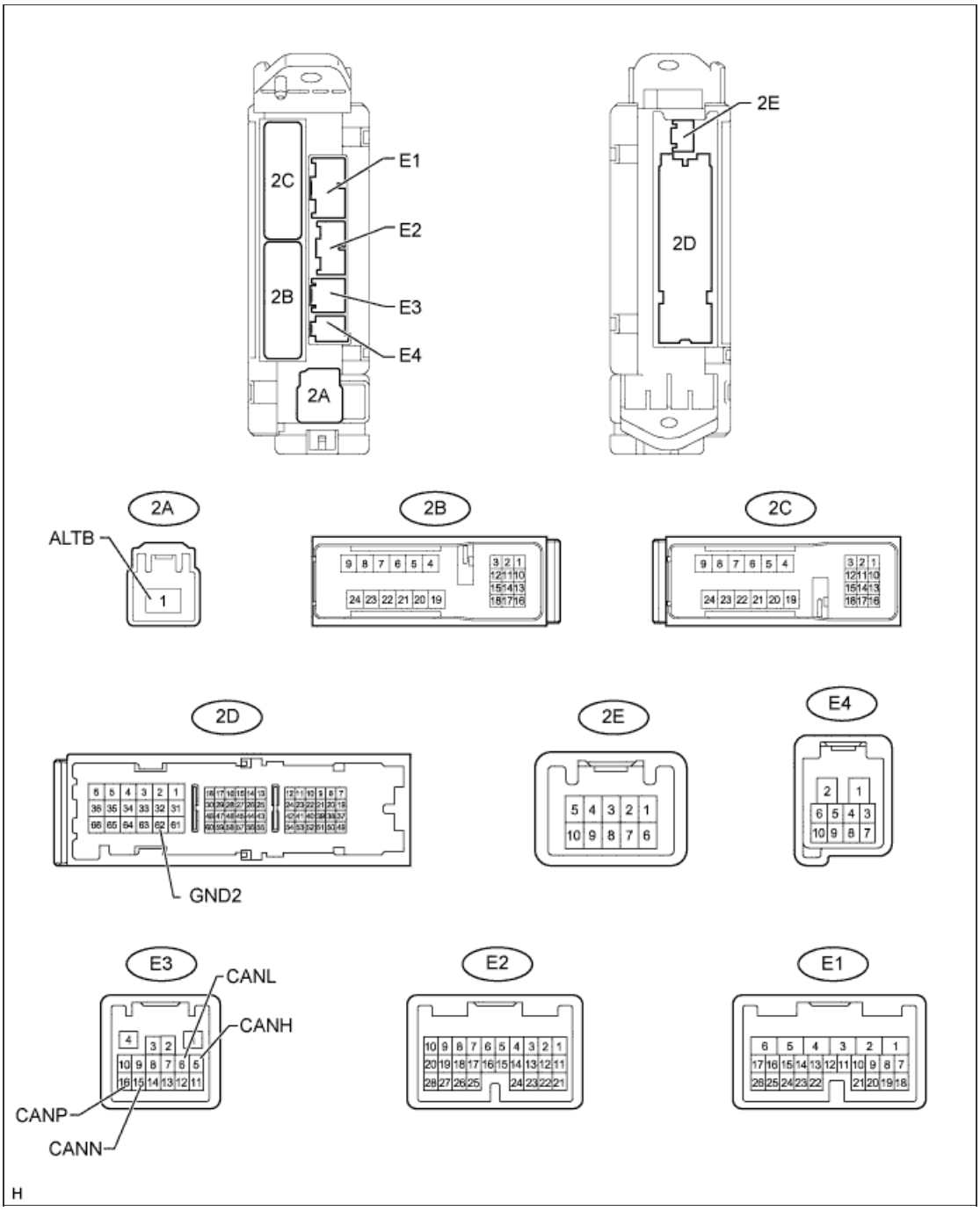



a. Disconnect the A38 and C53 ECM connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A38-10 (CANH) - A38-11 (CANL) | P - B | Engine switch off | 108 to 132 Ω |
| A38-10 (CANH) - C53-81 (E1) | P - W-B | Engine switch off | 200 Ω or higher |
| A38-11 (CANL) - C53-81 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| A38-10 (CANH) - A38-3 (+B) | P - B | Engine switch off | 6 kΩ or higher |
| A38-11 (CANL) - A38-3 (+B) | B - B | Engine switch off | 6 kΩ or higher |

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




a. Disconnect the E3 ECU connector.

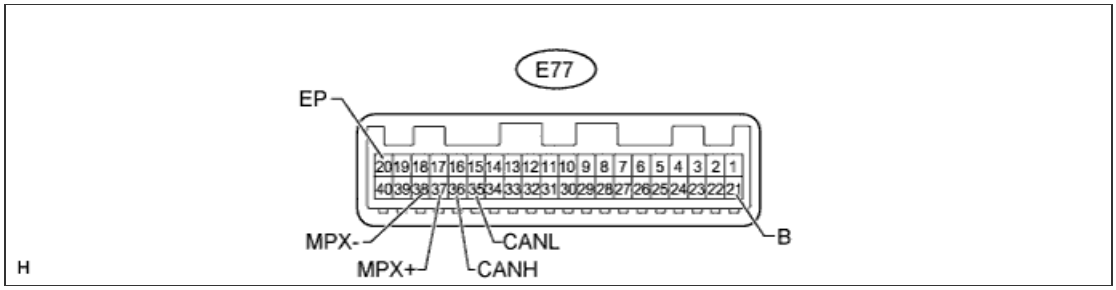
b. Disconnect the 2A and 2D junction connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E3-5 (CANH) - E3-6 (CANL)*1 | SB - B | Engine switch off | 54 to 69 Ω |
| E3-5 (CANH) - 2D-62 (GND2)*1 | SB - W-B | Engine switch off | 200 Ω or higher |
| E3-6 (CANL) - 2D-62 (GND2)*1 | B - W-B | Engine switch off | 200 Ω or higher |
| E3-5 (CANH) - 2A-1 (ALTB)*1 | SB - B | Engine switch off | 6 kΩ or higher |
| E3-6 (CANL) - 2A-1 (ALTB)*1 | B - B | Engine switch off | 6 kΩ or higher |
| E3-16 (CANP) - E3-15 (CANN)*2 | GR - R | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - 2D-62 (GND2)*2 | GR - W-B | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - 2D-62 (GND2)*2 | R - W-B | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - 2A-1 (ALTB)*2 | GR - B | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - 2A-1 (ALTB)*2 | R - B | Engine switch off | 6 kΩ or higher |

*1: For V bus
*2: For MS bus

## CHECK COMBINATION METER



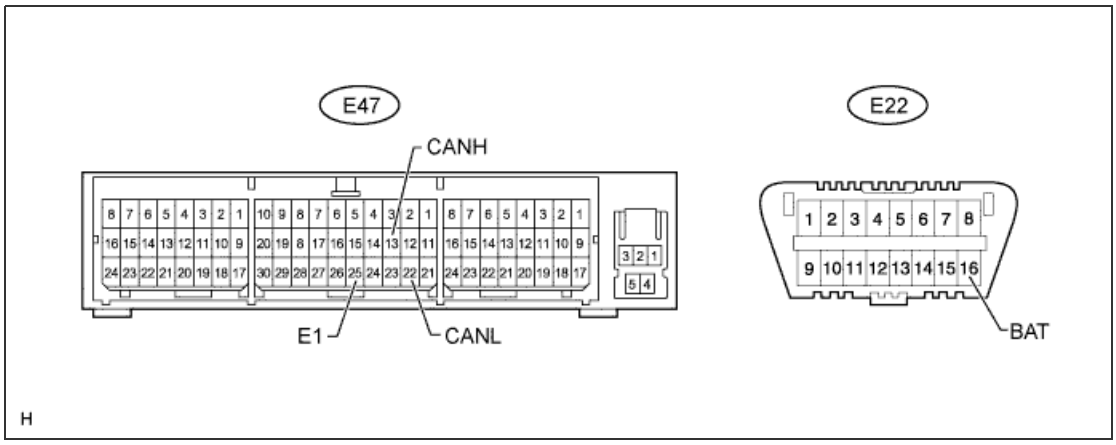

a. Disconnect the E77 meter connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E77-36 (CANH) - E77-35 (CANL)*1 | V - B | Engine switch off | 108 to 132 Ω |
| E77-36 (CANH) - E77-20 (EP)*1 | V - W-B | Engine switch off | 200 Ω or higher |
| E77-35 (CANL) - E77-20 (EP)*1 | B - W-B | Engine switch off | 200 Ω or higher |
| E77-36 (CANH) - E77-21 (B)*1 | V - R | Engine switch off | 6 kΩ or higher |
| E77-35 (CANL) - E77-21 (B)*1 | B - R | Engine switch off | 6 kΩ or higher |
| E77-37 (MPX+) - E77-38 (MPX-)*2 | LG - R | Engine switch off | 108 to 132 Ω |
| E77-37 (MPX+) - E77-20 (EP)*2 | LG - W-B | Engine switch off | 200 Ω or higher |
| E77-38 (MPX-) - E77-20 (EP)*2 | R - W-B | Engine switch off | 200 Ω or higher |
| E77-37 (MPX+) - E77-21 (B)*2 | LG - R | Engine switch off | 6 kΩ or higher |
| E77-38 (MPX-) - E77-21 (B)*2 | R - R | Engine switch off | 6 kΩ or higher |

*1: For V bus
*2: For MS bus

## CHECK CENTER AIRBAG SENSOR



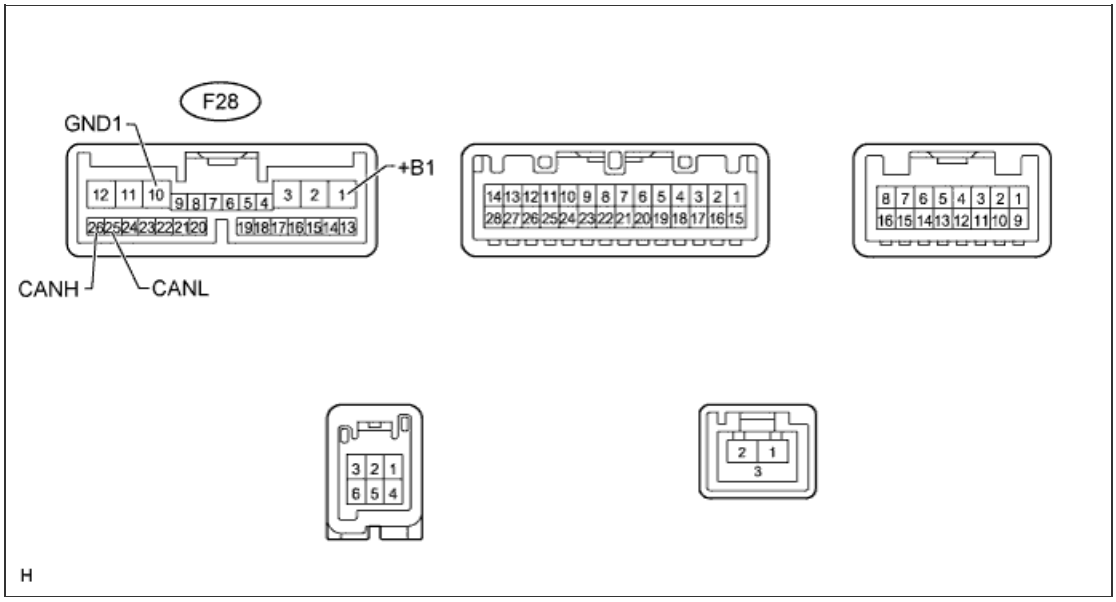

a. Disconnect the E47 sensor connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | GR - B | Engine switch off | 54 to 69 Ω |
| E47-13 (CANH) - E47-25 (E1) | GR - W-B | Engine switch off | 200 Ω or higher |

| | | | |
|---|---|---|---|
| E47-22 (CANL) - E47-25 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| E47-13 (CANH) - E22-16 (BAT) | GR - O | Engine switch off | 6 kΩ or higher |
| E47-22 (CANL) - E22-16 (BAT) | B - O | Engine switch off | 6 kΩ or higher |

## CHECK MULTI-DISPLAY

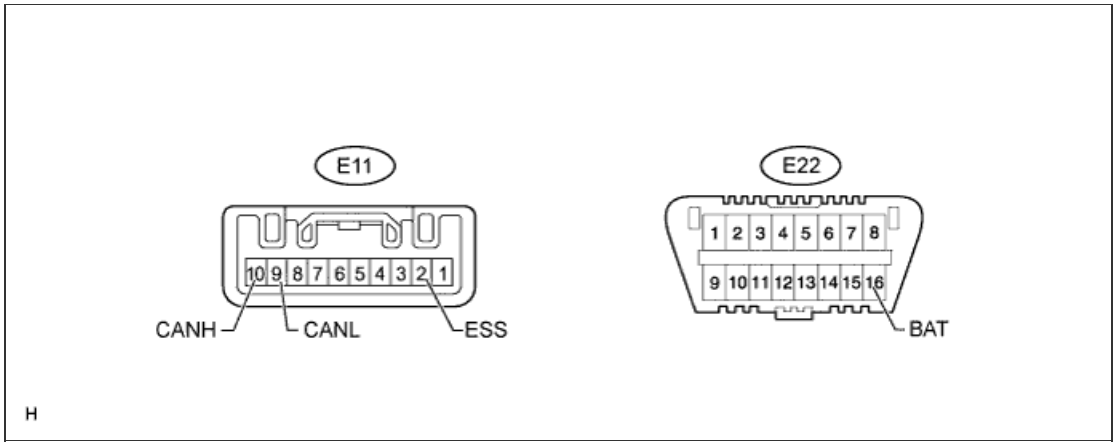



a. Disconnect the F28 multi-display connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F28-26 (CANH) - F28-25 (CANL) | P - B | Engine switch off | 54 to 69 Ω |
| F28-26 (CANH) - F28-10 (GND1) | P - W-B | Engine switch off | 200 Ω or higher |
| F28-25 (CANL) - F28-10 (GND1) | B - W-B | Engine switch off | 200 Ω or higher |
| F28-26 (CANH) - F28-1 (+B1) | P - R | Engine switch off | 6 kΩ or higher |
| F28-25 (CANL) - F28-1 (+B1) | B - R | Engine switch off | 6 kΩ or higher |

## CHECK STEERING ANGLE SENSOR



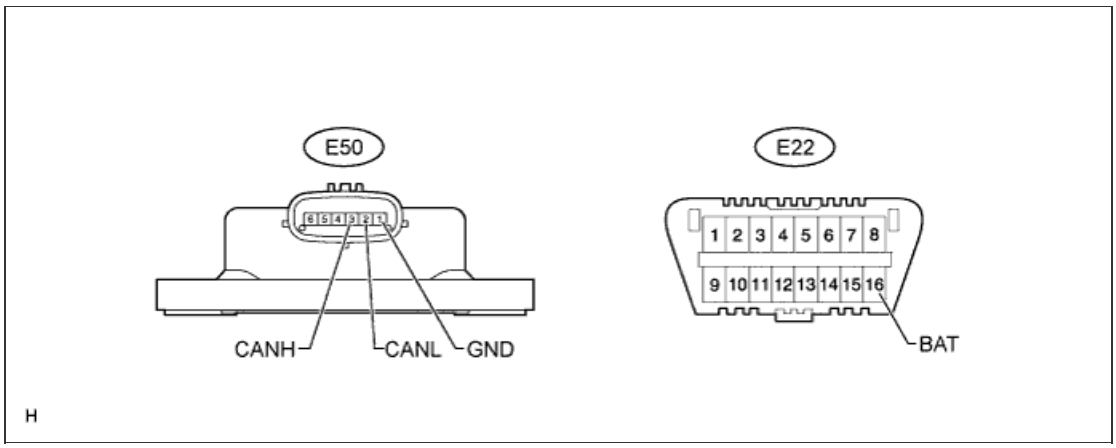

a. Disconnect the E11 sensor connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E11-10 (CANH) - E11-9 (CANL) | GR - L | Engine switch off | 54 to 69 Ω |

| | | | |
|---|---|---|---|
| E11-10 (CANH) - E11-2 (ESS) | GR - W-B | Engine switch off | 200 Ω or higher |
| E11-9 (CANL) - E11-2 (ESS) | L - W-B | Engine switch off | 200 Ω or higher |
| E11-10 (CANH) - E22-16 (BAT) | GR - O | Engine switch off | 6 kΩ or higher |
| E11-9 (CANL) - E22-16 (BAT) | L - O | Engine switch off | 6 kΩ or higher |

## CHECK YAW RATE SENSOR



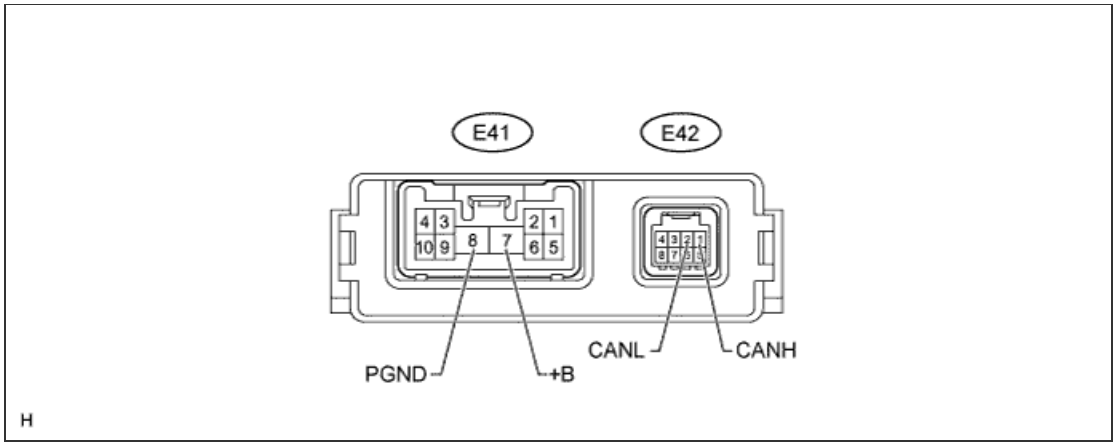

a. Disconnect the E50 sensor connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | BR - L | Engine switch off | 54 to 69 Ω |
| E50-3 (CANH) - E50-1 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| E50-2 (CANL) - E50-1 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| E50-3 (CANH) - E22-16 (BAT) | BR - O | Engine switch off | 6 kΩ or higher |
| E50-2 (CANL) - E22-16 (BAT) | L - O | Engine switch off | 6 kΩ or higher |

## CHECK SEAT BELT CONTROL ECU

For vehicles with the pre-crash safety system only.

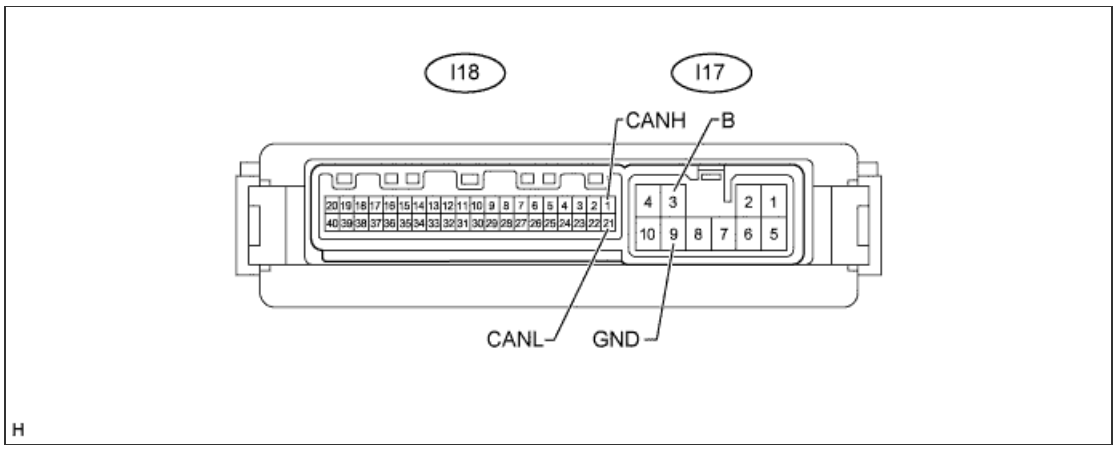



a. Disconnect the E41 and E42 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | G - L | Engine switch off | 54 to 69 Ω |
| E42-1 (CANH) - E41-8 (PGND) | G - W-B | Engine switch off | 200 Ω or higher |
| E42-2 (CANL) - E41-8 (PGND) | L - W-B | Engine switch off | 200 Ω or higher |
| E42-1 (CANH) - E41-7 (+B) | G - R | Engine switch off | 6 kΩ or higher |
| E42-2 (CANL) - E41-7 (+B) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK OUTER MIRROR CONTROL ECU

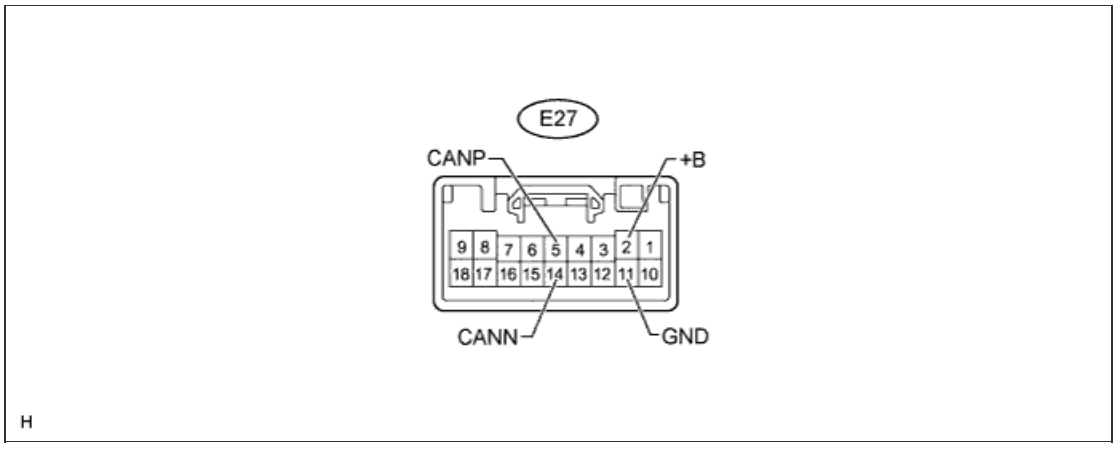



a. Disconnect the I18 and I17 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| I18-1 (CANH) - I18-21 (CANL) | BR - R | Engine switch off | 54 to 69 Ω |
| I18-1 (CANH) - I17-9 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| I18-21 (CANL) - I17-9 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| I18-1 (CANH) - I17-3 (B) | BR - R | Engine switch off | 6 kΩ or higher |
| I18-21 (CANL) - I17-3 (B) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK MULTIPLEX TILT AND TELESCOPIC ECU

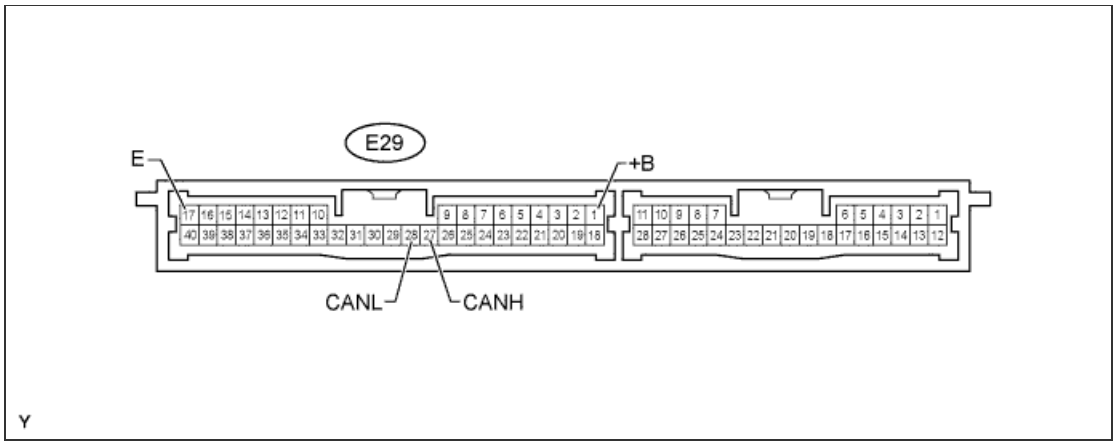



a. Disconnect the E27 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | P - R | Engine switch off | 54 to 69 Ω |
| E27-5 (CANP) - E27-11 (GND) | P - W-B | Engine switch off | 200 Ω or higher |
| E27-14 (CANN) - E27-11 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| E27-5 (CANP) - E27-2 (+B) | P - L | Engine switch off | 6 kΩ or higher |
| E27-14 (CANN) - E27-2 (+B) | R - L | Engine switch off | 6 kΩ or higher |

## CHECK CERTIFICATION ECU (SMART KEY ECU)

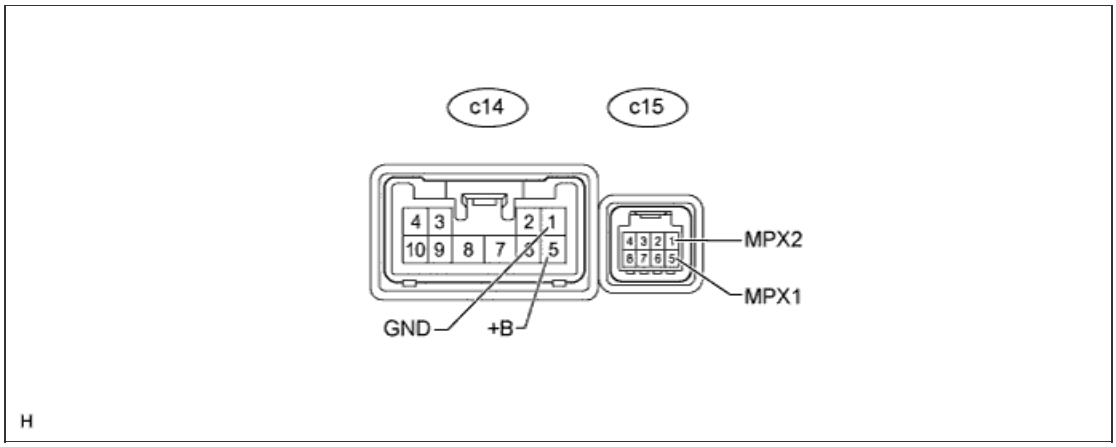



a. Disconnect the E29 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | LG - R | Engine switch off | 54 to 69 Ω |
| E29-27 (CANH) - E29-17 (E) | LG - W-B | Engine switch off | 200 Ω or higher |
| E29-28 (CANL) - E29-17 (E) | R - W-B | Engine switch off | 200 Ω or higher |
| E29-27 (CANH) - E29-1 (+B) | LG - B | Engine switch off | 6 kΩ or higher |
| E29-28 (CANL) - E29-1 (+B) | R - B | Engine switch off | 6 kΩ or higher |

## CHECK POSITION CONTROL ECU AND SWITCH

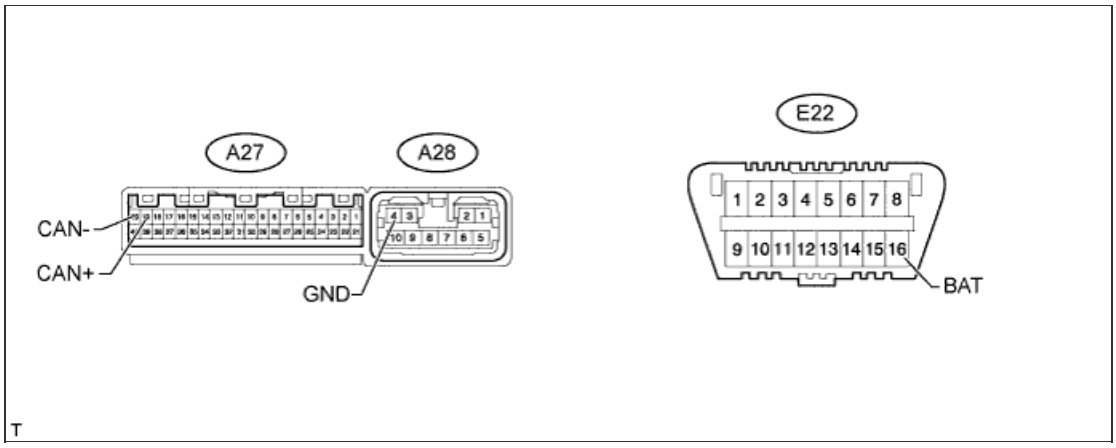



a. Disconnect the c14 and c15 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| c15-5 (MPX1) - c15-1 (MPX2) | V - R | Engine switch off | 54 to 69 Ω |
| c15-5 (MPX1) - c14-1 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| c15-1 (MPX2) - c14-1 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| c15-5 (MPX1) - c14-5 (+B) | V - L | Engine switch off | 6 kΩ or higher |
| c15-1 (MPX2) - c14-5 (+B) | R - L | Engine switch off | 6 kΩ or higher |

## CHECK 4WD CONTROL ECU

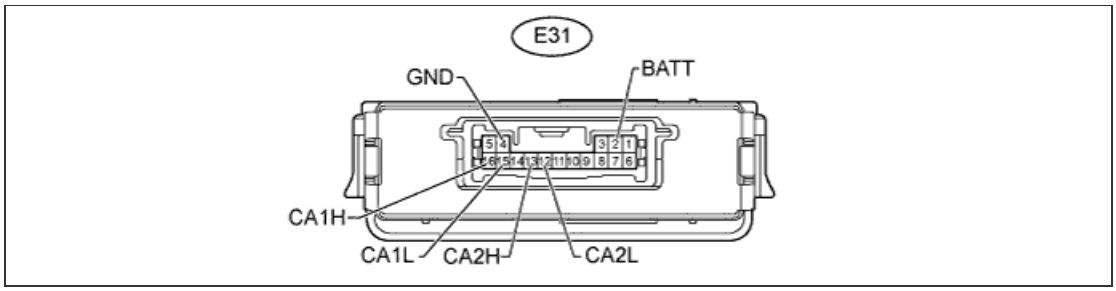



a. Disconnect the A27 and A28 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A27-19 (CAN+) - A27-20 (CAN-) | P - L | Engine switch off | 54 to 69 Ω |
| A27-19 (CAN+) - A28-4 (GND) | P - W | Engine switch off | 200 Ω or higher |
| A27-20 (CAN-) - A28-4 (GND) | L - W | Engine switch off | 200 Ω or higher |
| A27-19 (CAN+) - E22-16 (BAT) | P - O | Engine switch off | 6 kΩ or higher |
| A27-20 (CAN-) - E22-16 (BAT) | L - O | Engine switch off | 6 kΩ or higher |

## CHECK NETWORK GATEWAY ECU



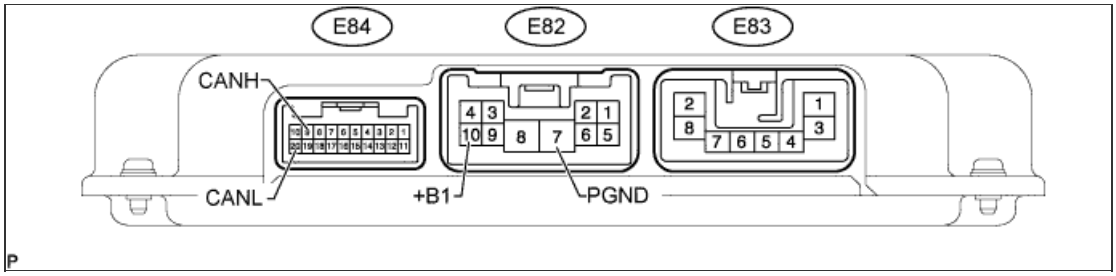

a. Disconnect the E31 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L)*1 | BR - B | Engine switch off | 54 to 69 Ω |
| E31-16 (CA1H) - E31-4 (GND)*1 | BR - W-B | Engine switch off | 200 Ω or higher |
| E31-15 (CA1L) - E31-4 (GND)*1 | B - W-B | Engine switch off | 200 Ω or higher |
| E31-16 (CA1H) - E31-2 (BATT)*1 | BR - R | Engine switch off | 6 kΩ or higher |
| E31-15 (CA1L) - E31-2 (BATT)*1 | B - R | Engine switch off | 6 kΩ or higher |
| E31-13 (CA2H) - E31-12 (CA2L)*2 | SB - L | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E31-4 (GND)*2 | SB - W-B | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E31-4 (GND)*2 | L - W-B | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E31-2 (BATT)*2 | SB - R | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E31-2 (BATT)*2 | L - R | Engine switch off | 6 kΩ or higher |

*1: For V bus
*2: For movement control bus

## CHECK STEERING CONTROL ECU

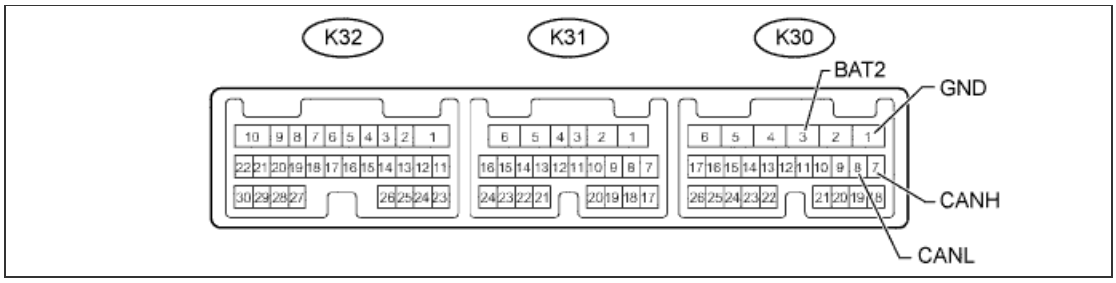



a. Disconnect the E82 and E84 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | LG - L | Engine switch off | 200 Ω or higher |
| E84-9 (CANH) - E82-7 (PGND) | LG - W-B | Engine switch off | 200 Ω or higher |
| E84-20 (CANL) - E82-7 (PGND) | L - W-B | Engine switch off | 200 Ω or higher |
| E84-9 (CANH) - E82-10 (+B1) | LG - R | Engine switch off | 6 kΩ or higher |
| E84-20 (CANL) - E82-10 (+B1) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK SUSPENSION CONTROL ECU

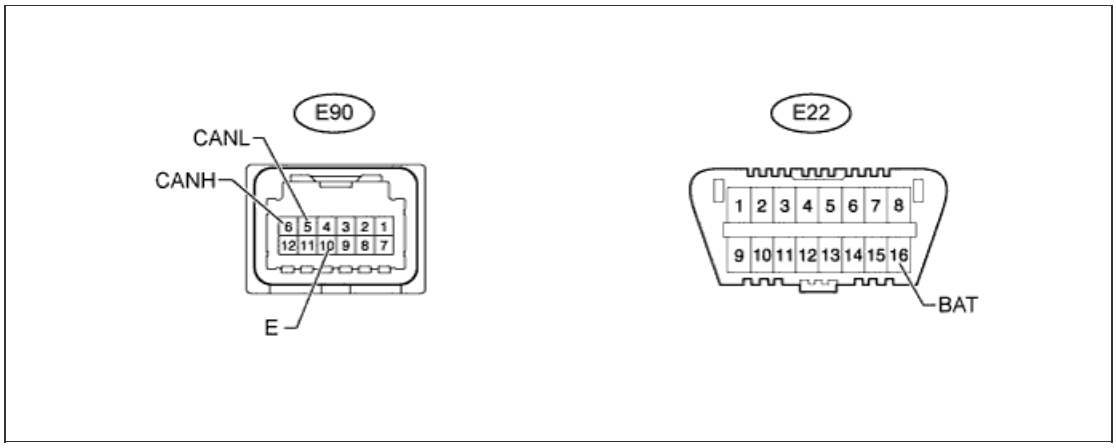



a. Disconnect the K30 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| K30-7 (CANH) - K30-1 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| K30-8 (CANL) - K30-1 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| K30-7 (CANH) - K30-3 (BAT2) | V - R | Engine switch off | 6 kΩ or higher |
| K30-8 (CANL) - K30-3 (BAT2) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK WINDSHIELD WIPER ECU



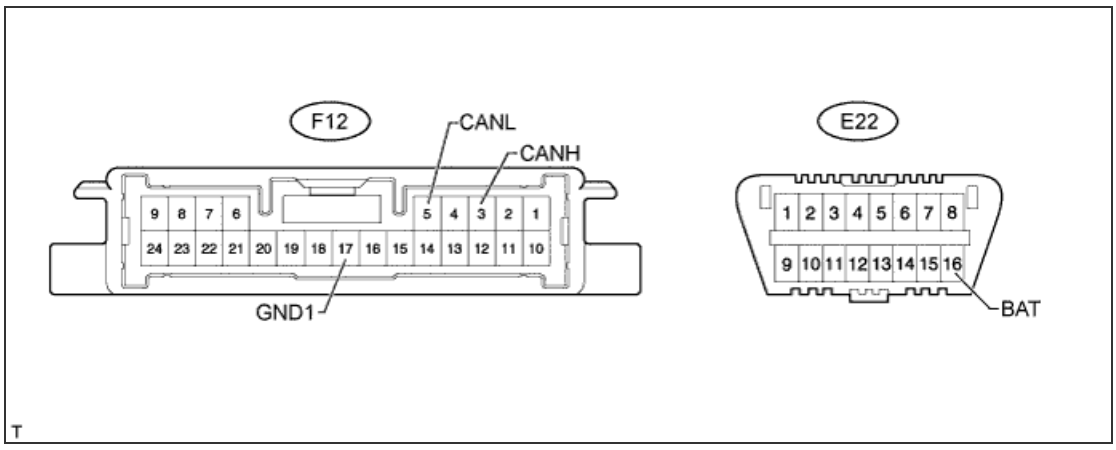

a. Disconnect the E90 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | LG - R | Engine switch off | 54 to 69 Ω |
| E90-6 (CANH) - E90-10 (E) | LG - W-B | Engine switch off | 200 Ω or higher |
| E90-5 (CANL) - E90-10 (E) | R - W-B | Engine switch off | 200 Ω or higher |
| E90-6 (CANH) - E22-16 (BAT) | LG - O | Engine switch off | 6 kΩ or higher |
| E90-5 (CANL) - E22-16 (BAT) | R - O | Engine switch off | 6 kΩ or higher |

## CHECK CLEARANCE WARNING ECU

For vehicles with the LEXUS parking assist-sensor system only.



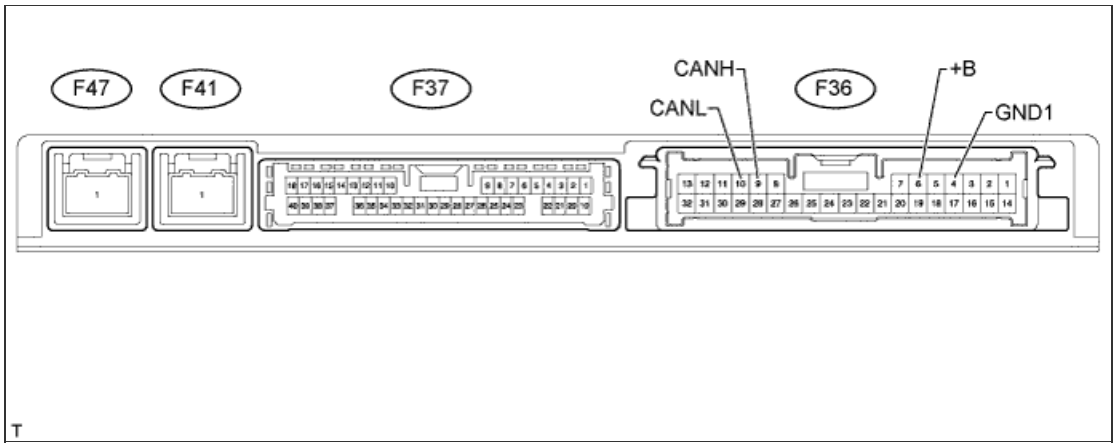

a. Disconnect F12 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F12-3 (CANH) - F12-5 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| F12-3 (CANH) - F12-17 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| F12-5 (CANL) - F12-17 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| F12-3 (CANH) - E22-16 (BAT) | V - O | Engine switch off | 6 kΩ or higher |
| F12-5 (CANL) - E22-16 (BAT) | L - O | Engine switch off | 6 kΩ or higher |

## CHECK PARKING ASSIST ECU

For vehicles with the parking assist monitor system only.



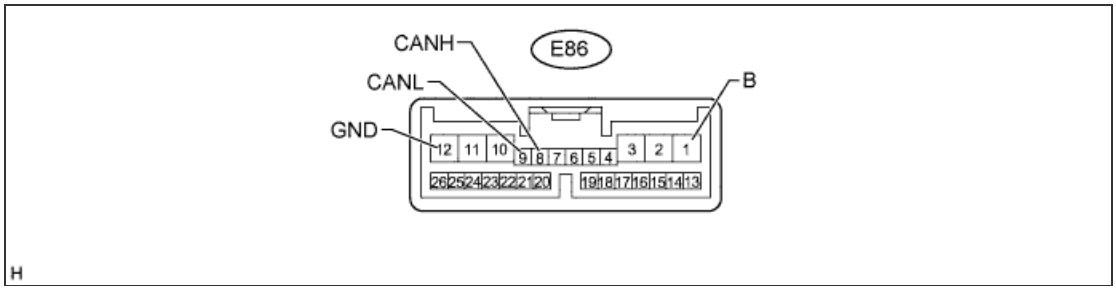

a. Disconnect the F36 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F36-9 (CANH) - F36-10 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| F36-9 (CANH) - F36-4 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| F36-10 (CANL) - F36-4 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| F36-9 (CANH) - F36-6 (+B) | V - L | Engine switch off | 6 kΩ or higher |
| F36-10 (CANL) - F36-6 (+B) | L - L | Engine switch off | 6 kΩ or higher |

## CHECK DISTANCE CONTROL ECU

For vehicles with the dynamic radar cruise control system only.



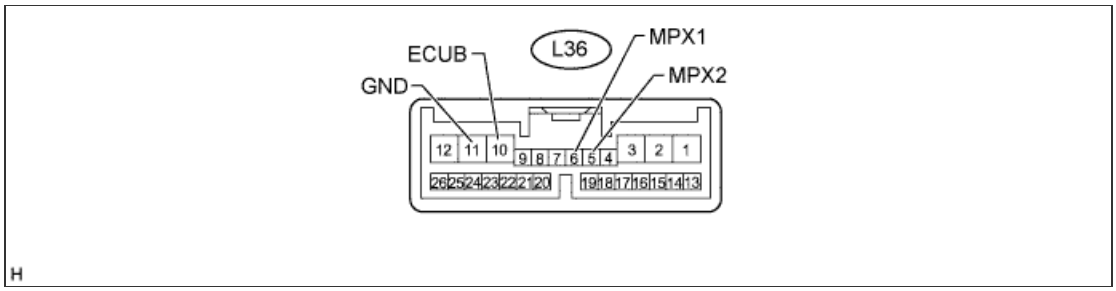

a. Disconnect the E86 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | SB - L | Engine switch off | 54 to 69 Ω |
| E86-8 (CANH) - E86-12 (GND) | SB - BR | Engine switch off | 200 Ω or higher |
| E86-9 (CANL) - E86-12 (GND) | L - BR | Engine switch off | 200 Ω or higher |
| E86-8 (CANH) - E86-1 (B) | SB - R | Engine switch off | 6 kΩ or higher |
| E86-9 (CANL) - E86-1 (B) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK POWER BACK DOOR UNIT (POWER BACK DOOR ECU)

For vehicles with the power back door system only.

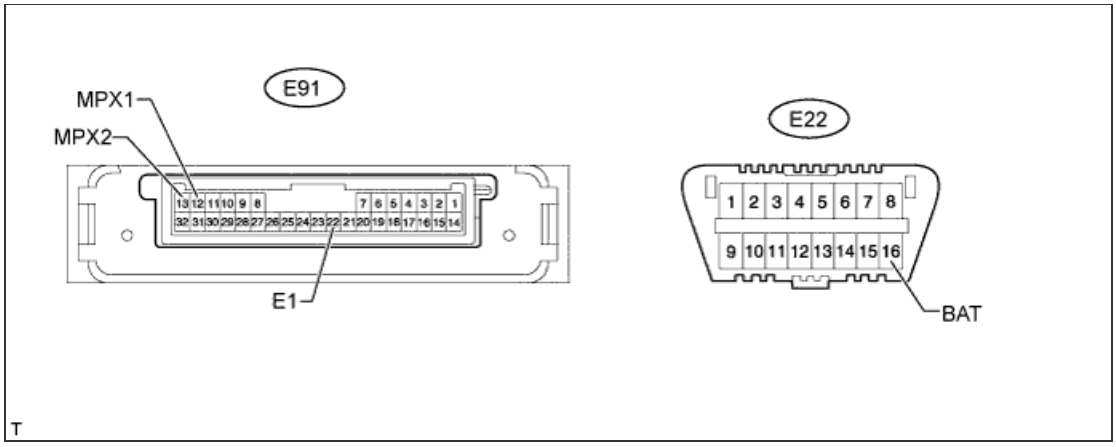



a. Disconnect the L36 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | V - R | Engine switch off | 54 to 69 Ω |
| L36-6 (MPX1) - L36-11 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| L36-5 (MPX2) - L36-11 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| L36-6 (MPX1) - L36-10 (ECUB) | V - R | Engine switch off | 6 kΩ or higher |
| L36-5 (MPX2) - L36-10 (ECUB) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK AFS ECU (HEADLIGHT SWIVEL ECU)

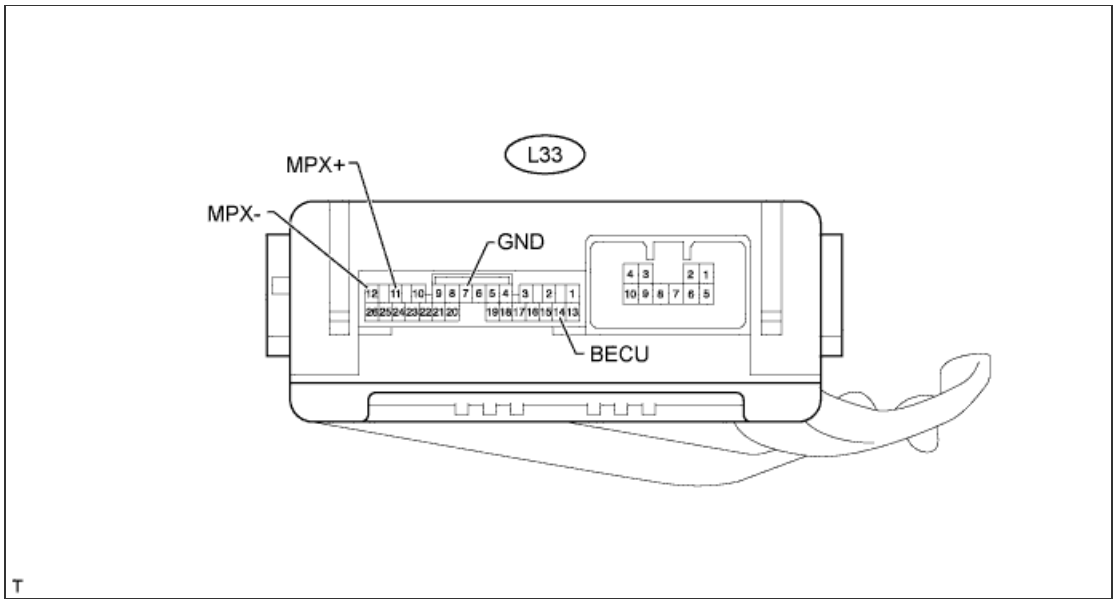



a. Disconnect the E91 unit connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | LG - B | Engine switch off | 54 to 69 Ω |
| E91-12 (MPX1) - E91-22 (E1) | LG - W-B | Engine switch off | 200 Ω or higher |
| E91-13 (MPX2) - E91-22 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| E91-12 (MPX1) - E22-16 (BAT) | LG - O | Engine switch off | 6 kΩ or higher |
| E91-13 (MPX2) - E22-16 (BAT) | B - O | Engine switch off | 6 kΩ or higher |

## CHECK NO. 2 MAIN BODY ECU




a. Disconnect the L33 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | LG - R | Engine switch off | 54 to 69 Ω |
| L33-11 (MPX+) - L33-7 (GND) | LG - W-B | Engine switch off | 200 Ω or higher |
| L33-12 (MPX-) - L33-7 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| L33-11 (MPX+) - L33-14 (BECU) | LG - R | Engine switch off | 6 kΩ or higher |
| L33-12 (MPX-) - L33-14 (BECU) | R - R | Engine switch off | 6 kΩ or higher |

**for Preparation** Click here

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

## DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

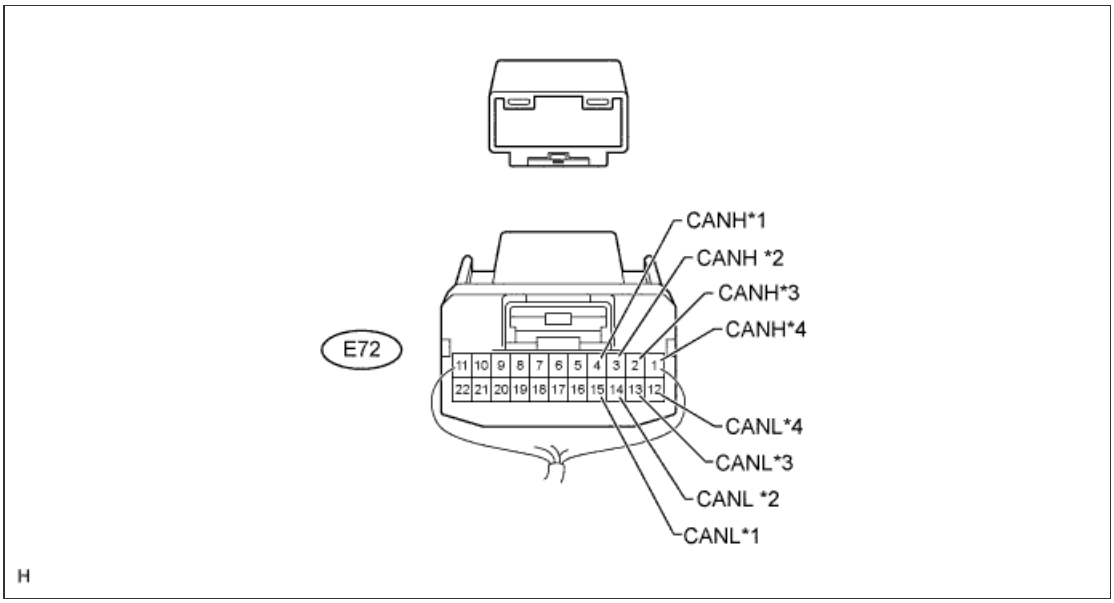
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## JUNCTION CONNECTOR

a. NO. 1 JUNCTION CONNECTOR

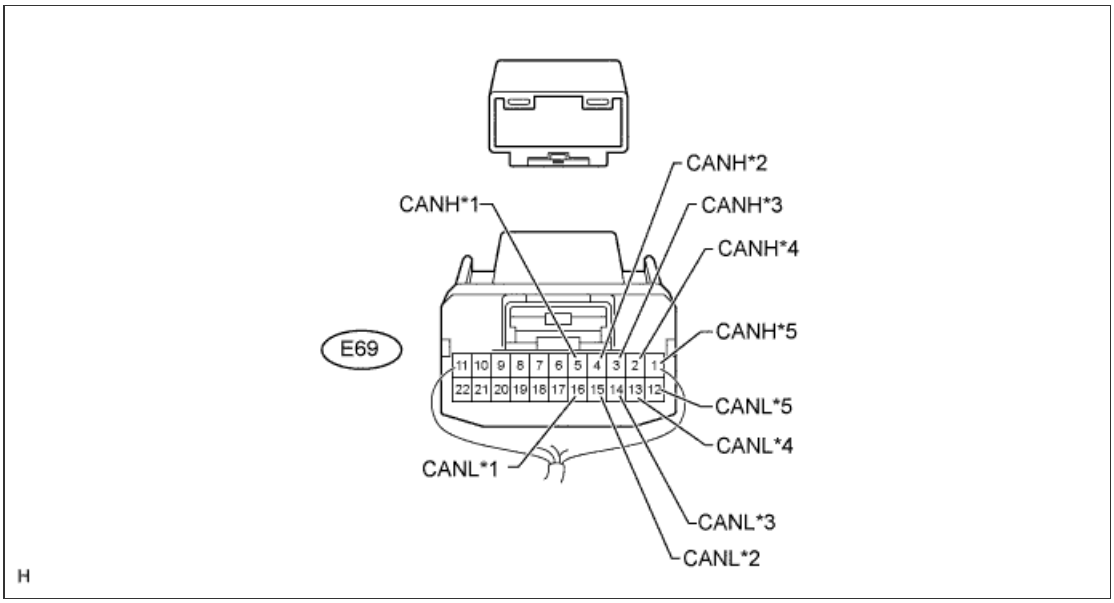



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Center Airbag Sensor | *2 | to AFS ECU |
| *3 | to ECM | *4 | to No. 2 Junction Connector |

| No. 1 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E72-1 (CANH) | Y | No. 2 junction connector |
| E72-12 (CANL) | B | |
| E72-2 (CANH) | P | ECM |
| E72-13 (CANL) | B | |
| E72-3 (CANH) | LG | AFS ECU (headlight swivel ECU) |
| E72-14 (CANL) | B | |
| E72-4 (CANH) | GR | Center airbag sensor |
| E72-15 (CANL) | B | |

b. NO. 2 JUNCTION CONNECTOR

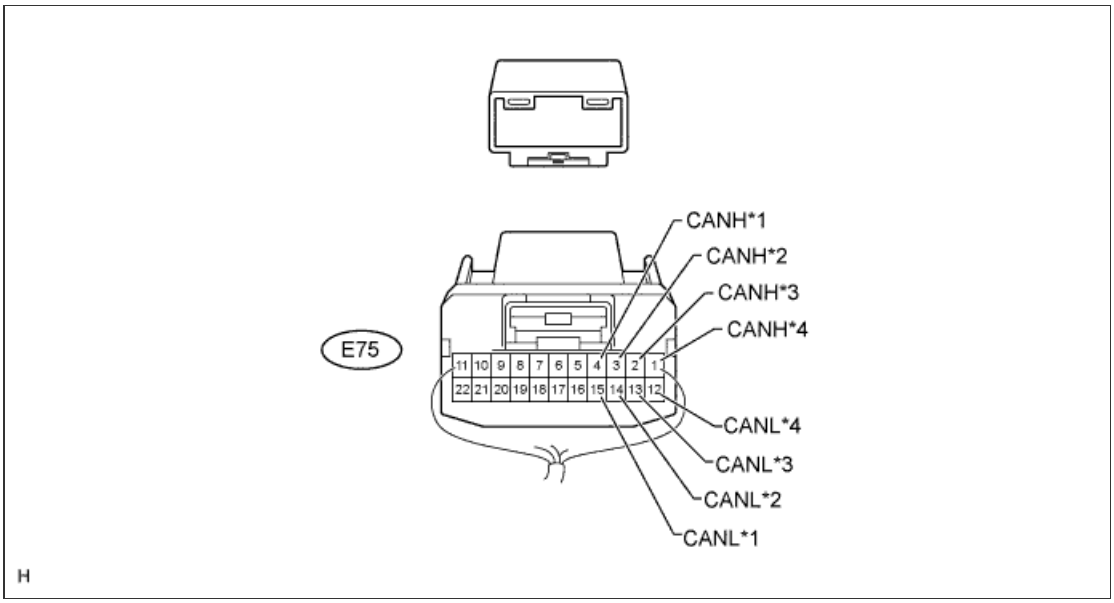



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Air Conditioning Amplifier | *2 | to No. 3 Junction Connector |
| *3 | to Network Gateway ECU: V Bus | *4 | to Display and Navigation Module Display |
| *5 | to No. 1 Junction Connector | - | - |

| No. 2 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E69-1 (CANH) | Y | No. 1 junction connector |
| E69-12 (CANL) | B | |
| E69-2 (CANH) | P | Display and navigation module display |
| E69-13 (CANL) | B | |
| E69-3 (CANH) | BR | Network gateway ECU (V bus) |
| E69-14 (CANL) | B | |
| E69-4 (CANH) | W | No. 3 junction connector |
| E69-15 (CANL) | B | |
| E69-5 (CANH) | G | Air conditioning amplifier |
| E69-16 (CANL) | B | |

c. NO. 3 JUNCTION CONNECTOR

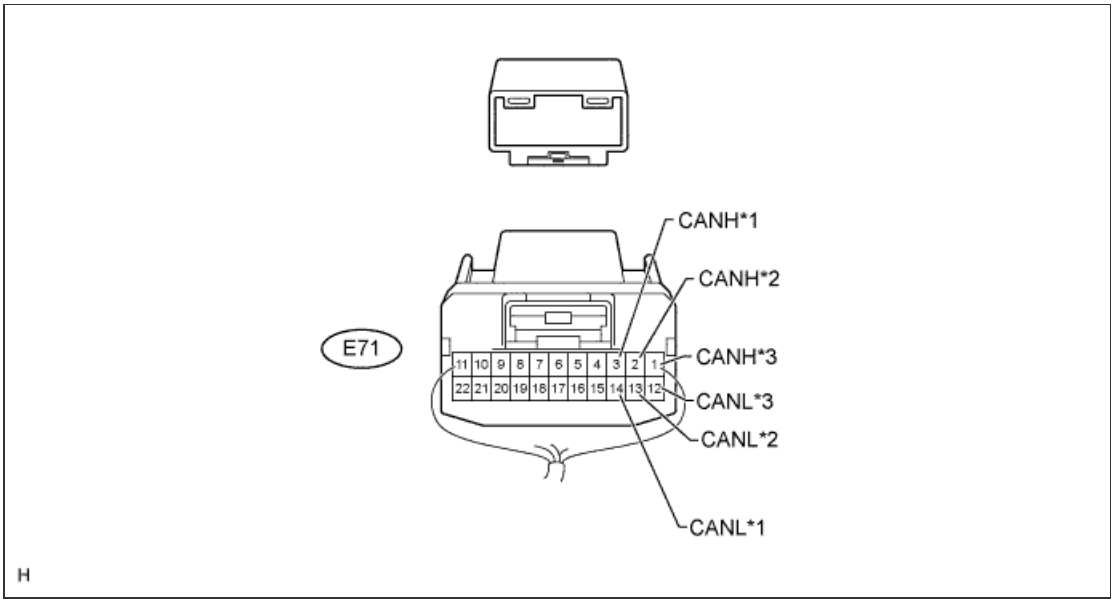



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Main Body ECU: V Bus | *2 | to Combination Meter: V Bus |
| *3 | to DLC3 | *4 | to No. 2 Junction Connector |

| No. 3 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E75-1 (CANH) | W | No. 2 junction connector |
| E75-12 (CANL) | B | |
| E75-2 (CANH) | G | DLC3 |
| E75-13 (CANL) | B | |
| E75-3 (CANH) | V | Combination meter (V bus) |
| E75-14 (CANL) | B | |
| E75-4 (CANH) | SB | Main body ECU (cowl side junction block LH) (V bus) |
| E75-15 (CANL) | B | |

**d.** NO. 4 JUNCTION CONNECTOR

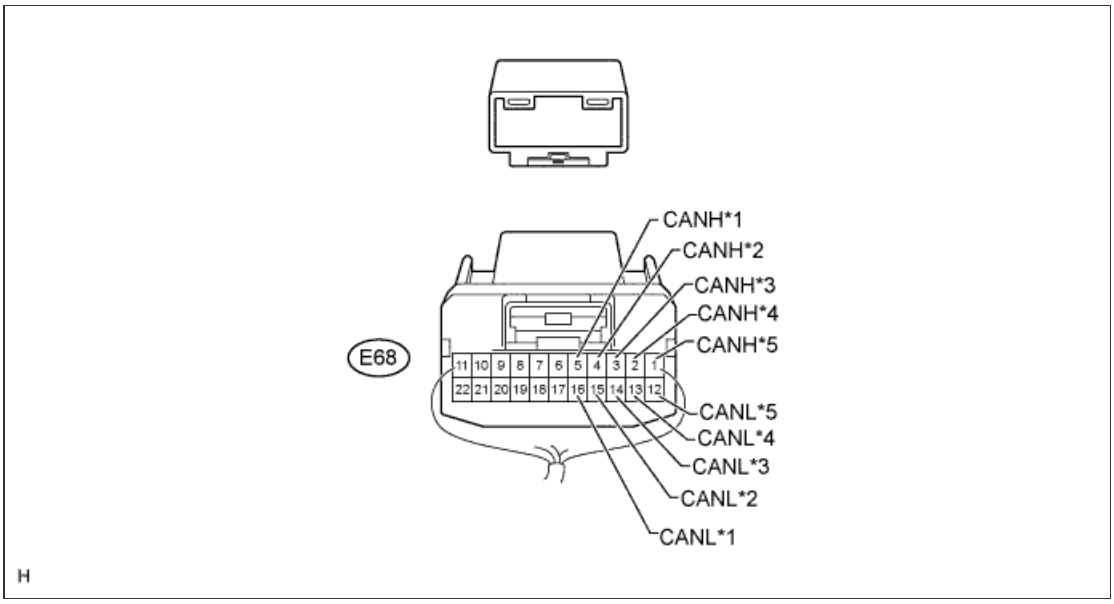



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to 4WD Control ECU | *2 | to Network Gateway ECU: Movement Control Bus |
| *3 | to No. 5 Junction Connector | - | - |

| No. 4 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E71-1 (CANH) | W | No. 5 junction connector |
| E71-12 (CANL) | L | |
| E71-2 (CANH) | SB | Network gateway ECU (movement control bus) |
| E71-13 (CANL) | L | |
| E71-3 (CANH) | P | 4WD control ECU |
| E71-14 (CANL) | L | |

e. NO. 5 JUNCTION CONNECTOR



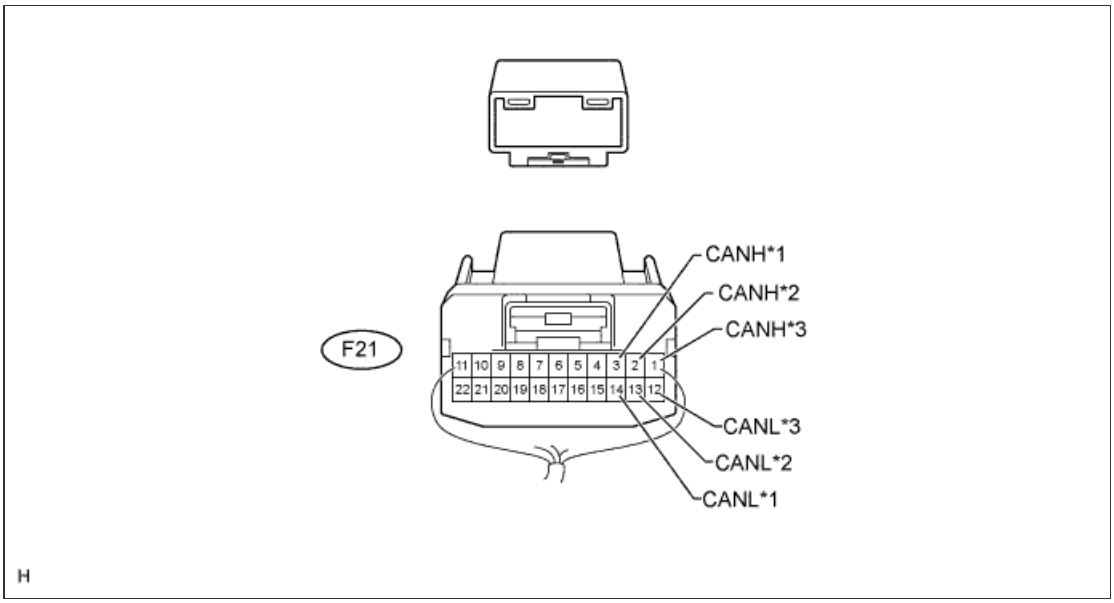

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Seat Belt Control ECU (w/ Pre-Crash Safety System) | *2 | to Display Control ECU (w/ Dynamic Radar Cruise Control System) |
| *3 | to Yaw Rate Sensor | *4 | to No. 6 Junction Connector |
| *5 | to No. 4 Junction Connector | - | - |

| No. 5 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E68-1 (CANH) | W | No. 4 junction connector |
| E68-12 (CANL) | L | |
| E68-2 (CANH) | Y | No. 6 junction connector |
| E68-13 (CANL) | L | |
| E68-3 (CANH) | BR | Yaw rate sensor |
| E68-14 (CANL) | L | |
| E68-4 (CANH)*1 | SB | Distance control ECU |
| E68-15 (CANL)*1 | L | |
| E68-5 (CANH)*2 | G | Seat belt control ECU |
| E68-16 (CANL)*2 | L | |

*1: w/ Dynamic Radar Cruise Control System
*2: w/ Pre-Crash Safety System

f. NO. 6 JUNCTION CONNECTOR



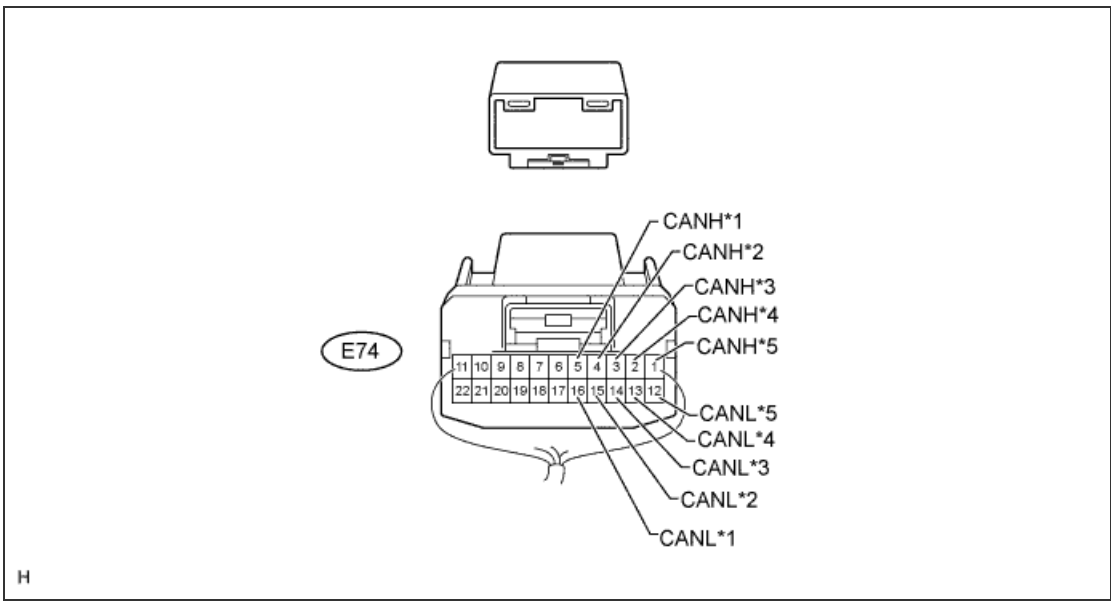

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to No. 5 Junction Connector | *2 | to No. 7 Junction Connector |
| *3 | • to Clearance Warning ECU (w/ LEXUS Parking Assist-sensor System)<br>• to Parking Assist ECU (w/o Parking Assist Monitor System) | - | - |

| No. 6 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| F21-1 (CANH)*1 | V | Clearance warning ECU |
| F21-12 (CANL)*1 | L | |
| F21-1 (CANH)*2 | V | Parking assist ECU |
| F21-12 (CANL)*2 | L | |
| F21-2 (CANH) | Y | No. 7 junction connector |
| F21-13 (CANL) | L | |
| F21-3 (CANH) | Y | No. 5 junction connector |
| F21-14 (CANL) | L | |

*1: w/ LEXUS Parking Assist-sensor System
*2: w/ Parking Assist Monitor System

g. NO. 7 JUNCTION CONNECTOR

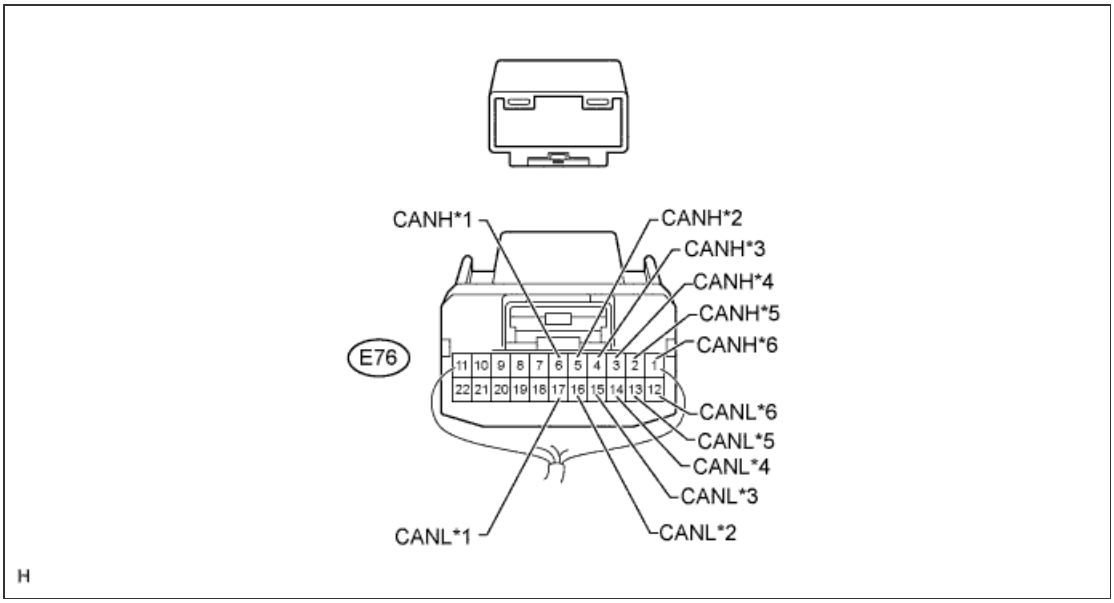


**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Skid Control ECU | *2 | to Steering Angle Sensor |
| *3 | to Steering Control ECU | *4 | to No. 6 Junction Connector |
| *5 | to No. 1 CAN Junction Connector | - | - |

| No. 7 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E74-1 (CANH) | W | No. 1 CAN junction connector |
| E74-12 (CANL) | L | |
| E74-2 (CANH) | Y | No. 6 junction connector |
| E74-13 (CANL) | L | |
| E74-3 (CANH) | LG | Steering control ECU |
| E74-14 (CANL) | L | |
| E74-4 (CANH) | GR | Steering angle sensor |
| E74-15 (CANL) | L | |
| E74-5 (CANH) | V | Master cylinder solenoid (skid control ECU) |
| E74-16 (CANL) | L | |

h. NO. 8 JUNCTION CONNECTOR

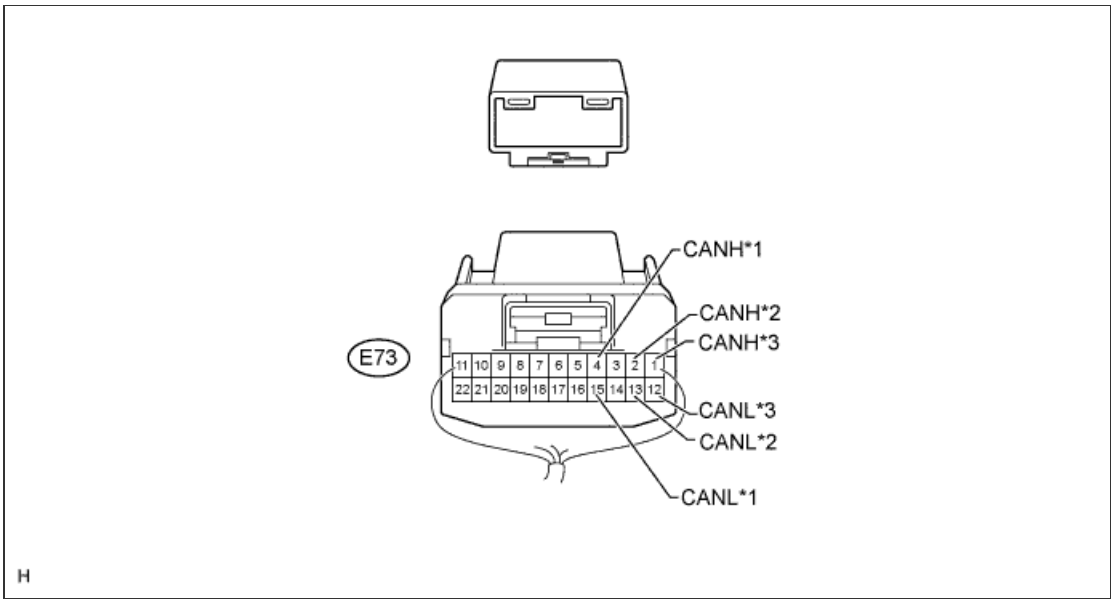



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Main Body ECU: MS Bus | *2 | to Outer Mirror Control ECU |
| *3 | to Position Control ECU and Switch | *4 | to Multiplex Tilt and Telescopic ECU |
| *5 | to Certification ECU | *6 | to No. 2 CAN Junction Connector |

| No. 8 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E76-1 (CANH) | W | No. 2 CAN junction connector |
| E76-12 (CANL) | R | |
| E76-2 (CANH) | LG | Certification ECU (smart key ECU) |
| E76-13 (CANL) | R | |
| E76-3 (CANH) | P | Multiplex tilt and telescopic ECU |
| E76-14 (CANL) | R | |
| E76-4 (CANH) | V | Position control ECU and switch |
| E76-15 (CANL) | R | |
| E76-5 (CANH) | BR | Outer mirror control ECU |
| E76-16 (CANL) | R | |
| E76-6 (CANH) | GR | Main body ECU (cowl side junction block LH) (MS bus) |
| E76-17 (CANL) | R | |

i. NO. 9 JUNCTION CONNECTOR

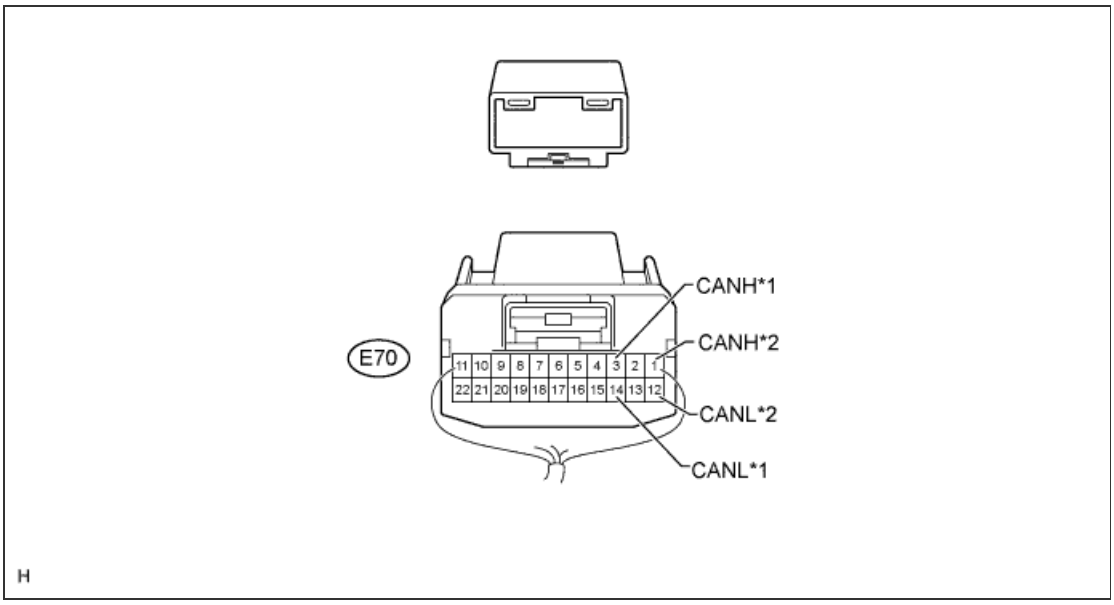



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Windshield Wiper ECU | *2 | to No. 2 CAN Junction Connector |
| *3 | to No. 10 Junction Connector | - | - |

| No. 9 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E73-1 (CANH) | W | No. 10 junction connector |
| E73-12 (CANL) | R | |
| E73-2 (CANH) | Y | No. 2 CAN junction connector |
| E73-13 (CANL) | R | |
| E73-4 (CANH) | LG | Windshield wiper ECU |
| E73-15 (CANL) | R | |

j. NO. 10 JUNCTION CONNECTOR

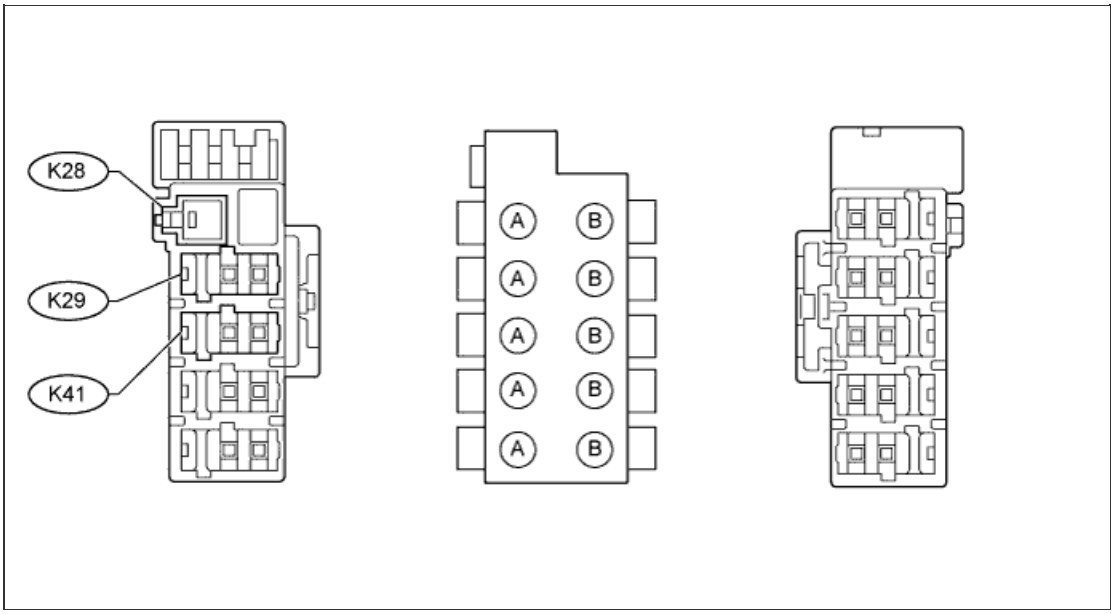



**Text in Illustration**

*1 to Combination Meter: MS Bus *2 to No. 9 Junction Connector

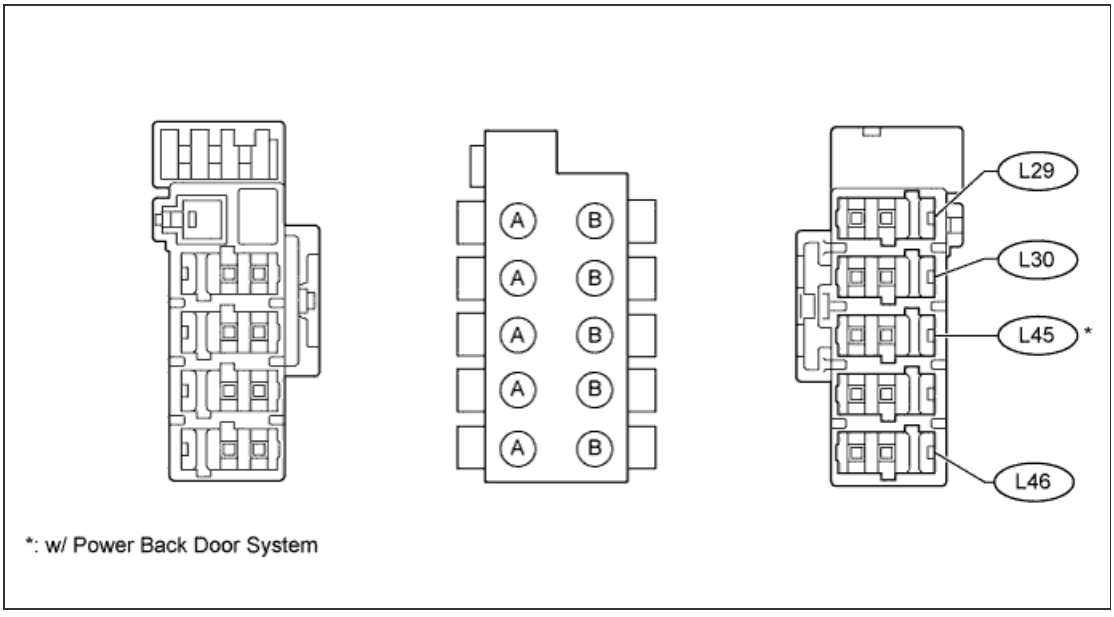
| No. 10 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E70-1 (CANH) | W | No. 9 Junction Connector |
| E70-12 (CANL) | R | |
| E70-3 (CANH) | LG | Combination Meter (MS bus) |
| E70-14 (CANL) | R | |

k. NO. 1 CAN JUNCTION CONNECTOR




| Junction Connector A Side | Wiring Color (CANH Side) | Wiring Color (CANL Side) |
|---|---|---|
| Body ground (K28) | - | W-B |
| No. 7 junction connector (K29) | W | L |
| Suspension control ECU (K41) | V | L |

l. NO. 2 CAN JUNCTION CONNECTOR



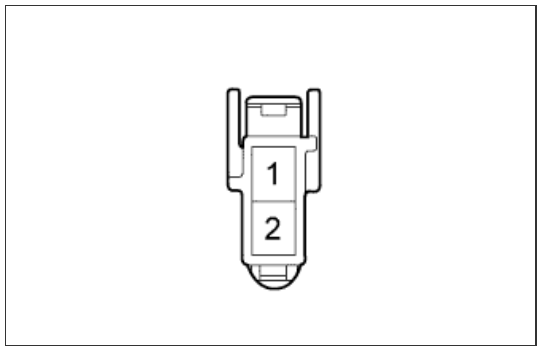

| Junction Connector B Side | Wiring Color (CANH Side) | Wiring Color (CANL Side) |
|---|---|---|

| | | |
|---|---|---|
| No. 8 junction connector (L29) | W | R |
| No. 9 junction connector (L30) | Y | R |
| Power back door ECU (L45)* | V | R |
| No. 2 main body ECU (L46) | LG | R |

*: w/ Power Back Door System

**TERMINALS OF CONNECTORS FOR JUNCTION CONNECTOR (CAN JUNCTION CONNECTOR)**

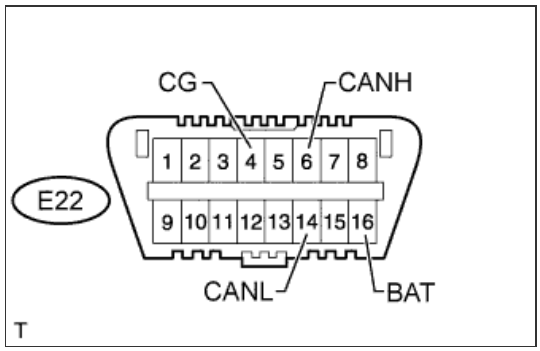
| Terminal No. | Symbol |
|---|---|
| 1 | CANH |
| 2 | CANL |




**CHECK DLC3**

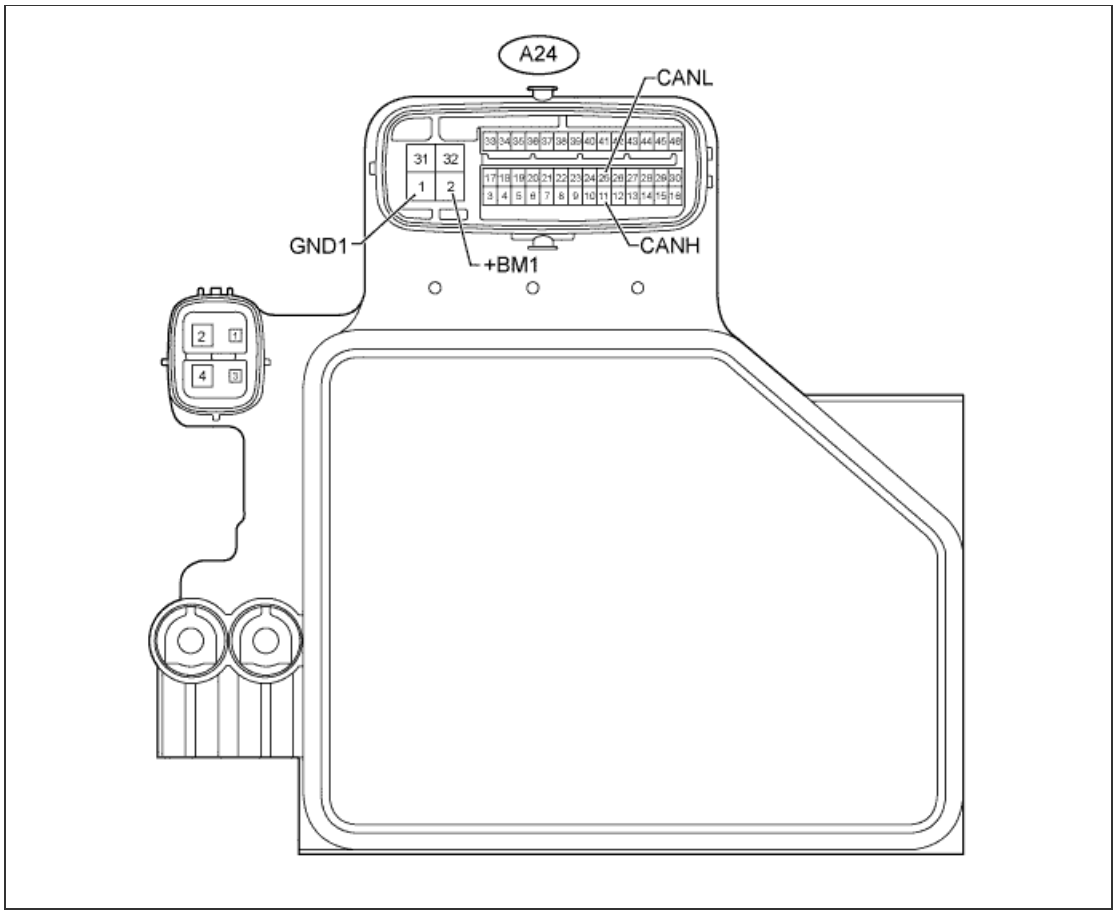
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

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




| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | G - B | Engine switch off | 54 to 69 Ω |
| E22-6 (CANH) - E22-4 (CG) | G - W-B | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | B - W-B | Engine switch off | 200 Ω or higher |
| E22-6 (CANH) - E22-16 (BAT) | G - BE | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | B - BE | Engine switch off | 6 kΩ or higher |

**CHECK MASTER CYLINDER SOLENOID (SKID CONTROL ECU)**

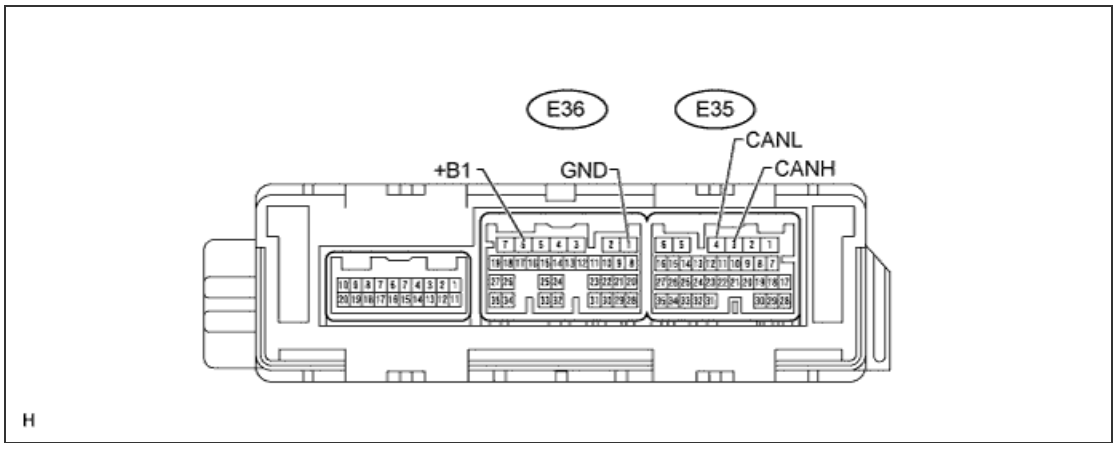



a. Disconnect the A24 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| A24-11 (CANH) - A24-1 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| A24-25 (CANL) - A24-1 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| A24-11 (CANH) - A24-2 (+BM1) | V - B | Engine switch off | 6 kΩ or higher |
| A24-25 (CANL) - A24-2 (+BM1) | L - B | Engine switch off | 6 kΩ or higher |

## CHECK AIR CONDITIONING AMPLIFIER



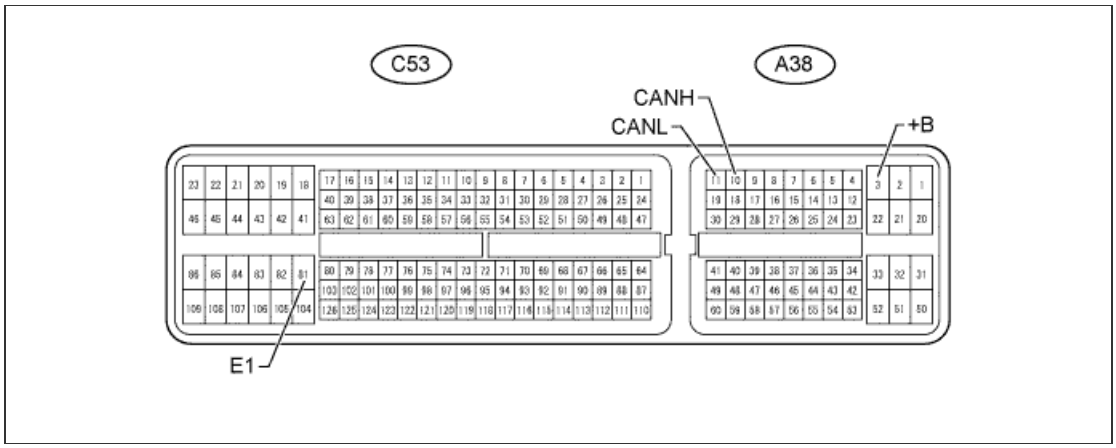

a. Disconnect the E35 and E36 amplifier connectors.

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

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

| | | | |
|---|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | G - B | Engine switch off | 54 to 69 Ω |
| E35-3 (CANH) - E36-1 (GND) | G - W-B | Engine switch off | 200 Ω or higher |
| E35-4 (CANL) - E36-1 (GND) | B - W-B | Engine switch off | 200 Ω or higher |
| E35-3 (CANH) - E36-6 (+B1) | G - R | Engine switch off | 6 kΩ or higher |
| E35-4 (CANL) - E36-6 (+B1) | B - R | Engine switch off | 6 kΩ or higher |

## CHECK ECM

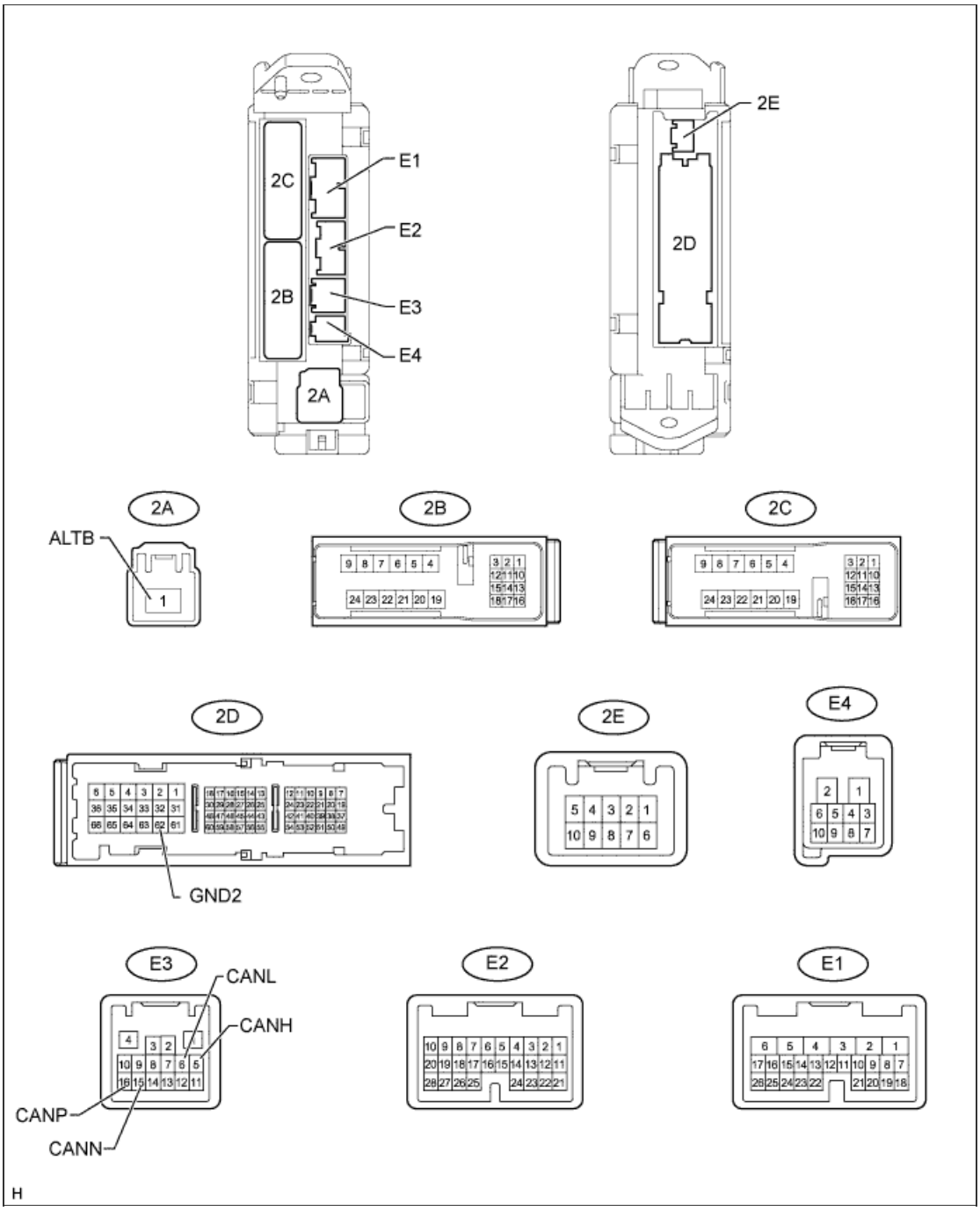



a. Disconnect the A38 and C53 ECM connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A38-10 (CANH) - A38-11 (CANL) | P - B | Engine switch off | 108 to 132 Ω |
| A38-10 (CANH) - C53-81 (E1) | P - W-B | Engine switch off | 200 Ω or higher |
| A38-11 (CANL) - C53-81 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| A38-10 (CANH) - A38-3 (+B) | P - B | Engine switch off | 6 kΩ or higher |
| A38-11 (CANL) - A38-3 (+B) | B - B | Engine switch off | 6 kΩ or higher |

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




a. Disconnect the E3 ECU connector.

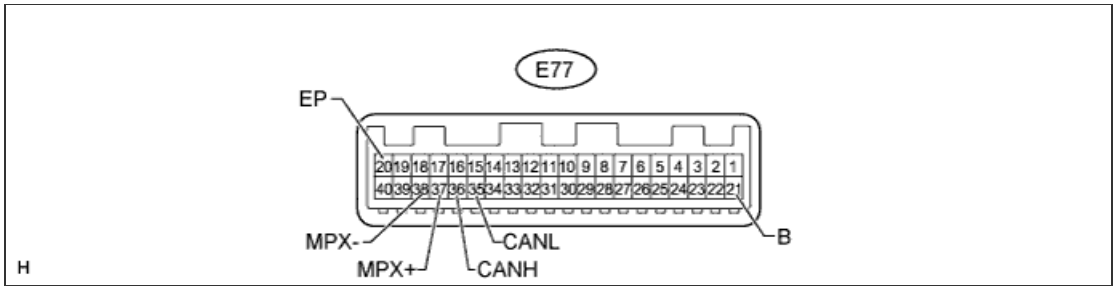
b. Disconnect the 2A and 2D junction connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E3-5 (CANH) - E3-6 (CANL)*1 | SB - B | Engine switch off | 54 to 69 Ω |
| E3-5 (CANH) - 2D-62 (GND2)*1 | SB - W-B | Engine switch off | 200 Ω or higher |
| E3-6 (CANL) - 2D-62 (GND2)*1 | B - W-B | Engine switch off | 200 Ω or higher |
| E3-5 (CANH) - 2A-1 (ALTB)*1 | SB - B | Engine switch off | 6 kΩ or higher |
| E3-6 (CANL) - 2A-1 (ALTB)*1 | B - B | Engine switch off | 6 kΩ or higher |
| E3-16 (CANP) - E3-15 (CANN)*2 | GR - R | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - 2D-62 (GND2)*2 | GR - W-B | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - 2D-62 (GND2)*2 | R - W-B | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - 2A-1 (ALTB)*2 | GR - B | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - 2A-1 (ALTB)*2 | R - B | Engine switch off | 6 kΩ or higher |

*1: For V bus
*2: For MS bus

## CHECK COMBINATION METER



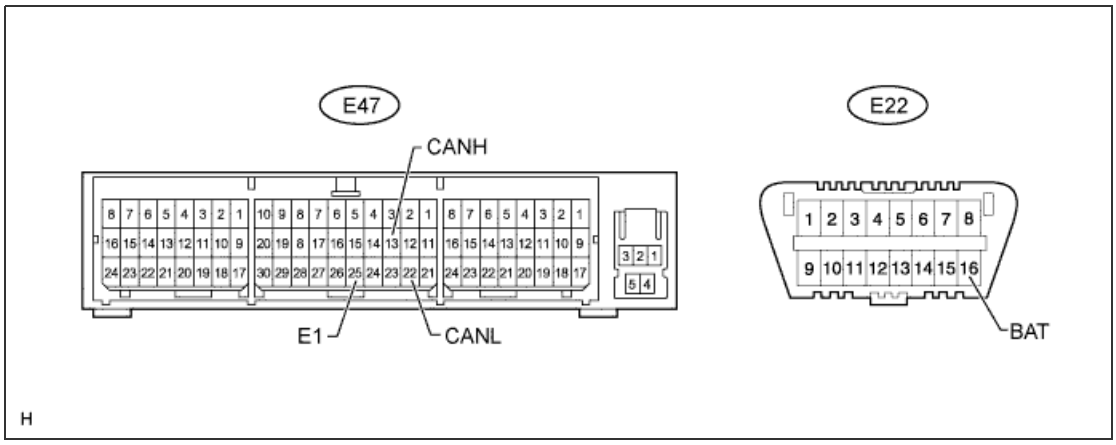

a. Disconnect the E77 meter connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E77-36 (CANH) - E77-35 (CANL)*1 | V - B | Engine switch off | 108 to 132 Ω |
| E77-36 (CANH) - E77-20 (EP)*1 | V - W-B | Engine switch off | 200 Ω or higher |
| E77-35 (CANL) - E77-20 (EP)*1 | B - W-B | Engine switch off | 200 Ω or higher |
| E77-36 (CANH) - E77-21 (B)*1 | V - R | Engine switch off | 6 kΩ or higher |
| E77-35 (CANL) - E77-21 (B)*1 | B - R | Engine switch off | 6 kΩ or higher |
| E77-37 (MPX+) - E77-38 (MPX-)*2 | LG - R | Engine switch off | 108 to 132 Ω |
| E77-37 (MPX+) - E77-20 (EP)*2 | LG - W-B | Engine switch off | 200 Ω or higher |
| E77-38 (MPX-) - E77-20 (EP)*2 | R - W-B | Engine switch off | 200 Ω or higher |
| E77-37 (MPX+) - E77-21 (B)*2 | LG - R | Engine switch off | 6 kΩ or higher |
| E77-38 (MPX-) - E77-21 (B)*2 | R - R | Engine switch off | 6 kΩ or higher |

*1: For V bus
*2: For MS bus

## CHECK CENTER AIRBAG SENSOR




a. Disconnect the E47 sensor connector.

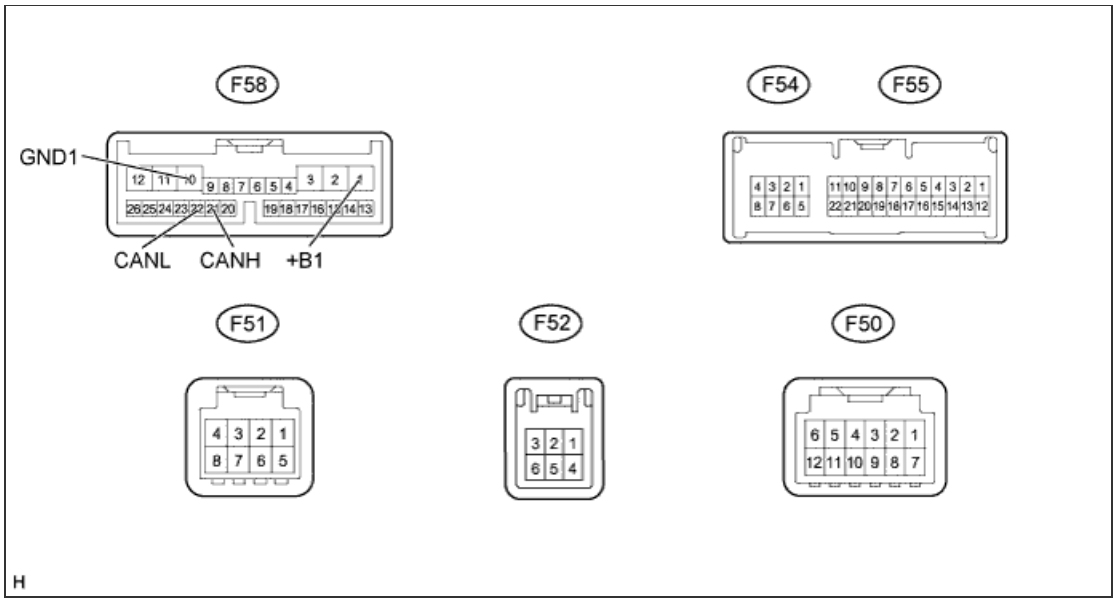
b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | GR - B | Engine switch off | 54 to 69 Ω |
| E47-13 (CANH) - E47-25 (E1) | GR - W-B | Engine switch off | 200 Ω or higher |

| | | | |
|---|---|---|---|
| E47-22 (CANL) - E47-25 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| E47-13 (CANH) - E22-16 (BAT) | GR - BE | Engine switch off | 6 kΩ or higher |
| E47-22 (CANL) - E22-16 (BAT) | B - BE | Engine switch off | 6 kΩ or higher |

## CHECK DISPLAY AND NAVIGATION MODULE DISPLAY

For vehicles with the navigation system only.

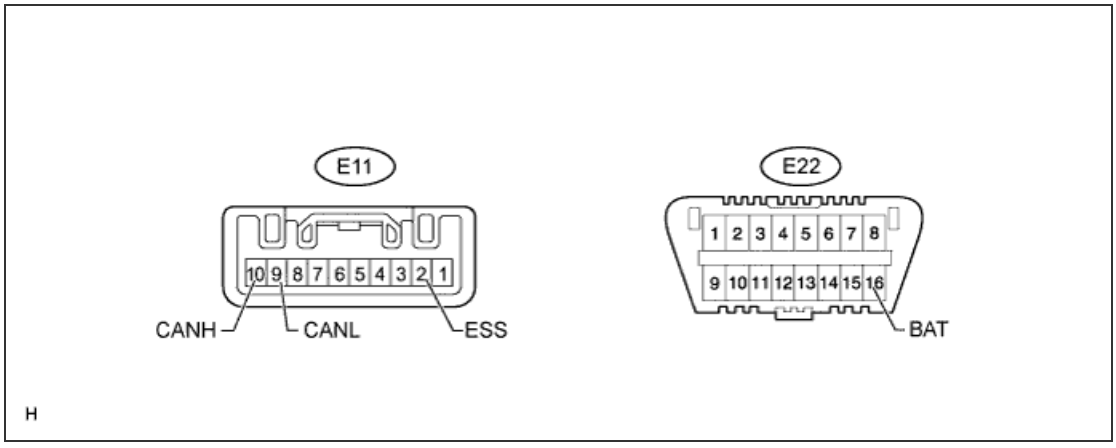



a. Disconnect the F58 display connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F58-21 (CANH) - F58-22 (CANL) | P - B | Engine switch off | 54 to 69 Ω |
| F58-21 (CANH) - F58-10 (GND1) | P - W-B | Engine switch off | 200 Ω or higher |
| F58-22 (CANL) - F58-10 (GND1) | B - W-B | Engine switch off | 200 Ω or higher |
| F58-21 (CANH) - F58-1 (+B1) | P - R | Engine switch off | 6 kΩ or higher |
| F58-22 (CANL) - F58-1 (+B1) | B - R | Engine switch off | 6 kΩ or higher |

## CHECK STEERING ANGLE SENSOR



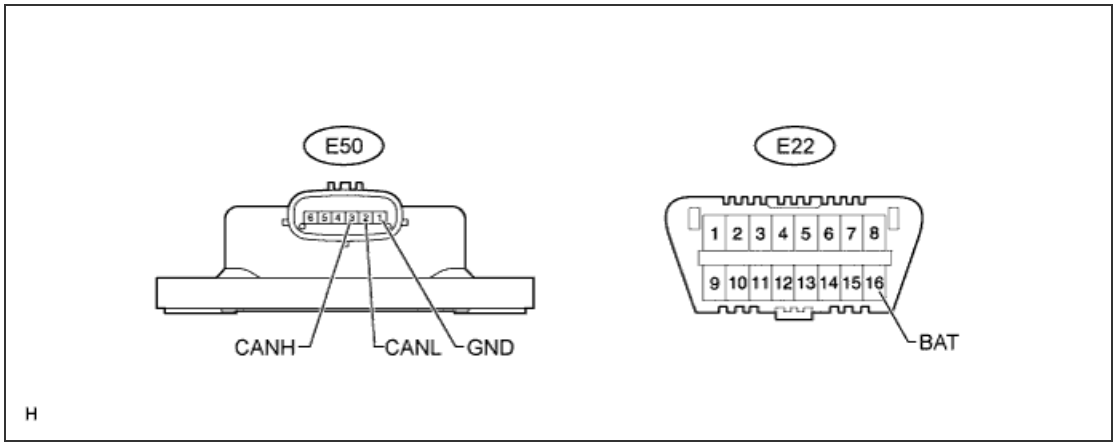

a. Disconnect the E11 sensor connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E11-10 (CANH) - E11-9 | | | |

| | | | |
|---|---|---|---|
| (CANL) | GR - L | Engine switch off | 54 to 69 Ω |
| E11-10 (CANH) - E11-2 (ESS) | GR - W-B | Engine switch off | 200 Ω or higher |
| E11-9 (CANL) - E11-2 (ESS) | L - W-B | Engine switch off | 200 Ω or higher |
| E11-10 (CANH) - E22-16 (BAT) | GR - BE | Engine switch off | 6 kΩ or higher |
| E11-9 (CANL) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK YAW RATE SENSOR



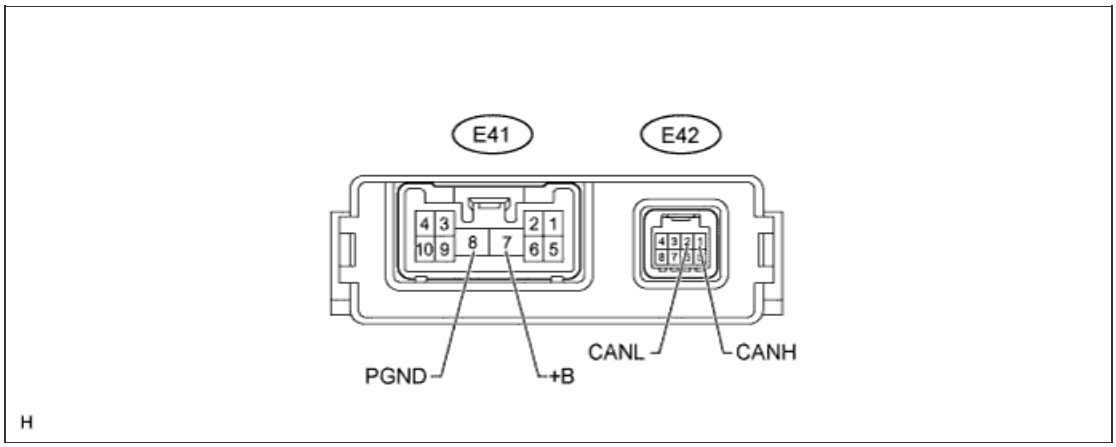

a. Disconnect the E50 sensor connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | BR - L | Engine switch off | 54 to 69 Ω |
| E50-3 (CANH) - E50-1 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| E50-2 (CANL) - E50-1 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| E50-3 (CANH) - E22-16 (BAT) | BR - BE | Engine switch off | 6 kΩ or higher |
| E50-2 (CANL) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK SEAT BELT CONTROL ECU

For vehicles with the pre-crash safety system only.



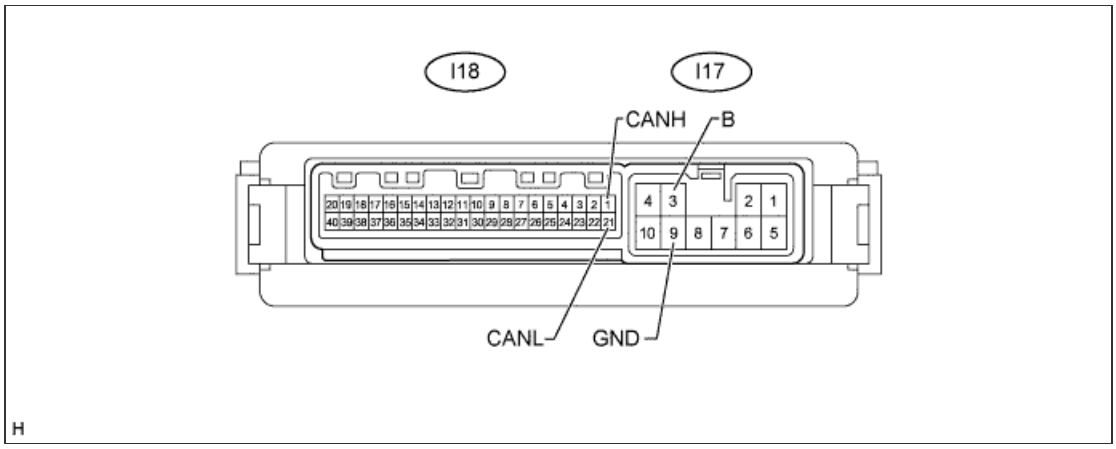

a. Disconnect the E41 and E42 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | G - L | Engine switch off | 54 to 69 Ω |
| E42-1 (CANH) - E41-8 (PGND) | G - W-B | Engine switch off | 200 Ω or higher |
| E42-2 (CANL) - E41-8 (PGND) | L - W-B | Engine switch off | 200 Ω or higher |
| E42-1 (CANH) - E41-7 (+B) | G - R | Engine switch off | 6 kΩ or higher |

| | | | |
|---|---|---|---|
| E42-2 (CANL) - E41-7 (+B) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK OUTER MIRROR CONTROL ECU

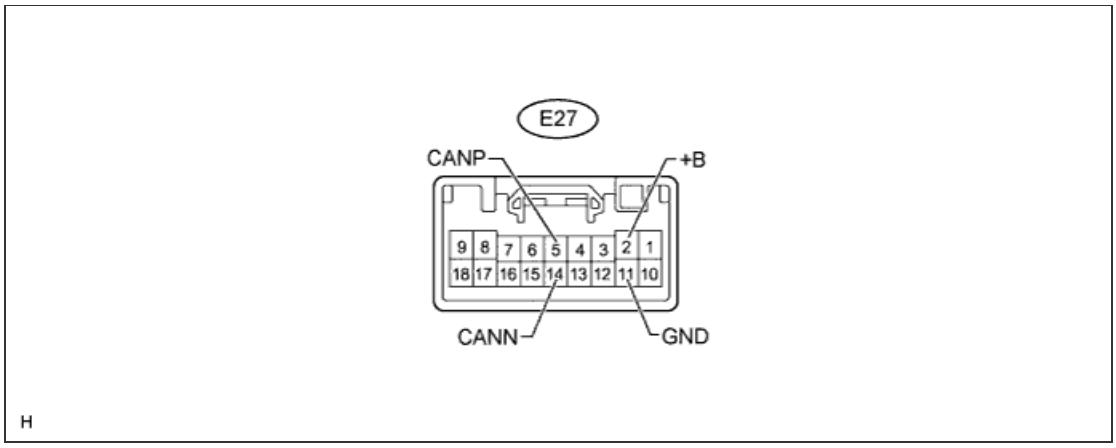



a. Disconnect the I18 and I17 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| I18-1 (CANH) - I18-21 (CANL) | BR - R | Engine switch off | 54 to 69 Ω |
| I18-1 (CANH) - I17-9 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| I18-21 (CANL) - I17-9 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| I18-1 (CANH) - I17-3 (B) | BR - R | Engine switch off | 6 kΩ or higher |
| I18-21 (CANL) - I17-3 (B) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK MULTIPLEX TILT AND TELESCOPIC ECU

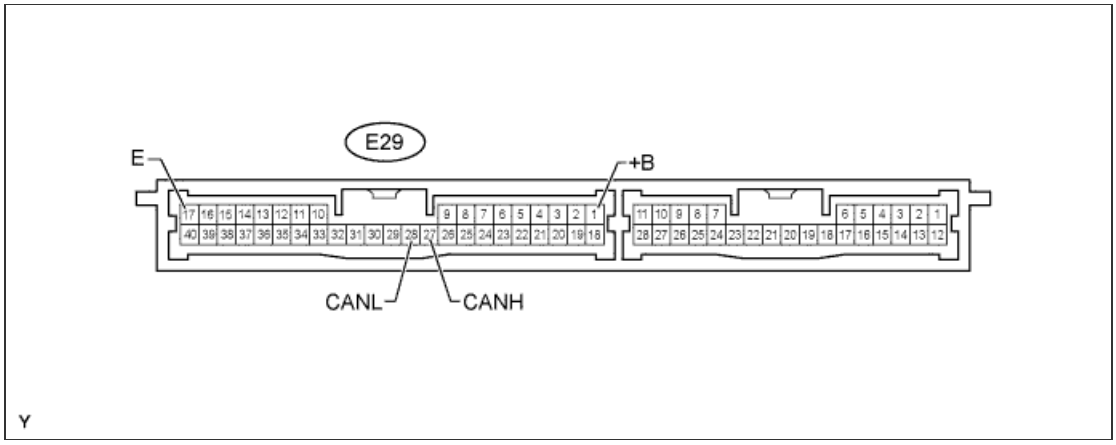



a. Disconnect the E27 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | P - R | Engine switch off | 54 to 69 Ω |
| E27-5 (CANP) - E27-11 (GND) | P - W-B | Engine switch off | 200 Ω or higher |
| E27-14 (CANN) - E27-11 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| E27-5 (CANP) - E27-2 (+B) | P - L | Engine switch off | 6 kΩ or higher |
| E27-14 (CANN) - E27-2 (+B) | R - L | Engine switch off | 6 kΩ or higher |

## CHECK CERTIFICATION ECU (SMART KEY ECU)

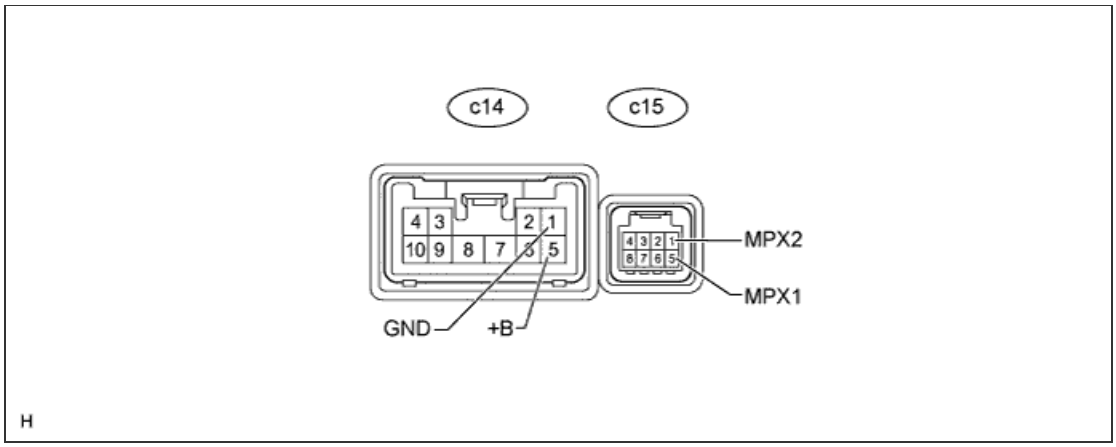



a. Disconnect the E29 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | LG - R | Engine switch off | 54 to 69 Ω |
| E29-27 (CANH) - E29-17 (E) | LG - W-B | Engine switch off | 200 Ω or higher |
| E29-28 (CANL) - E29-17 (E) | R - W-B | Engine switch off | 200 Ω or higher |
| E29-27 (CANH) - E29-1 (+B) | LG - B | Engine switch off | 6 kΩ or higher |
| E29-28 (CANL) - E29-1 (+B) | R - B | Engine switch off | 6 kΩ or higher |

## CHECK POSITION CONTROL ECU AND SWITCH

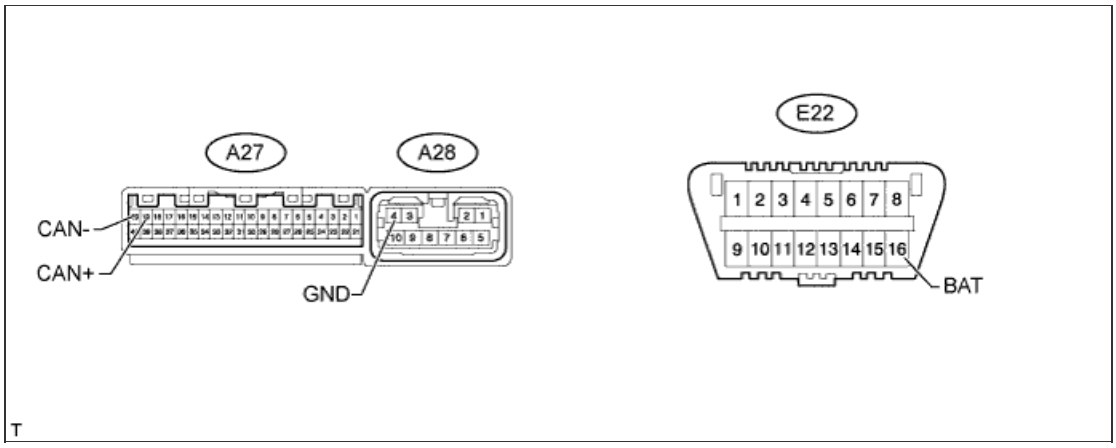



a. Disconnect the c14 and c15 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| c15-5 (MPX1) - c15-1 (MPX2) | V - R | Engine switch off | 54 to 69 Ω |
| c15-5 (MPX1) - c14-1 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| c15-1 (MPX2) - c14-1 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| c15-5 (MPX1) - c14-5 (+B) | V - L | Engine switch off | 6 kΩ or higher |
| c15-1 (MPX2) - c14-5 (+B) | R - L | Engine switch off | 6 kΩ or higher |

## CHECK 4WD CONTROL ECU

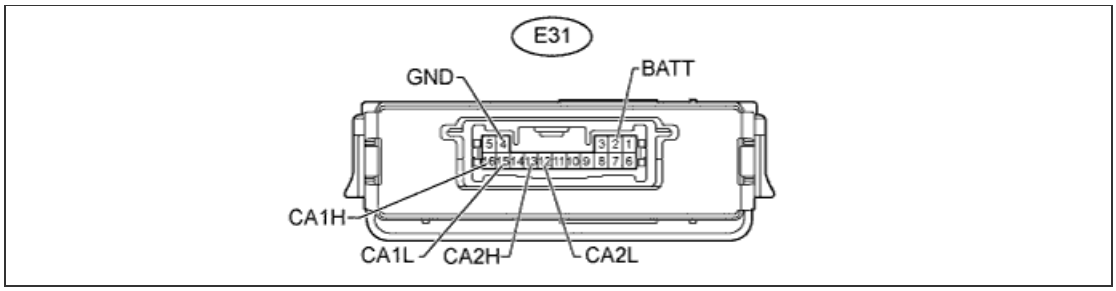



a. Disconnect the A27 and A28 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A27-19 (CAN+) - A27-20 (CAN-) | P - L | Engine switch off | 54 to 69 Ω |
| A27-19 (CAN+) - A28-4 (GND) | P - W | Engine switch off | 200 Ω or higher |
| A27-20 (CAN-) - A28-4 (GND) | L - W | Engine switch off | 200 Ω or higher |
| A27-19 (CAN+) - E22-16 (BAT) | P - BE | Engine switch off | 6 kΩ or higher |
| A27-20 (CAN-) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK NETWORK GATEWAY ECU



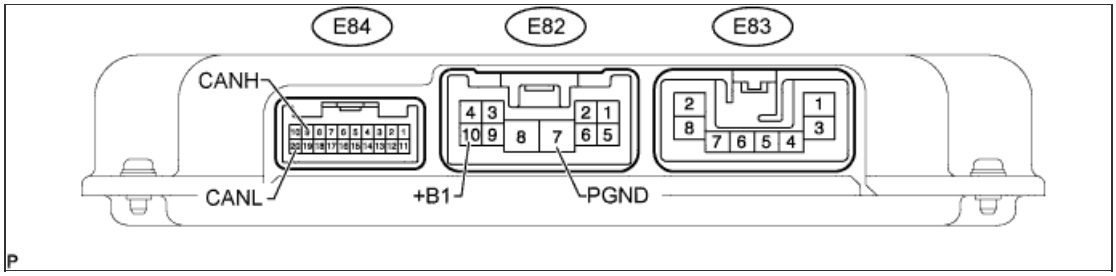

a. Disconnect the E31 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L)*1 | BR - B | Engine switch off | 54 to 69 Ω |
| E31-16 (CA1H) - E31-4 (GND)*1 | BR - W-B | Engine switch off | 200 Ω or higher |
| E31-15 (CA1L) - E31-4 (GND)*1 | B - W-B | Engine switch off | 200 Ω or higher |
| E31-16 (CA1H) - E31-2 (BATT)*1 | BR - R | Engine switch off | 6 kΩ or higher |
| E31-15 (CA1L) - E31-2 (BATT)*1 | B - R | Engine switch off | 6 kΩ or higher |
| E31-13 (CA2H) - E31-12 (CA2L)*2 | SB - L | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E31-4 (GND)*2 | SB - W-B | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E31-4 (GND)*2 | L - W-B | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E31-2 (BATT)*2 | SB - R | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E31-2 (BATT)*2 | L - R | Engine switch off | 6 kΩ or higher |

*1: For V bus
*2: For movement control bus

## CHECK STEERING CONTROL ECU

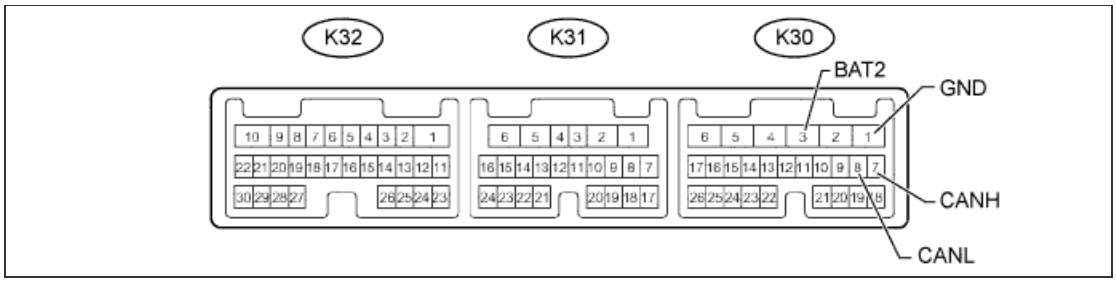



a. Disconnect the E82 and E84 ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | LG - L | Engine switch off | 200 Ω or higher |
| E84-9 (CANH) - E82-7 (PGND) | LG - W-B | Engine switch off | 200 Ω or higher |
| E84-20 (CANL) - E82-7 (PGND) | L - W-B | Engine switch off | 200 Ω or higher |
| E84-9 (CANH) - E82-10 (+B1) | LG - R | Engine switch off | 6 kΩ or higher |
| E84-20 (CANL) - E82-10 (+B1) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK SUSPENSION CONTROL ECU

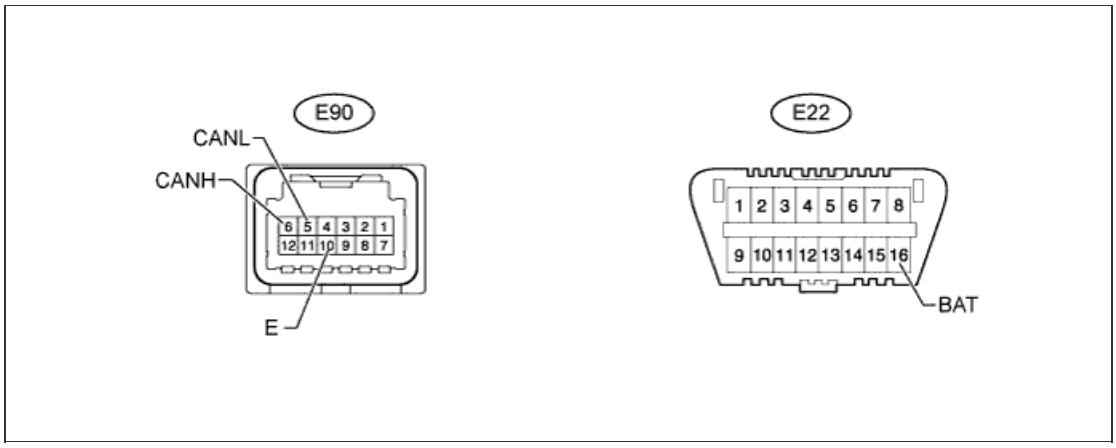



a. Disconnect the K30 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| K30-7 (CANH) - K30-1 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| K30-8 (CANL) - K30-1 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| K30-7 (CANH) - K30-3 (BAT2) | V - R | Engine switch off | 6 kΩ or higher |
| K30-8 (CANL) - K30-3 (BAT2) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK WINDSHIELD WIPER ECU



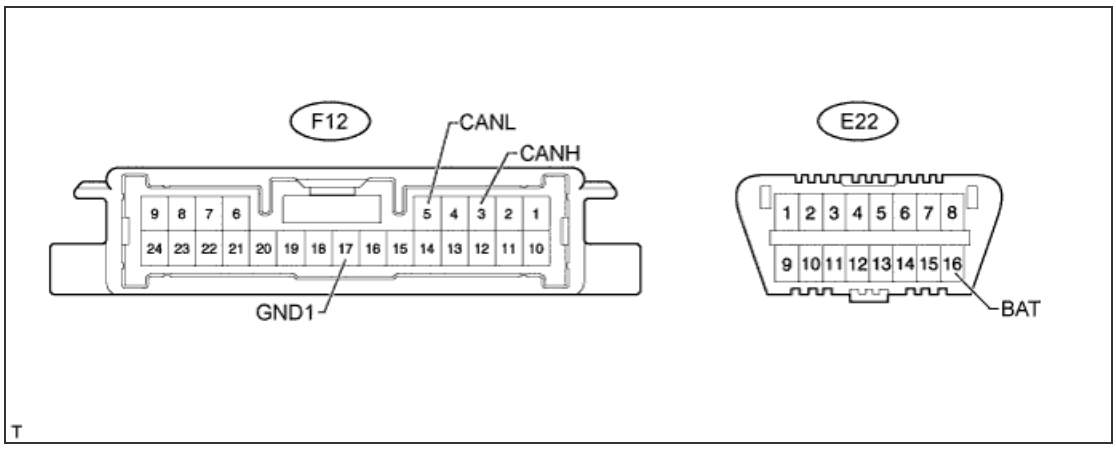

a. Disconnect the E90 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | LG - R | Engine switch off | 54 to 69 Ω |
| E90-6 (CANH) - E90-10 (E) | LG - W-B | Engine switch off | 200 Ω or higher |
| E90-5 (CANL) - E90-10 (E) | R - W-B | Engine switch off | 200 Ω or higher |
| E90-6 (CANH) - E22-16 (BAT) | LG - BE | Engine switch off | 6 kΩ or higher |
| E90-5 (CANL) - E22-16 (BAT) | R - BE | Engine switch off | 6 kΩ or higher |

## CHECK CLEARANCE WARNING ECU

For vehicles with the LEXUS parking assist-sensor system only.



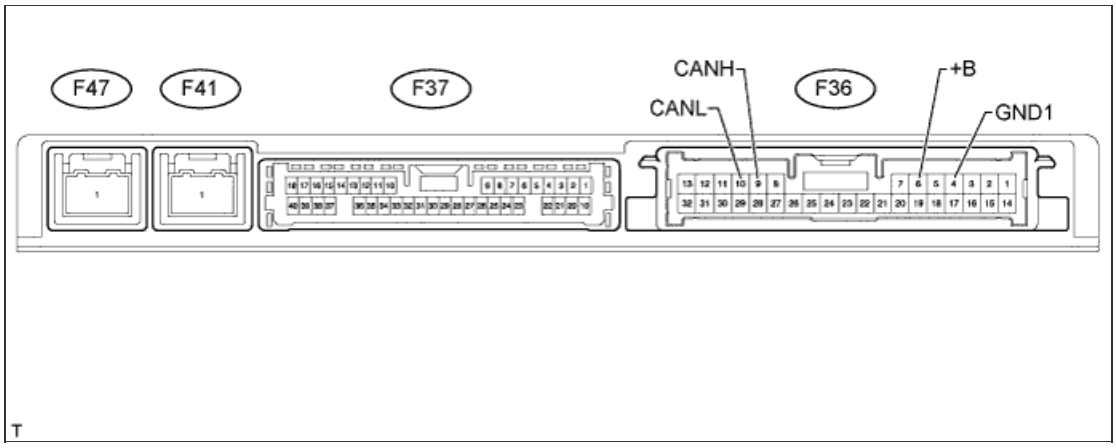

a. Disconnect F12 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F12-3 (CANH) - F12-5 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| F12-3 (CANH) - F12-17 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| F12-5 (CANL) - F12-17 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| F12-3 (CANH) - E22-16 (BAT) | V - BE | Engine switch off | 6 kΩ or higher |
| F12-5 (CANL) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK PARKING ASSIST ECU

For vehicles with the parking assist monitor system only.



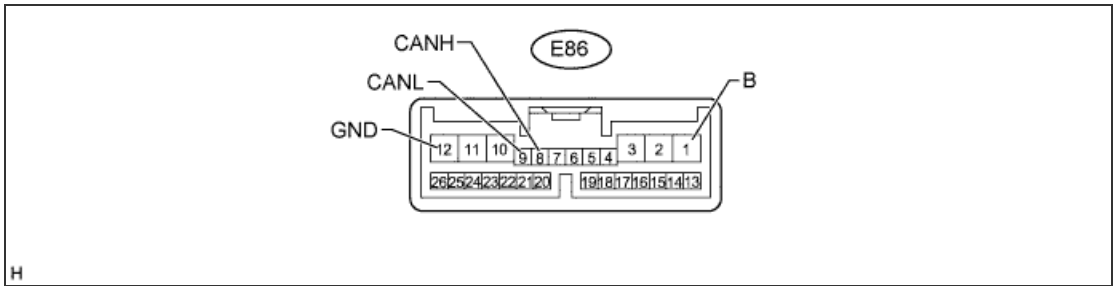

a. Disconnect the F36 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F36-9 (CANH) - F36-10 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| F36-9 (CANH) - F36-4 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| F36-10 (CANL) - F36-4 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| F36-9 (CANH) - F36-6 (+B) | V - L | Engine switch off | 6 kΩ or higher |
| F36-10 (CANL) - F36-6 (+B) | L - L | Engine switch off | 6 kΩ or higher |

## CHECK DISTANCE CONTROL ECU

For vehicles with the dynamic radar cruise control system only.



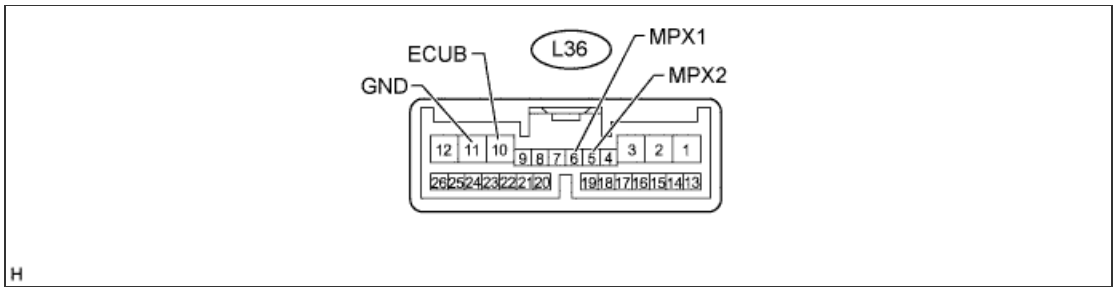

a. Disconnect the E86 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | SB - L | Engine switch off | 54 to 69 Ω |
| E86-8 (CANH) - E86-12 (GND) | SB - BR | Engine switch off | 200 Ω or higher |
| E86-9 (CANL) - E86-12 (GND) | L - BR | Engine switch off | 200 Ω or higher |
| E86-8 (CANH) - E86-1 (B) | SB - R | Engine switch off | 6 kΩ or higher |
| E86-9 (CANL) - E86-1 (B) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK POWER BACK DOOR UNIT (POWER BACK DOOR ECU)

For vehicles with the power back door system only.

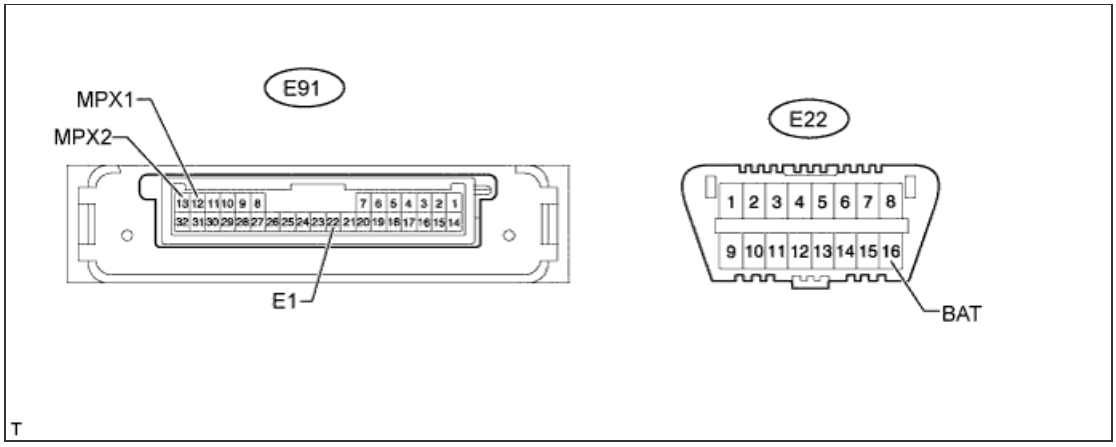



a. Disconnect the L36 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | V - R | Engine switch off | 54 to 69 Ω |
| L36-6 (MPX1) - L36-11 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| L36-5 (MPX2) - L36-11 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| L36-6 (MPX1) - L36-10 (ECUB) | V - R | Engine switch off | 6 kΩ or higher |
| L36-5 (MPX2) - L36-10 (ECUB) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK AFS ECU (HEADLIGHT SWIVEL ECU)

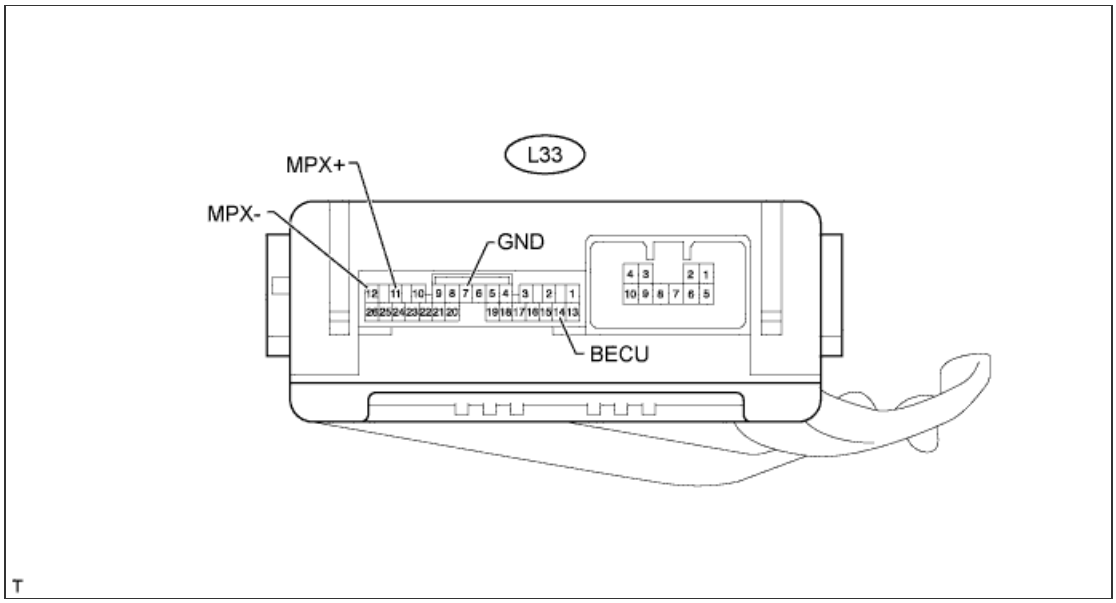



a. Disconnect the E91 unit connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | LG - B | Engine switch off | 54 to 69 Ω |
| E91-12 (MPX1) - E91-22 (E1) | LG - W-B | Engine switch off | 200 Ω or higher |
| E91-13 (MPX2) - E91-22 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| E91-12 (MPX1) - E22-16 (BAT) | LG - BE | Engine switch off | 6 kΩ or higher |
| E91-13 (MPX2) - E22-16 (BAT) | B - BE | Engine switch off | 6 kΩ or higher |

## CHECK NO. 2 MAIN BODY ECU




a. Disconnect the L33 ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | LG - R | Engine switch off | 54 to 69 Ω |
| L33-11 (MPX+) - L33-7 (GND) | LG - W-B | Engine switch off | 200 Ω or higher |
| L33-12 (MPX-) - L33-7 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| L33-11 (MPX+) - L33-14 (BECU) | LG - R | Engine switch off | 6 kΩ or higher |
| L33-12 (MPX-) - L33-14 (BECU) | R - R | Engine switch off | 6 kΩ or higher |

**for Preparation** Click here

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

## DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

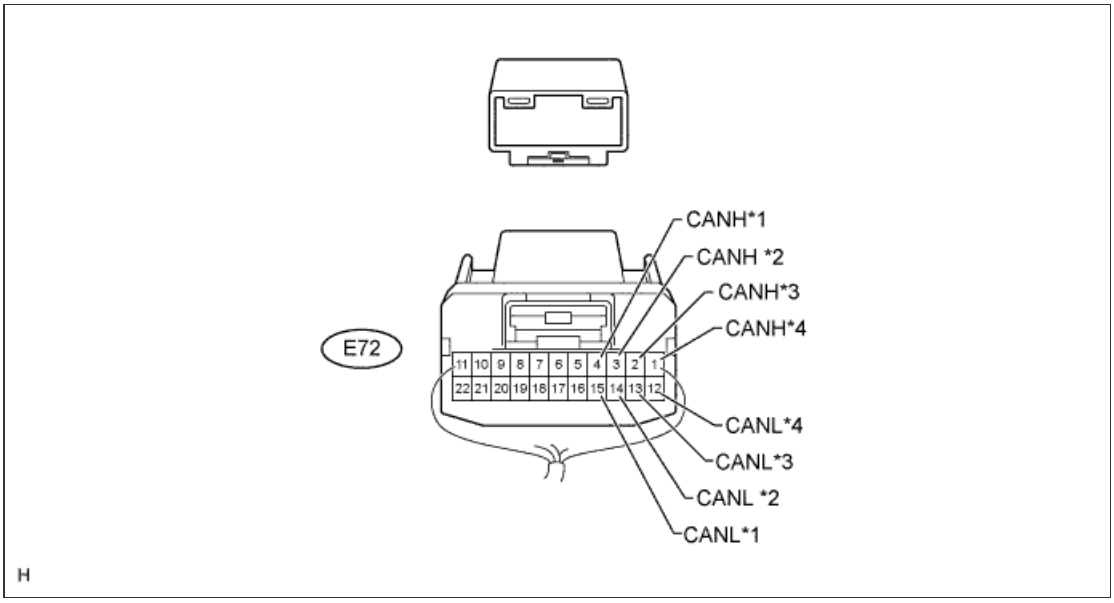
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## JUNCTION CONNECTOR

a. NO. 1 JUNCTION CONNECTOR



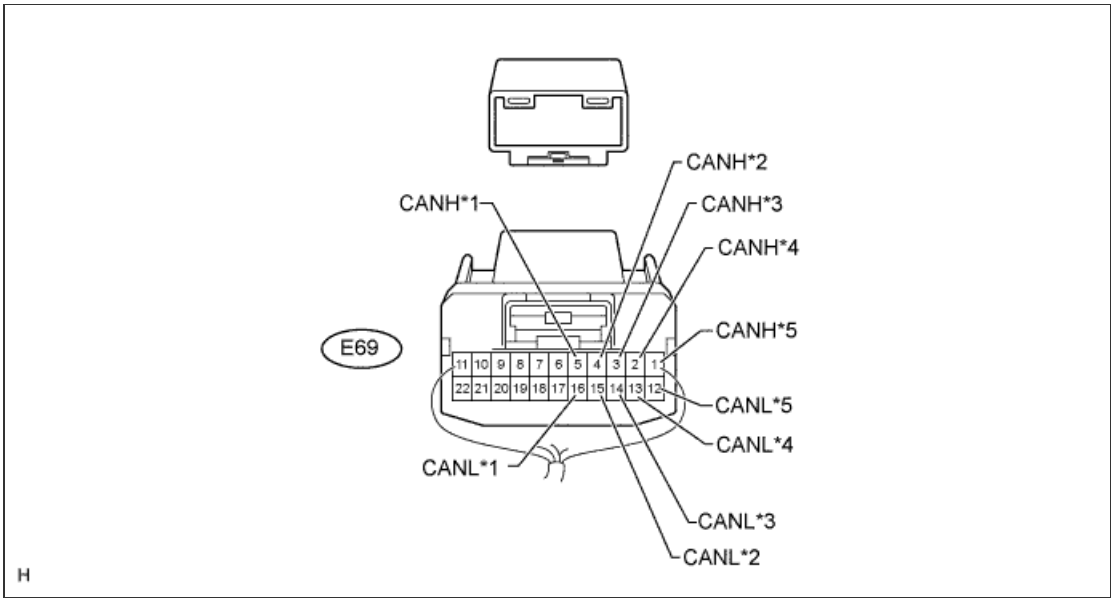

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Center Airbag Sensor Assembly | *2 | to Headlight Swivel ECU Assembly (AFS ECU) |
| *3 | to ECM | *4 | to No. 2 Junction Connector |

| No. 1 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E72-1 (CANH) | Y | No. 2 junction connector |
| E72-12 (CANL) | B | |
| E72-2 (CANH) | P | ECM |
| E72-13 (CANL) | B | |
| E72-3 (CANH) | LG | Headlight swivel ECU assembly (AFS ECU) |
| E72-14 (CANL) | B | |

| | | |
|---|---|---|
| E72-4 (CANH) | GR | Center airbag sensor assembly |
| E72-15 (CANL) | B | |

b. NO. 2 JUNCTION CONNECTOR

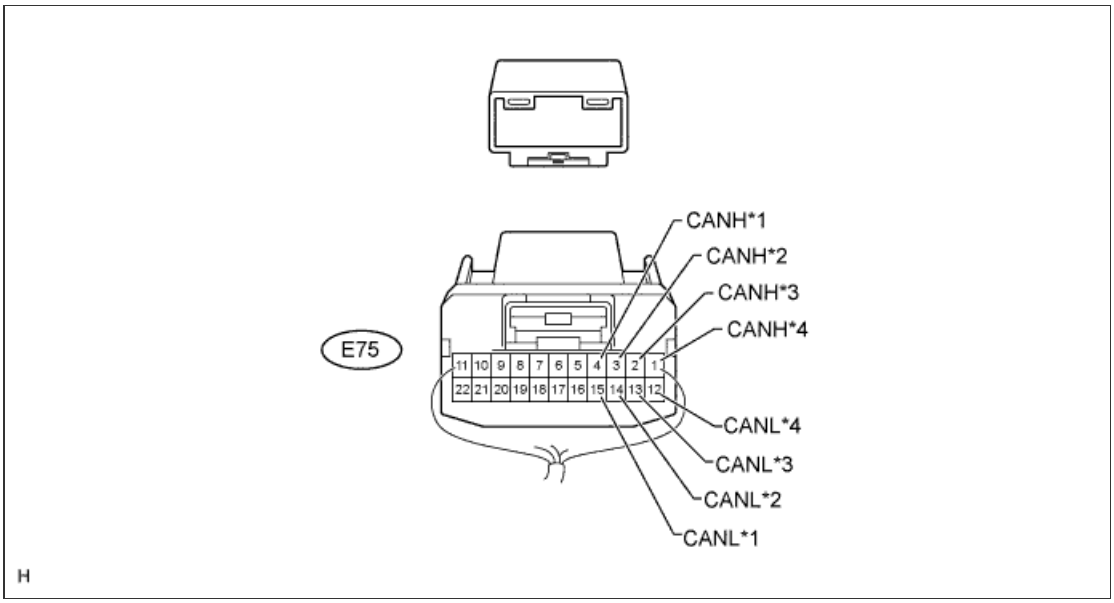



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Air Conditioning Amplifier Assembly | *2 | to No. 3 Junction Connector |
| *3 | to Network Gateway ECU: V Bus | *4 | to Multi-media Module Receiver Assembly |
| *5 | to No. 1 Junction Connector | - | - |

| No. 2 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E69-1 (CANH) | Y | No. 1 junction connector |
| E69-12 (CANL) | B | |
| E69-2 (CANH) | P | Multi-media module receiver assembly |
| E69-13 (CANL) | B | |
| E69-3 (CANH) | BR | Network gateway ECU (V bus) |
| E69-14 (CANL) | B | |
| E69-4 (CANH) | W | No. 3 junction connector |
| E69-15 (CANL) | B | |
| E69-5 (CANH) | G | Air conditioning amplifier assembly |
| E69-16 (CANL) | B | |

c. NO. 3 JUNCTION CONNECTOR

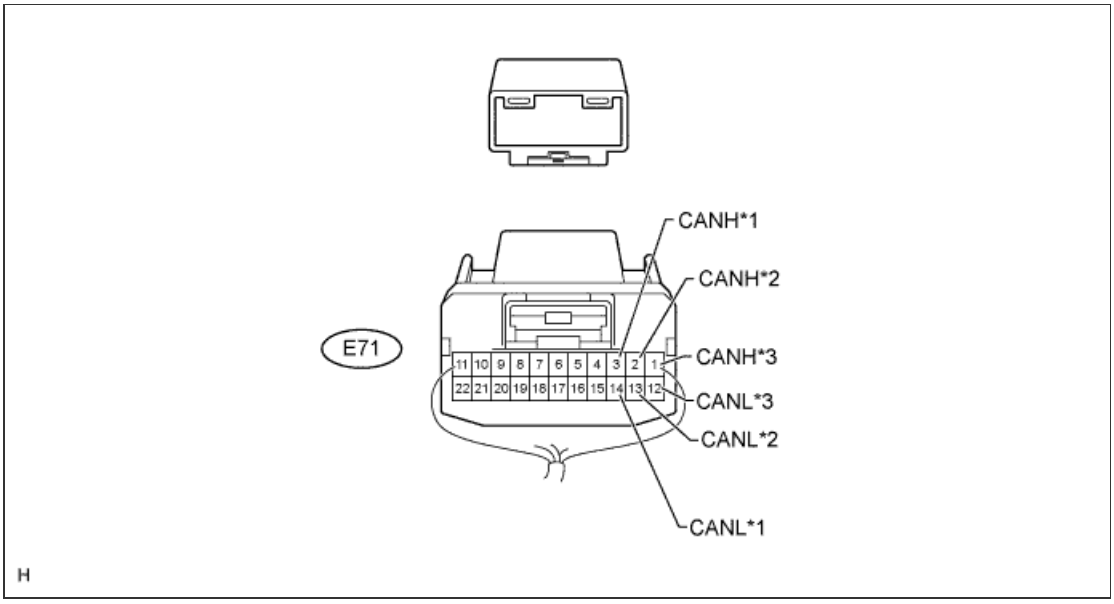



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Main Body ECU (Cowl Side Junction Block LH): V Bus | *2 | to Combination Meter Assembly: V Bus |
| *3 | to DLC3 | *4 | to No. 2 Junction Connector |

| No. 3 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E75-1 (CANH) | W | No. 2 junction connector |
| E75-12 (CANL) | B | |
| E75-2 (CANH) | G | DLC3 |
| E75-13 (CANL) | B | |
| E75-3 (CANH) | V | Combination meter assembly (V bus) |
| E75-14 (CANL) | B | |
| E75-4 (CANH) | SB | Main body ECU (cowl side junction block LH) (V bus) |
| E75-15 (CANL) | B | |

**d.** NO. 4 JUNCTION CONNECTOR

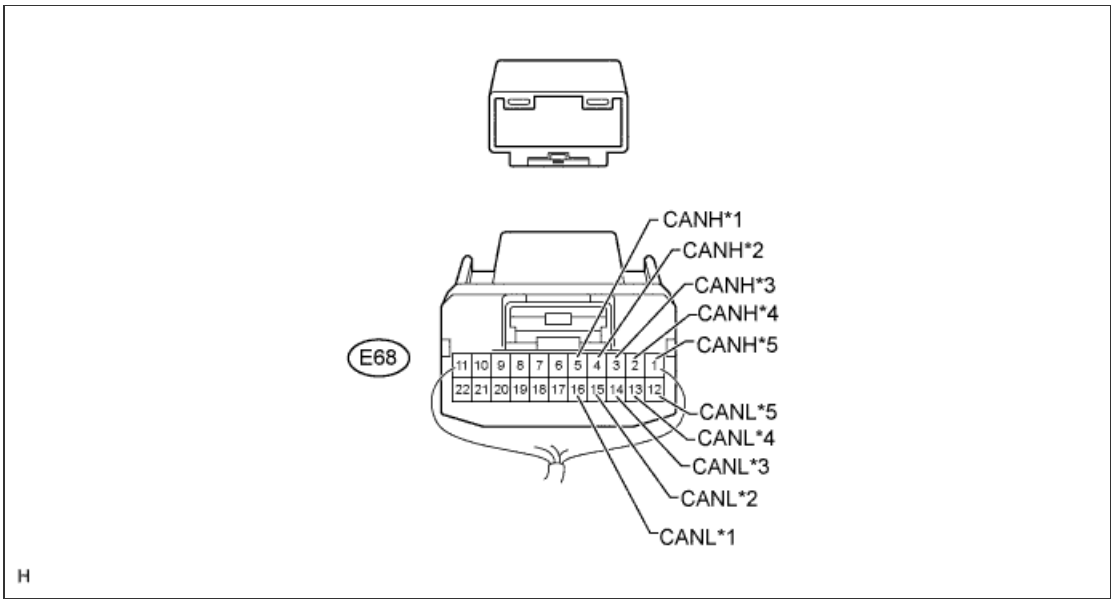



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to 4WD Control ECU | *2 | to Network Gateway ECU: Movement Control Bus |
| *3 | to No. 5 Junction Connector | - | - |

| No. 4 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E71-1 (CANH) | W | No. 5 junction connector |
| E71-12 (CANL) | L | |
| E71-2 (CANH) | SB | Network gateway ECU (movement control bus) |
| E71-13 (CANL) | L | |
| E71-3 (CANH) | P | 4WD control ECU |
| E71-14 (CANL) | L | |

e. NO. 5 JUNCTION CONNECTOR



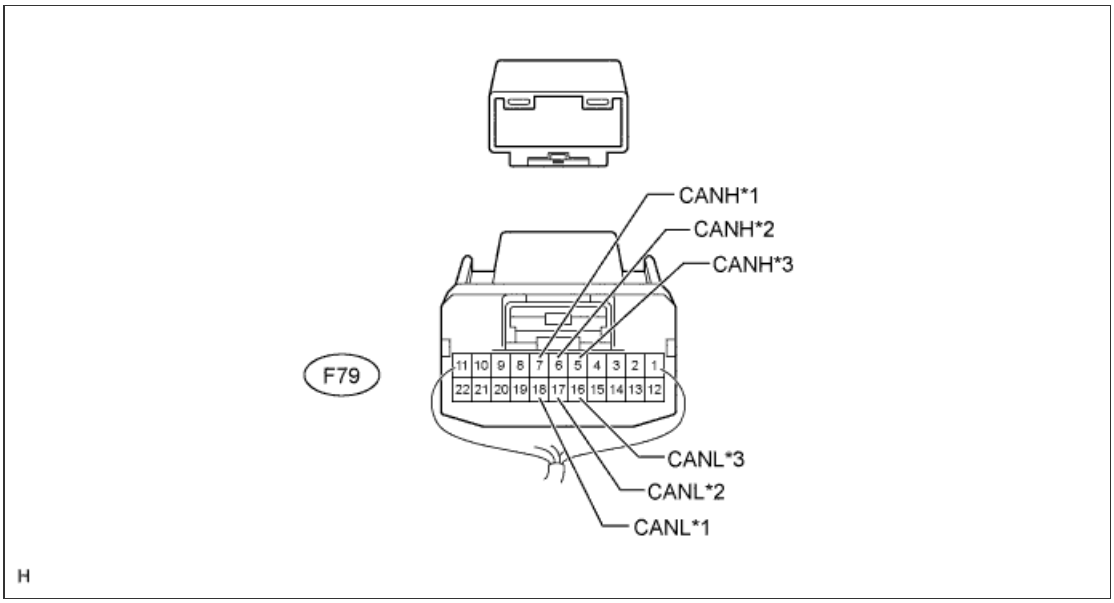

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Seat Belt Control ECU (w/ Pre-Crash Safety System) | *2 | to Display Control ECU Assembly (w/ Dynamic Radar Cruise Control System) |
| *3 | to Yaw Rate Sensor Assembly | *4 | to No. 6 Junction Connector |
| *5 | to No. 4 Junction Connector | - | - |

| No. 5 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E68-1 (CANH) | W | No. 4 junction connector |
| E68-12 (CANL) | L | |
| E68-2 (CANH) | Y | No. 6 junction connector |
| E68-13 (CANL) | L | |
| E68-3 (CANH) | BR | Yaw rate sensor assembly |
| E68-14 (CANL) | L | |
| E68-4 (CANH) | SB | Distance control ECU assembly*1 |
| E68-15 (CANL) | L | |
| E68-5 (CANH) | G | Seat belt control ECU*2 |
| E68-16 (CANL) | L | |

*1: w/ Dynamic Radar Cruise Control System
*2: w/ Pre-Crash Safety System

f. NO. 6 JUNCTION CONNECTOR



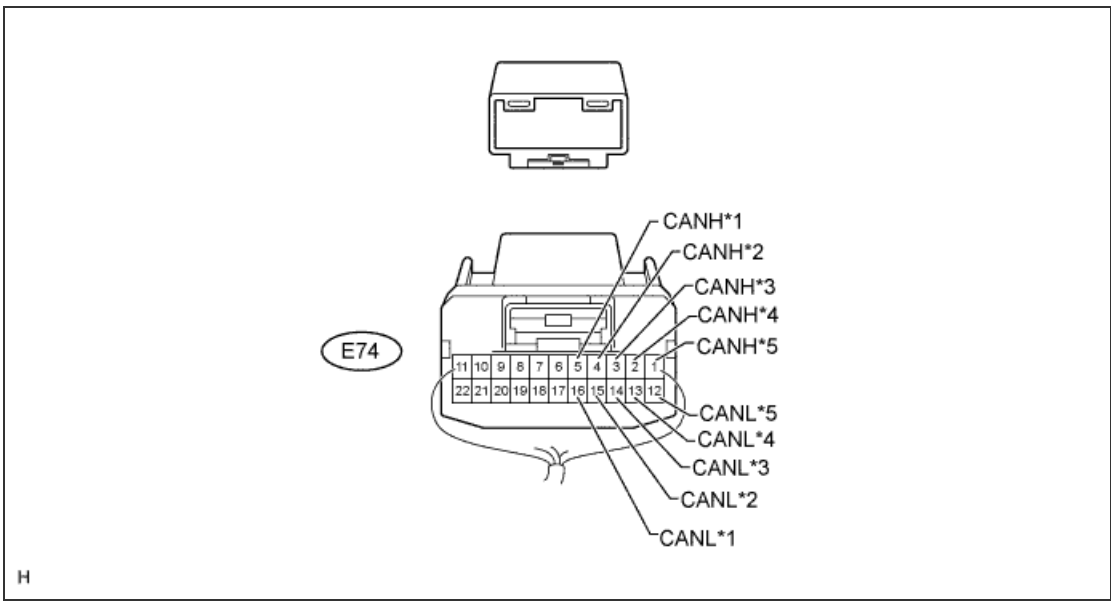

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to No. 5 Junction Connector | *2 | to No. 7 Junction Connector |
| *3 | • to Clearance Warning ECU Assembly (w/o Side Monitor System)<br>• to Parking Assist ECU (w/ Side Monitor System) | - | - |

| No. 6 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| F79-5 (CANH) | V | • Clearance warning ECU assembly*1<br>• Parking assist ECU*2 |
| F79-16 (CANL) | L | |
| F79-6 (CANH) | Y | No. 7 junction connector |
| F79-17 (CANL) | L | |
| F79-7 (CANH) | Y | No. 5 junction connector |
| F79-18 (CANL) | L | |

*1: w/o Side Monitor System
*2: w/ Side Monitor System

g. NO. 7 JUNCTION CONNECTOR



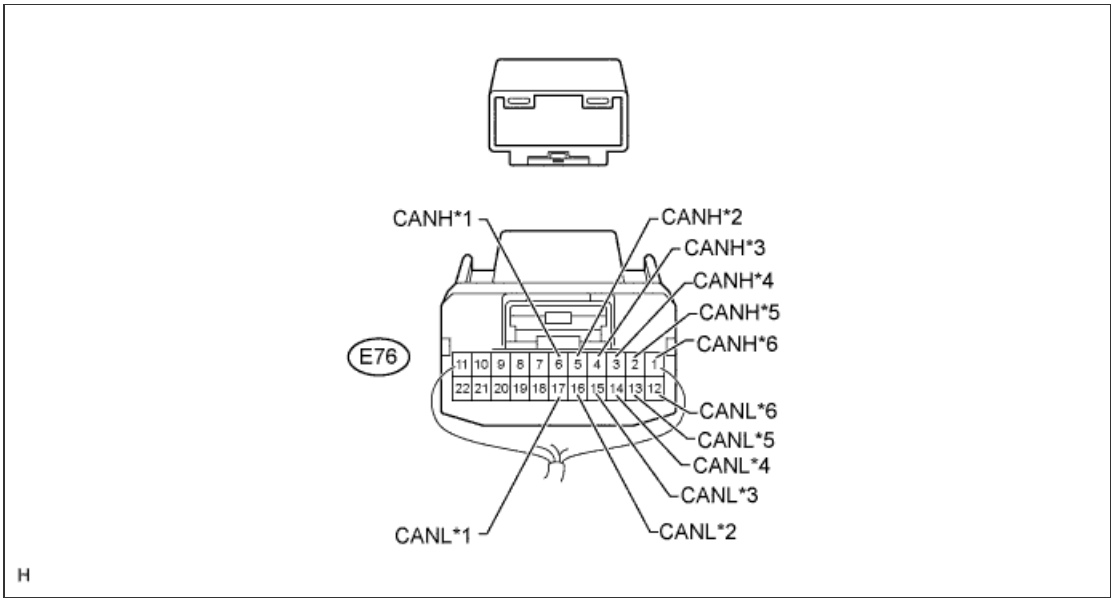

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Master Cylinder Solenoid (Skid Control ECU) | *2 | to Steering Angle Sensor |

| | | | |
|---|---|---|---|
| *3 | to Steering Control ECU | *4 | to No. 6 Junction Connector |
| *5 | to No. 1 CAN Junction Connector | - | - |

| No. 7 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E74-1 (CANH) | W | No. 1 CAN junction connector |
| E74-12 (CANL) | L | |
| E74-2 (CANH) | Y | No. 6 junction connector |
| E74-13 (CANL) | L | |
| E74-3 (CANH) | LG | Steering control ECU |
| E74-14 (CANL) | L | |
| E74-4 (CANH) | GR | Steering angle sensor |
| E74-15 (CANL) | L | |
| E74-5 (CANH) | V | Master cylinder solenoid (skid control ECU) |
| E74-16 (CANL) | L | |

h. NO. 8 JUNCTION CONNECTOR

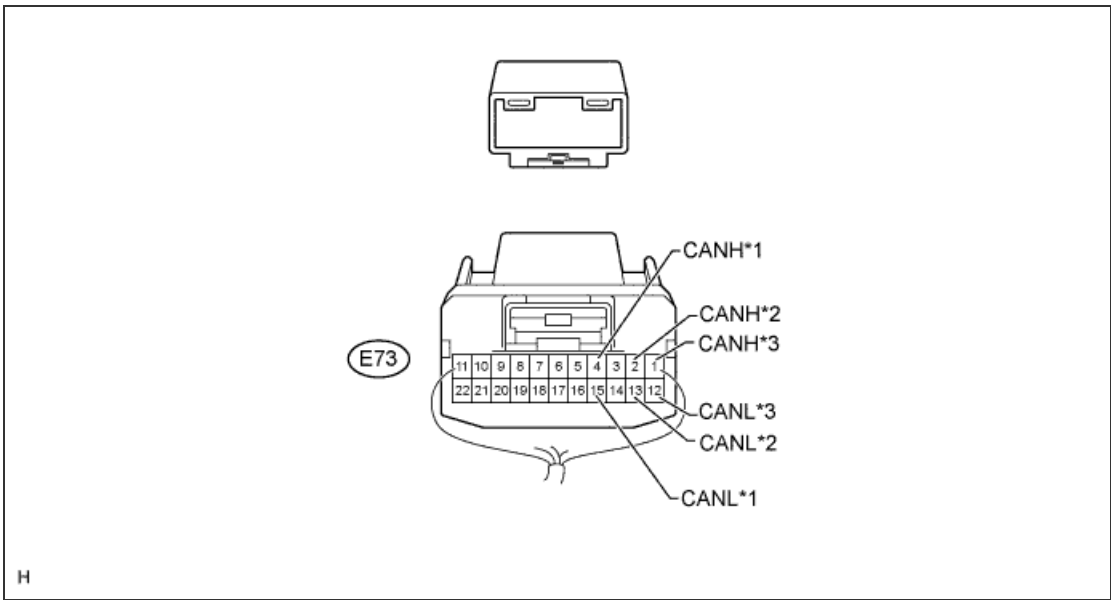



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Main Body ECU (Cowl Side Junction Block LH): MS Bus | *2 | to Outer Mirror Control ECU Assembly |
| *3 | to Position Control ECU and Switch | *4 | to Multiplex Tilt and Telescopic ECU |
| *5 | to Certification ECU (Smart Key ECU Assembly) | *6 | to No. 2 CAN Junction Connector |

| No. 8 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E76-1 (CANH) | W | No. 2 CAN junction connector |
| E76-12 (CANL) | R | |
| E76-2 (CANH) | LG | Certification ECU (smart key ECU assembly) |
| E76-13 (CANL) | R | |
| E76-3 (CANH) | P | Multiplex tilt and telescopic ECU |
| E76-14 (CANL) | R | |
| E76-4 (CANH) | V | Position control ECU and switch |
| E76-15 (CANL) | R | |
| E76-5 (CANH) | BR | Outer mirror control ECU assembly |
| E76-16 (CANL) | R | |
| E76-6 (CANH) | GR | Main body ECU (cowl side junction block LH) (MS bus) |
| E76-17 (CANL) | R | |

i. NO. 9 JUNCTION CONNECTOR

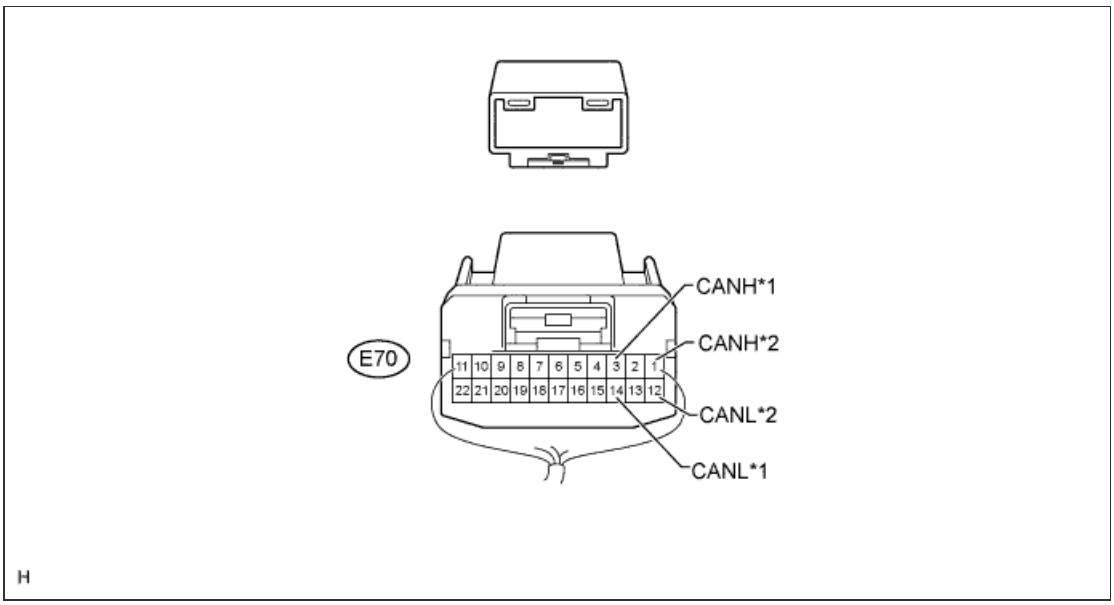



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Windshield Wiper ECU | *2 | to No. 2 CAN Junction Connector |
| *3 | to No. 10 Junction Connector | - | - |

| No. 9 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E73-1 (CANH) | W | No. 10 junction connector |
| E73-12 (CANL) | R | |
| E73-2 (CANH) | Y | No. 2 CAN junction connector |
| E73-13 (CANL) | R | |
| E73-4 (CANH) | LG | Windshield wiper ECU |
| E73-15 (CANL) | R | |

j. NO. 10 JUNCTION CONNECTOR



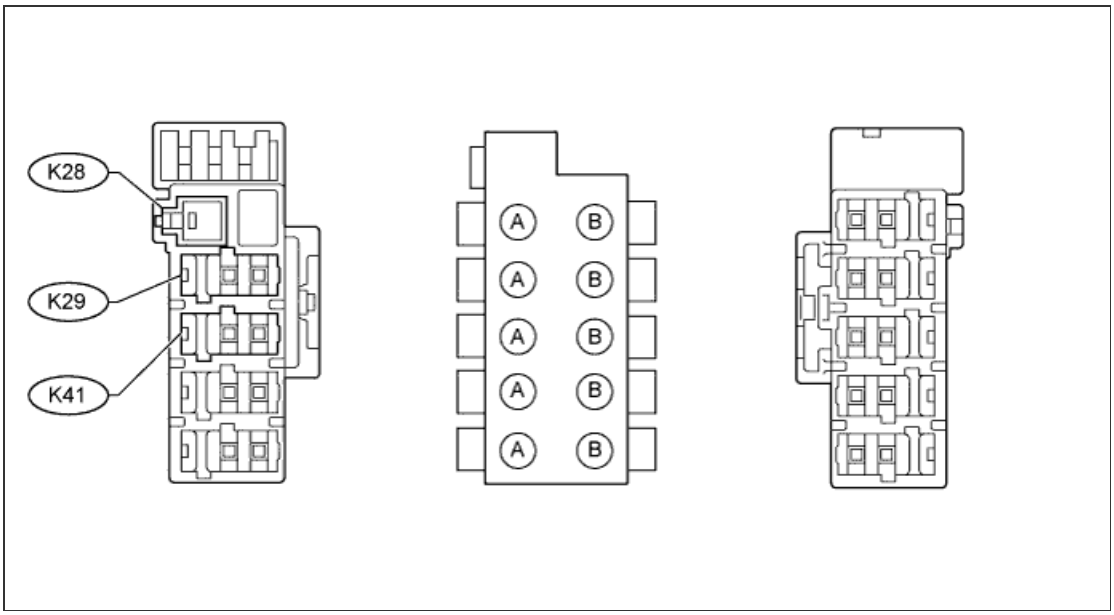

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Combination Meter Assembly: MS Bus | *2 | to No. 9 Junction Connector |

| No. 10 Junction Connector | Wiring Color | Connect to |
|---|---|---|

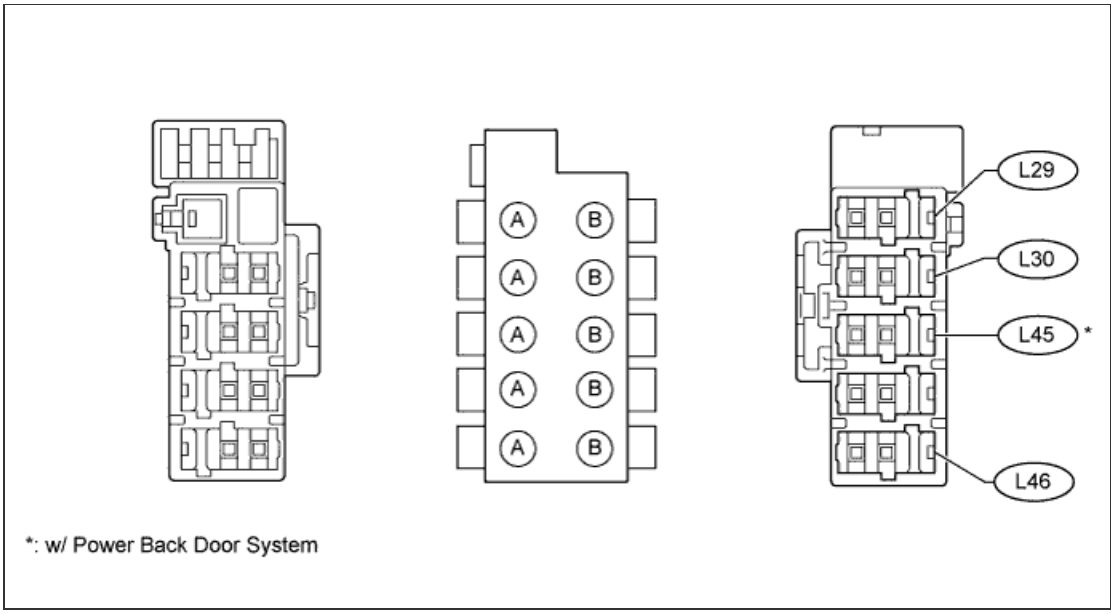
| | | |
|---|---|---|
| E70-1 (CANH) | W | No. 9 Junction Connector |
| E70-12 (CANL) | R | |
| E70-3 (CANH) | LG | Combination meter assembly (MS bus) |
| E70-14 (CANL) | R | |

k. NO. 1 CAN JUNCTION CONNECTOR




| Junction Connector A Side | Wiring Color (CANH Side) | Wiring Color (CANL Side) |
|---|---|---|
| Body ground (K28) | - | W-B |
| No. 7 junction connector (K29) | W | L |
| Suspension control ECU (K41) | V | L |

l. NO. 2 CAN JUNCTION CONNECTOR



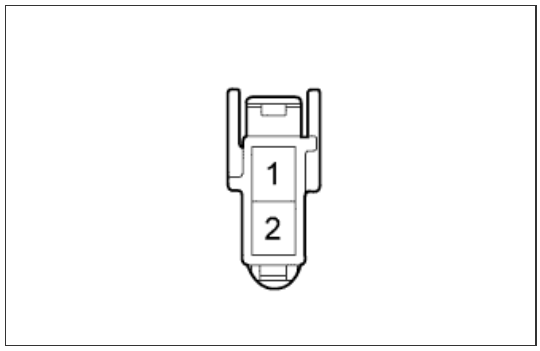

| Junction Connector B Side | Wiring Color (CANH Side) | Wiring Color (CANL Side) |
|---|---|---|
| No. 8 junction connector (L29) | LG | GR |
| No. 9 junction connector (L30) | Y | R |
| | | |

| | | |
|---|---|---|
| Power back door unit assembly (Power back door ECU) (L45)* | V | R |
| No. 2 main body ECU (L46) | LG | R |

*: w/ Power Back Door System

## TERMINALS OF CONNECTORS FOR JUNCTION CONNECTOR (CAN JUNCTION CONNECTOR)

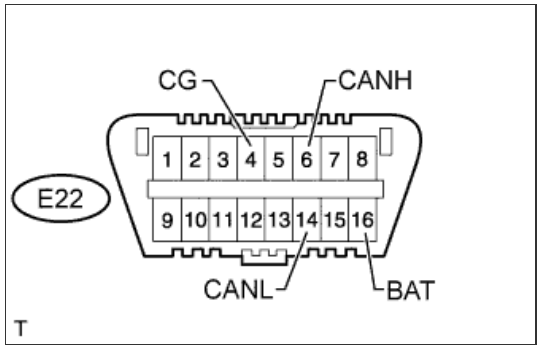
| Terminal No. | Symbol |
|---|---|
| 1 | CANH |
| 2 | CANL |




## CHECK DLC3

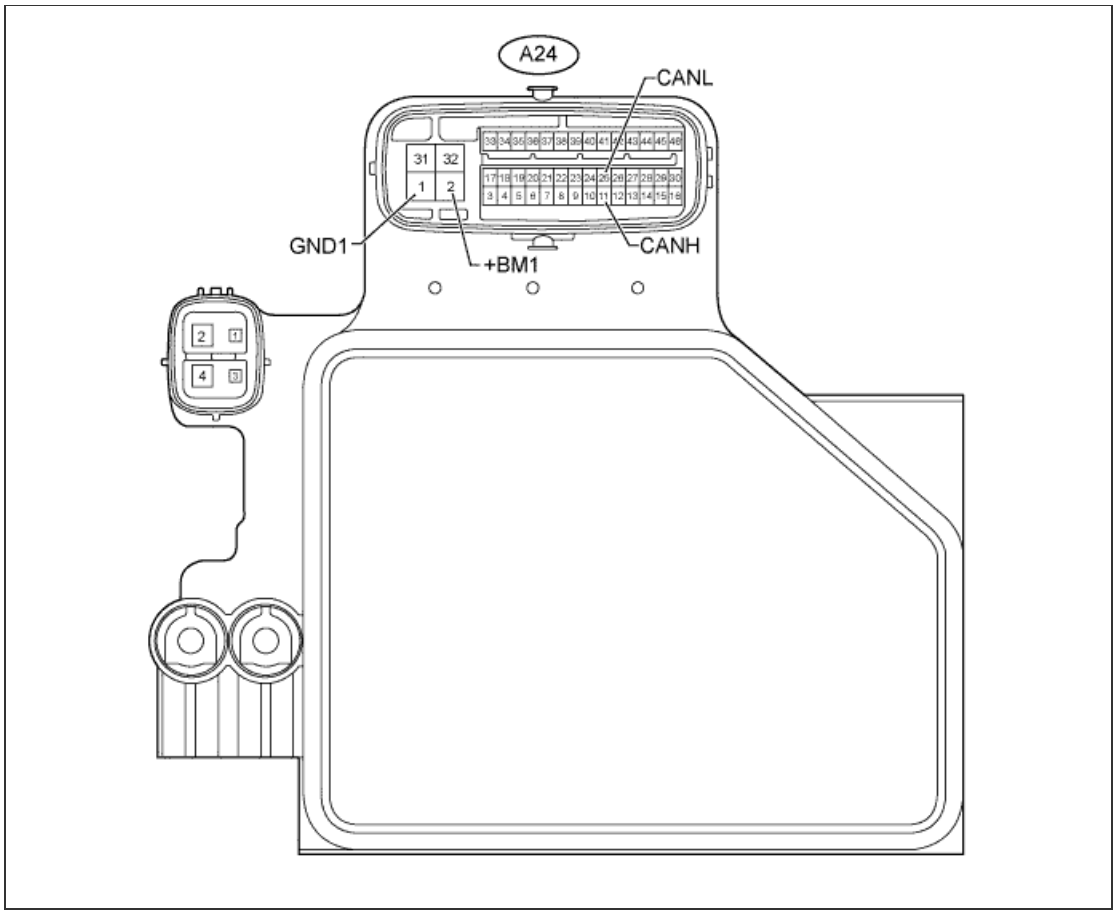
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

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




| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | G - B | Engine switch off | 54 to 69 Ω |
| E22-6 (CANH) - E22-4 (CG) | G - W-B | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | B - W-B | Engine switch off | 200 Ω or higher |
| E22-6 (CANH) - E22-16 (BAT) | G - BE | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | B - BE | Engine switch off | 6 kΩ or higher |

## CHECK MASTER CYLINDER SOLENOID (SKID CONTROL ECU)

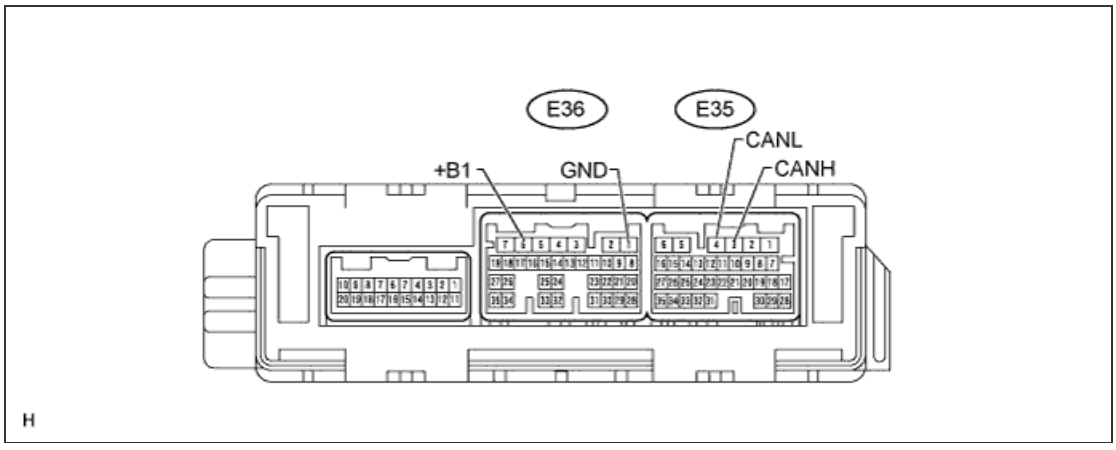



a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| A24-11 (CANH) - A24-1 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| A24-25 (CANL) - A24-1 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| A24-11 (CANH) - A24-2 (+BM1) | V - B | Engine switch off | 6 kΩ or higher |
| A24-25 (CANL) - A24-2 (+BM1) | L - B | Engine switch off | 6 kΩ or higher |

## CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY



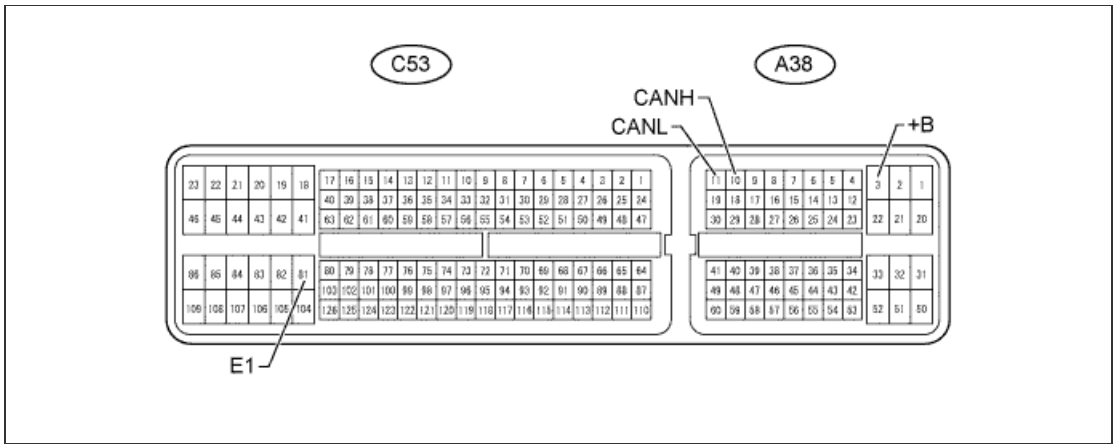

a. Disconnect the E35 and E36 air conditioning amplifier assembly connectors.

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

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

| | | | |
|---|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | G - B | Engine switch off | 54 to 69 Ω |
| E35-3 (CANH) - E36-1 (GND) | G - W-B | Engine switch off | 200 Ω or higher |
| E35-4 (CANL) - E36-1 (GND) | B - W-B | Engine switch off | 200 Ω or higher |
| E35-3 (CANH) - E36-6 (+B1) | G - R | Engine switch off | 6 kΩ or higher |
| E35-4 (CANL) - E36-6 (+B1) | B - R | Engine switch off | 6 kΩ or higher |

## CHECK ECM

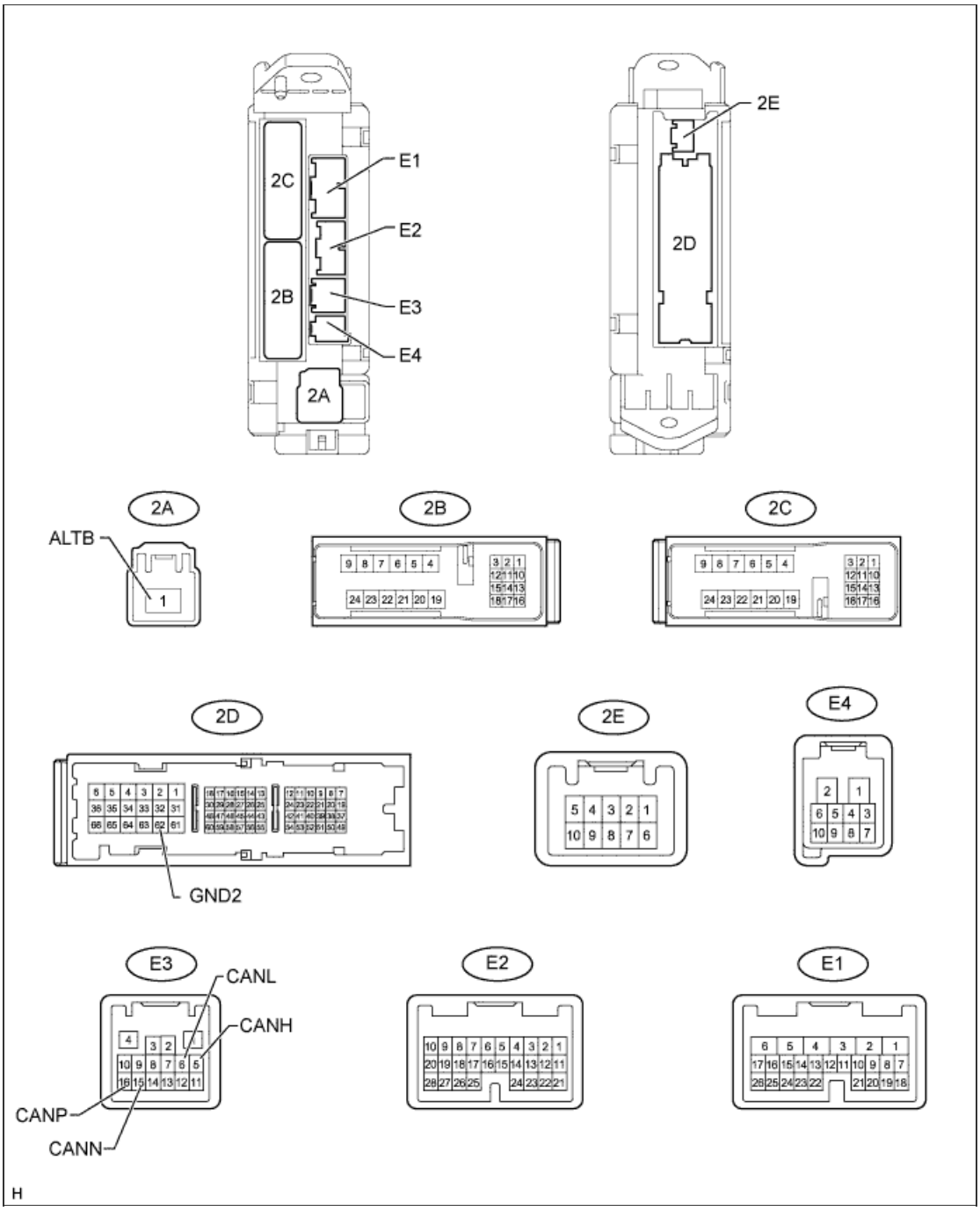



a. Disconnect the A38 and C53 ECM connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A38-10 (CANH) - A38-11 (CANL) | P - B | Engine switch off | 108 to 132 Ω |
| A38-10 (CANH) - C53-81 (E1) | P - W-B | Engine switch off | 200 Ω or higher |
| A38-11 (CANL) - C53-81 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| A38-10 (CANH) - A38-3 (+B) | P - B | Engine switch off | 6 kΩ or higher |
| A38-11 (CANL) - A38-3 (+B) | B - B | Engine switch off | 6 kΩ or higher |

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




a. Disconnect the E3, 2A and 2D main body ECU (cowl side junction block LH) connectors.

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

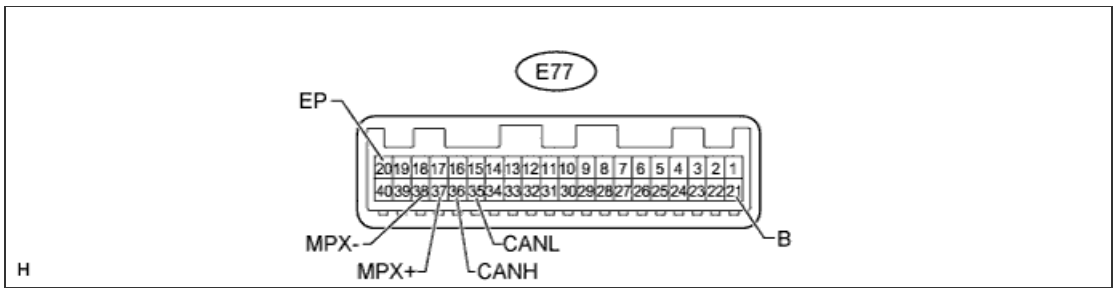
**V Bus**

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E3-5 (CANH) - E3-6 (CANL) | SB - B | Engine switch off | 54 to 69 Ω |
| E3-5 (CANH) - 2D-62 (GND2) | SB - W-B | Engine switch off | 200 Ω or higher |
| E3-6 (CANL) - 2D-62 (GND2) | B - W-B | Engine switch off | 200 Ω or higher |
| E3-5 (CANH) - 2A-1 (ALTB) | SB - B | Engine switch off | 6 kΩ or higher |
| E3-6 (CANL) - 2A-1 (ALTB) | B - B | Engine switch off | 6 kΩ or higher |

**MS Bus**

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | GR - R | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - 2D-62 (GND2) | GR - W-B | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - 2D-62 (GND2) | R - W-B | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - 2A-1 (ALTB) | GR - B | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - 2A-1 (ALTB) | R - B | Engine switch off | 6 kΩ or higher |

## CHECK COMBINATION METER ASSEMBLY




a. Disconnect the E77 combination meter assembly connector.

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

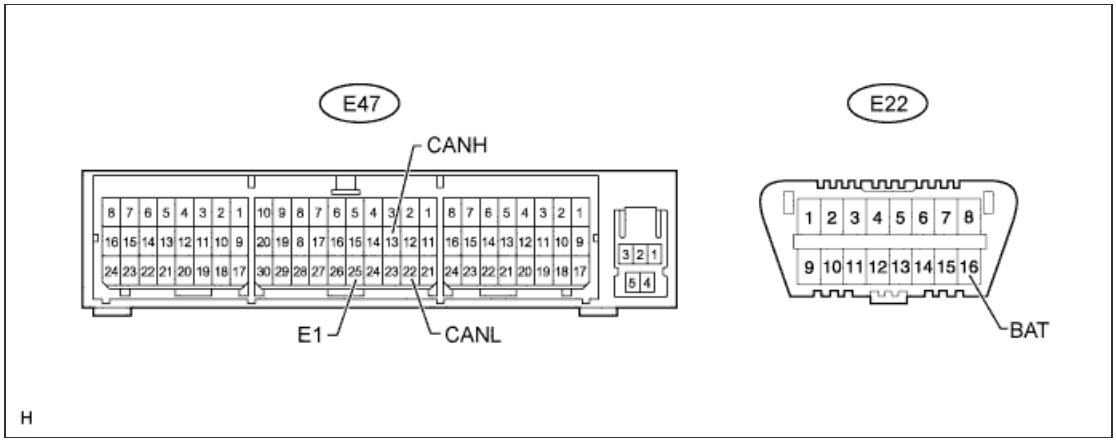
**V Bus**

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E77-36 (CANH) - E77-35 (CANL) | V - B | Engine switch off | 108 to 132 Ω |
| E77-36 (CANH) - E77-20 (EP) | V - W-B | Engine switch off | 200 Ω or higher |
| E77-35 (CANL) - E77-20 (EP) | B - W-B | Engine switch off | 200 Ω or higher |
| E77-36 (CANH) - E77-21 (B) | V - R | Engine switch off | 6 kΩ or higher |
| E77-35 (CANL) - E77-21 (B) | B - R | Engine switch off | 6 kΩ or higher |

**MS Bus**

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E77-37 (MPX+) - E77-38 (MPX-) | LG - R | Engine switch off | 108 to 132 Ω |
| E77-37 (MPX+) - E77-20 (EP) | LG - W-B | Engine switch off | 200 Ω or higher |
| E77-38 (MPX-) - E77-20 (EP) | R - W-B | Engine switch off | 200 Ω or higher |
| E77-37 (MPX+) - E77-21 (B) | LG - R | Engine switch off | 6 kΩ or higher |
| E77-38 (MPX-) - E77-21 (B) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK CENTER AIRBAG SENSOR ASSEMBLY

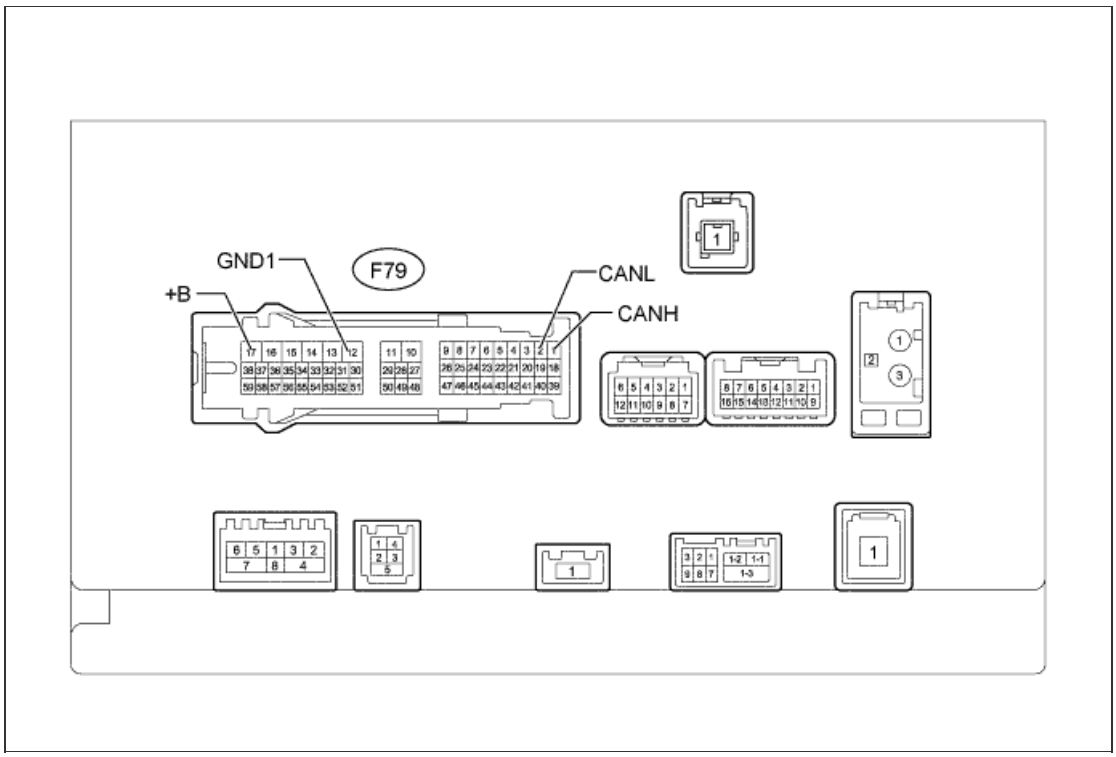



a. Disconnect the E47 center airbag sensor assembly connector ( Click here).

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | GR - B | Engine switch off | 54 to 69 Ω |
| E47-13 (CANH) - E47-25 (E1) | GR - W-B | Engine switch off | 200 Ω or higher |
| E47-22 (CANL) - E47-25 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| E47-13 (CANH) - E22-16 (BAT) | GR - BE | Engine switch off | 6 kΩ or higher |
| E47-22 (CANL) - E22-16 (BAT) | B - BE | Engine switch off | 6 kΩ or higher |

## CHECK MULTI-MEDIA MODULE RECEIVER ASSEMBLY

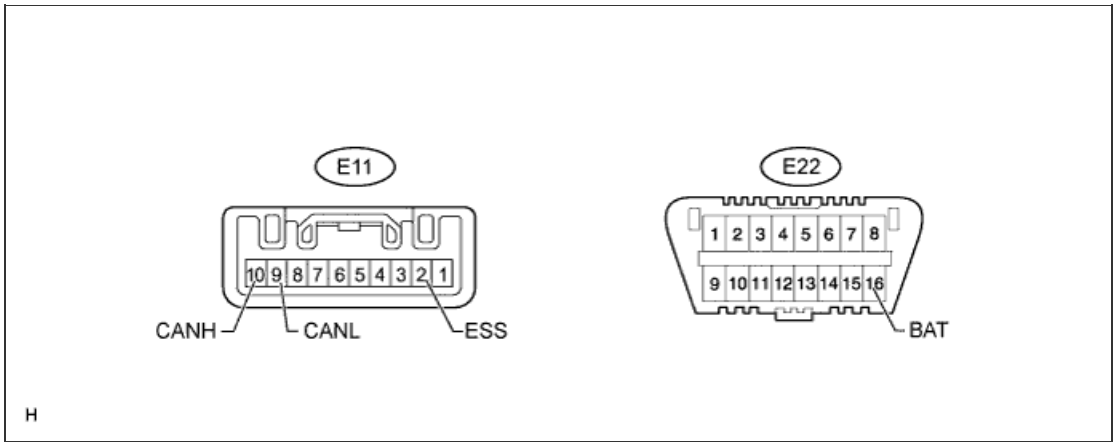



a. Disconnect the F76 multi-media module receiver assembly connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F76-1 (CANH) - F76-2 (CANL) | P - B | Engine switch off | 54 to 69 Ω |
| F76-1 (CANH) - F76-12 (GND1) | P - W-B | Engine switch off | 200 Ω or higher |
| F76-2 (CANL) - F76-12 (GND1) | B - W-B | Engine switch off | 200 Ω or higher |
| F76-1 (CANH) - F76-17 (+B1) | P - R | Engine switch off | 6 kΩ or higher |
| F76-2 (CANL) - F76-17 (+B1) | B - R | Engine switch off | 6 kΩ or higher |

## CHECK STEERING ANGLE SENSOR



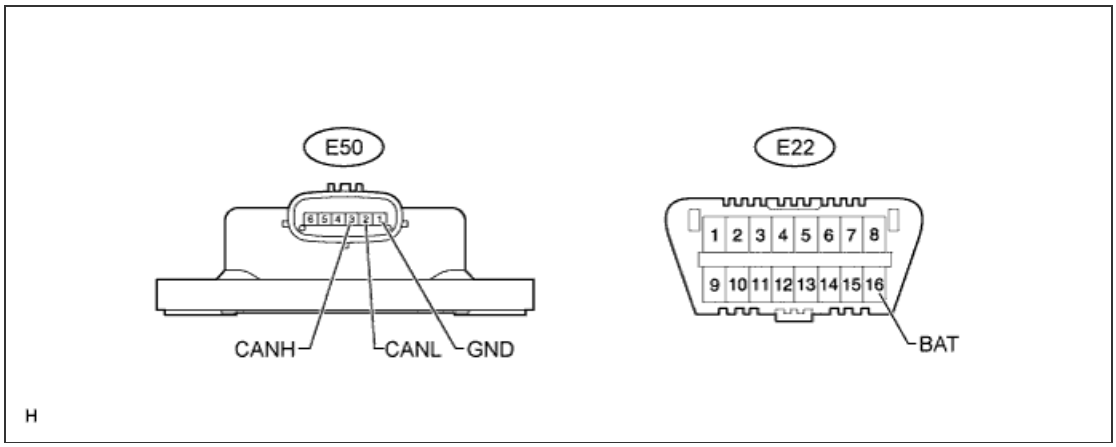

a. Disconnect the E11 steering angle sensor connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E11-10 (CANH) - E11-9 (CANL) | GR - L | Engine switch off | 54 to 69 Ω |
| | | | |

| | | | |
|---|---|---|---|
| E11-10 (CANH) - E11-2 (ESS) | GR - W-B | Engine switch off | 200 Ω or higher |
| E11-9 (CANL) - E11-2 (ESS) | L - W-B | Engine switch off | 200 Ω or higher |
| E11-10 (CANH) - E22-16 (BAT) | GR - BE | Engine switch off | 6 kΩ or higher |
| E11-9 (CANL) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK YAW RATE SENSOR ASSEMBLY

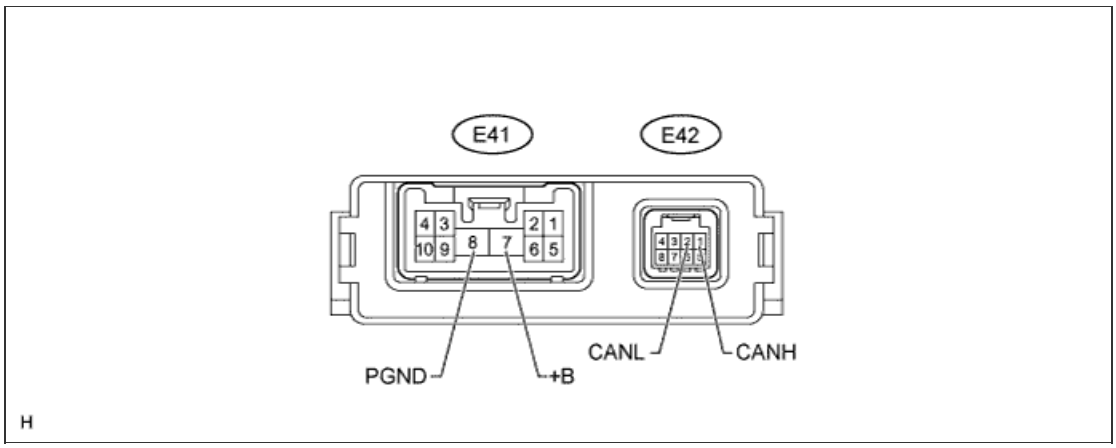



a. Disconnect the E50 yaw rate sensor assembly connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | BR - L | Engine switch off | 54 to 69 Ω |
| E50-3 (CANH) - E50-1 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| E50-2 (CANL) - E50-1 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| E50-3 (CANH) - E22-16 (BAT) | BR - BE | Engine switch off | 6 kΩ or higher |
| E50-2 (CANL) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK SEAT BELT CONTROL ECU (w/ Pre-crash Safety System)

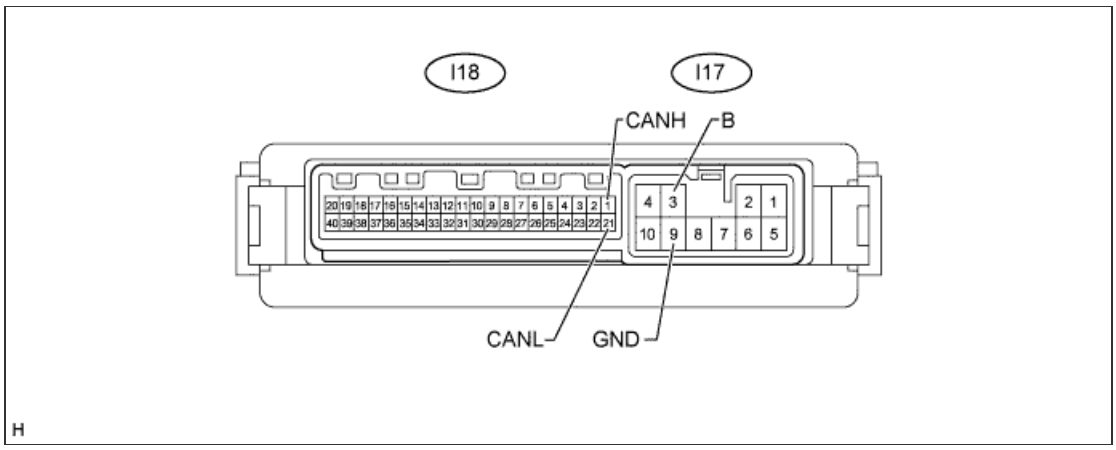



a. Disconnect the E41 and E42 seat belt control ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | G - L | Engine switch off | 54 to 69 Ω |
| E42-1 (CANH) - E41-8 (PGND) | G - W-B | Engine switch off | 200 Ω or higher |
| E42-2 (CANL) - E41-8 (PGND) | L - W-B | Engine switch off | 200 Ω or higher |
| E42-1 (CANH) - E41-7 (+B) | G - R | Engine switch off | 6 kΩ or higher |
| E42-2 (CANL) - E41-7 (+B) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK OUTER MIRROR CONTROL ECU ASSEMBLY

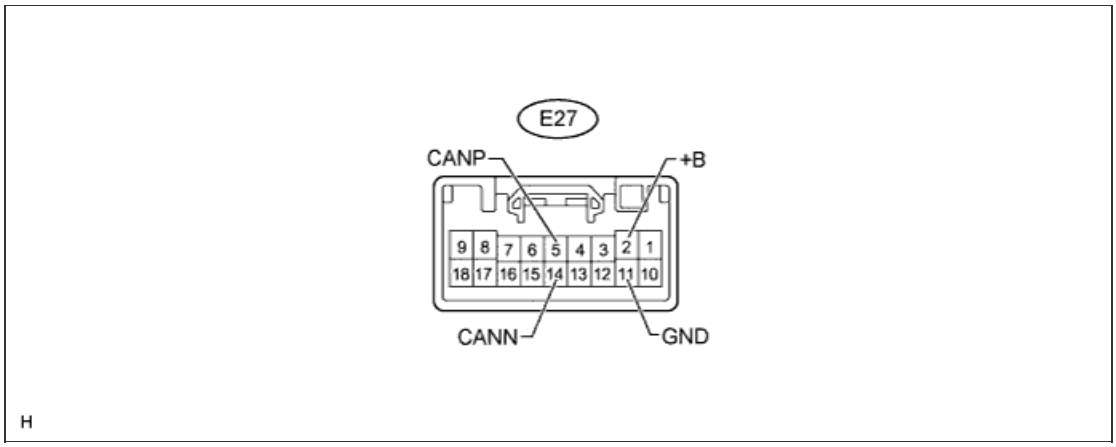



a. Disconnect the I18 and I17 outer mirror control ECU assembly connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| I18-1 (CANH) - I18-21 (CANL) | BR - R | Engine switch off | 54 to 69 Ω |
| I18-1 (CANH) - I17-9 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| I18-21 (CANL) - I17-9 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| I18-1 (CANH) - I17-3 (B) | BR - R | Engine switch off | 6 kΩ or higher |
| I18-21 (CANL) - I17-3 (B) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK MULTIPLEX TILT AND TELESCOPIC ECU

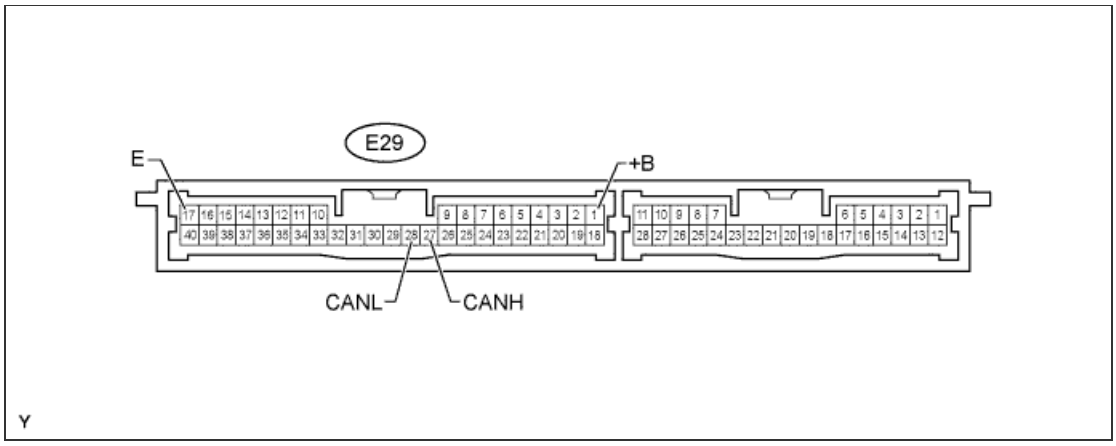



a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | P - R | Engine switch off | 54 to 69 Ω |
| E27-5 (CANP) - E27-11 (GND) | P - W-B | Engine switch off | 200 Ω or higher |
| E27-14 (CANN) - E27-11 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| E27-5 (CANP) - E27-2 (+B) | P - L | Engine switch off | 6 kΩ or higher |
| E27-14 (CANN) - E27-2 (+B) | R - L | Engine switch off | 6 kΩ or higher |

## CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

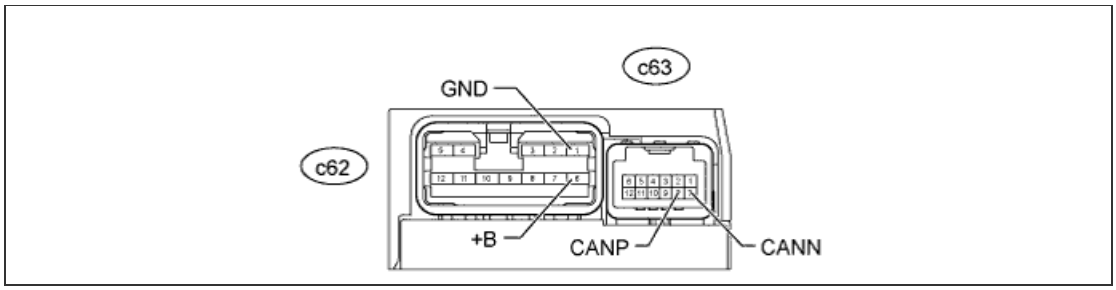



a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | LG - R | Engine switch off | 54 to 69 Ω |
| E29-27 (CANH) - E29-17 (E) | LG - W-B | Engine switch off | 200 Ω or higher |
| E29-28 (CANL) - E29-17 (E) | R - W-B | Engine switch off | 200 Ω or higher |
| E29-27 (CANH) - E29-1 (+B) | LG - B | Engine switch off | 6 kΩ or higher |
| E29-28 (CANL) - E29-1 (+B) | R - B | Engine switch off | 6 kΩ or higher |

## CHECK POSITION CONTROL ECU AND SWITCH

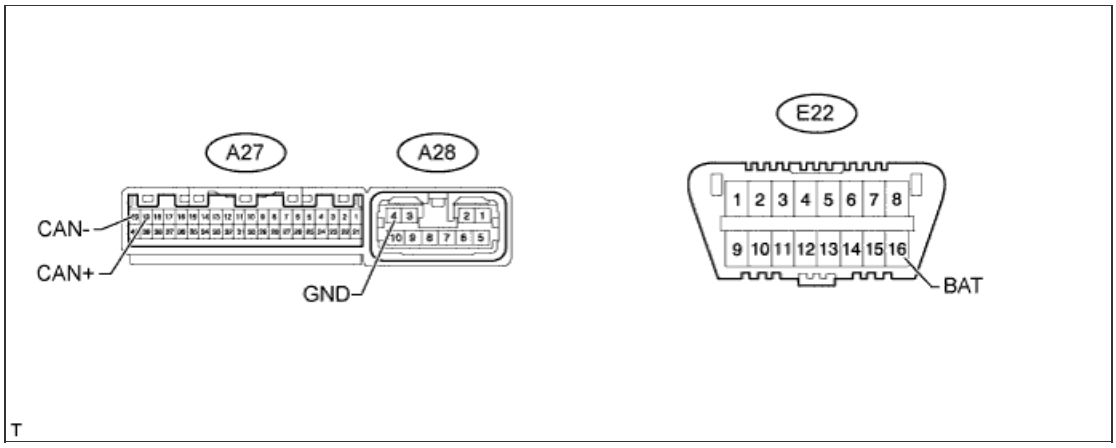



a. Disconnect the c62 and c63 position control ECU and switch connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| c63-8 (MPX1) - c63-7 (MPX2) | V - R | Engine switch off | 54 to 69 Ω |
| c63-8 (MPX1) - c62-1 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| c63-7 (MPX2) - c62-1 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| c63-8 (MPX1) - c62-6 (+B) | V - L | Engine switch off | 6 kΩ or higher |
| c63-7 (MPX2) - c62-6 (+B) | R - L | Engine switch off | 6 kΩ or higher |

## CHECK 4WD CONTROL ECU

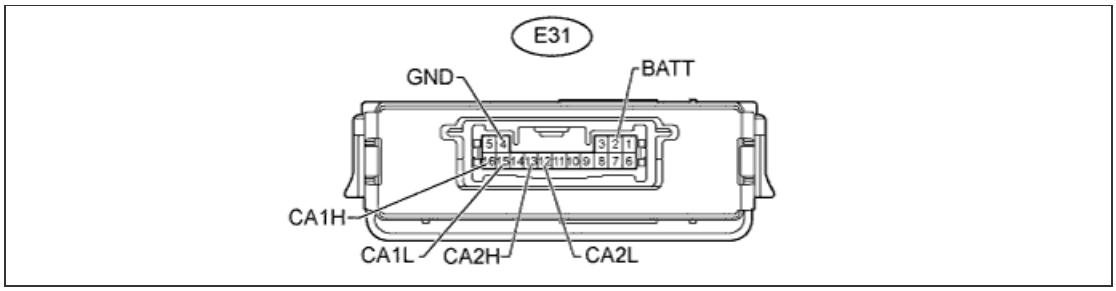



a. Disconnect the A27 and A28 4WD control ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A27-19 (CAN+) - A27-20 (CAN-) | P - L | Engine switch off | 54 to 69 Ω |
| A27-19 (CAN+) - A28-4 (GND) | P - W | Engine switch off | 200 Ω or higher |
| A27-20 (CAN-) - A28-4 (GND) | L - W | Engine switch off | 200 Ω or higher |
| A27-19 (CAN+) - E22-16 (BAT) | P - BE | Engine switch off | 6 kΩ or higher |
| A27-20 (CAN-) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK NETWORK GATEWAY ECU




a. Disconnect the E31 network gateway ECU connector.

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

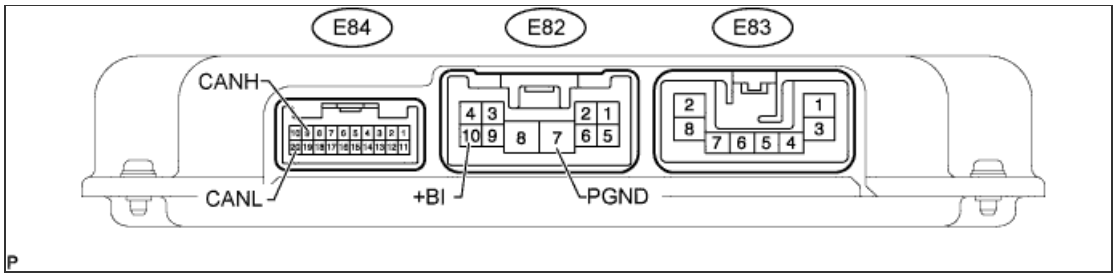
### V Bus

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L) | BR - B | Engine switch off | 54 to 69 Ω |
| E31-16 (CA1H) - E31-4 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| E31-15 (CA1L) - E31-4 (GND) | B - W-B | Engine switch off | 200 Ω or higher |
| E31-16 (CA1H) - E31-2 (BATT) | BR - R | Engine switch off | 6 kΩ or higher |
| E31-15 (CA1L) - E31-2 (BATT) | B - R | Engine switch off | 6 kΩ or higher |

### Movement Control Bus

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | SB - L | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E31-4 (GND) | SB - W-B | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E31-4 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E31-2 (BATT) | SB - R | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E31-2 (BATT) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK STEERING CONTROL ECU

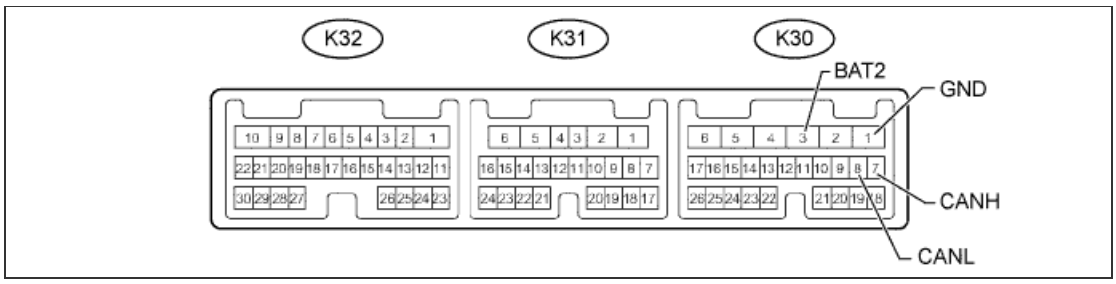



a. Disconnect the E82 and E84 steering control ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | LG - L | Engine switch off | 200 Ω or higher |
| E84-9 (CANH) - E82-7 (PGND) | LG - W-B | Engine switch off | 200 Ω or higher |
| E84-20 (CANL) - E82-7 (PGND) | L - W-B | Engine switch off | 200 Ω or higher |
| E84-9 (CANH) - E82-10 (+BI) | LG - R | Engine switch off | 6 kΩ or higher |
| E84-20 (CANL) - E82-10 (+BI) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK SUSPENSION CONTROL ECU

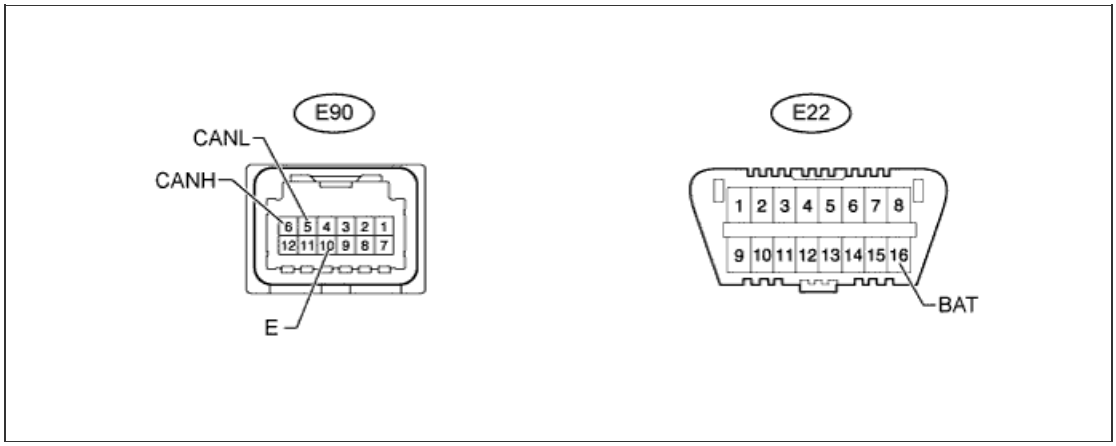



a. Disconnect the K30 suspension control ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| K30-7 (CANH) - K30-1 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| K30-8 (CANL) - K30-1 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| K30-7 (CANH) - K30-3 (BAT2) | V - R | Engine switch off | 6 kΩ or higher |
| K30-8 (CANL) - K30-3 (BAT2) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK WINDSHIELD WIPER ECU

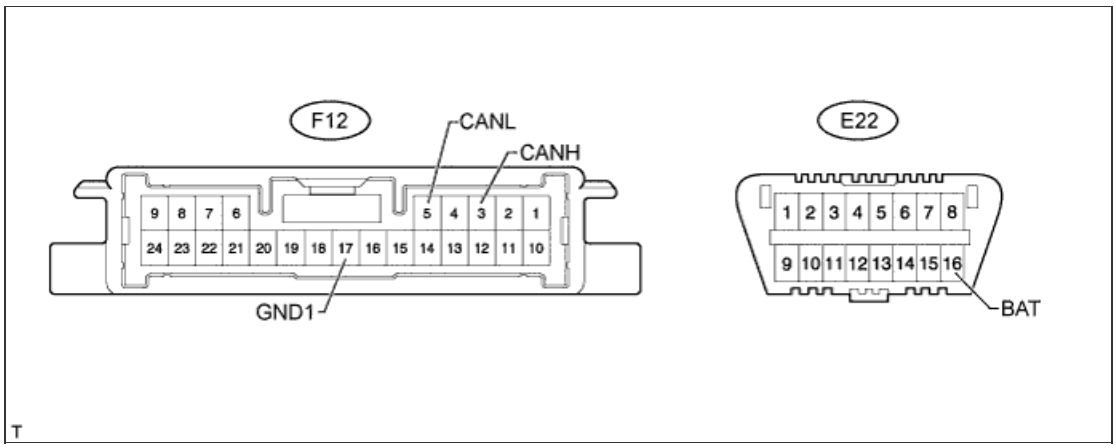



a. Disconnect the E90 windshield wiper ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | LG - R | Engine switch off | 54 to 69 Ω |
| E90-6 (CANH) - E90-10 (E) | LG - W-B | Engine switch off | 200 Ω or higher |
| E90-5 (CANL) - E90-10 (E) | R - W-B | Engine switch off | 200 Ω or higher |
| E90-6 (CANH) - E22-16 (BAT) | LG - BE | Engine switch off | 6 kΩ or higher |
| E90-5 (CANL) - E22-16 (BAT) | R - BE | Engine switch off | 6 kΩ or higher |

## CHECK CLEARANCE WARNING ECU ASSEMBLY (w/ LEXUS Parking Assist-sensor System and w/o Side Monitor System)

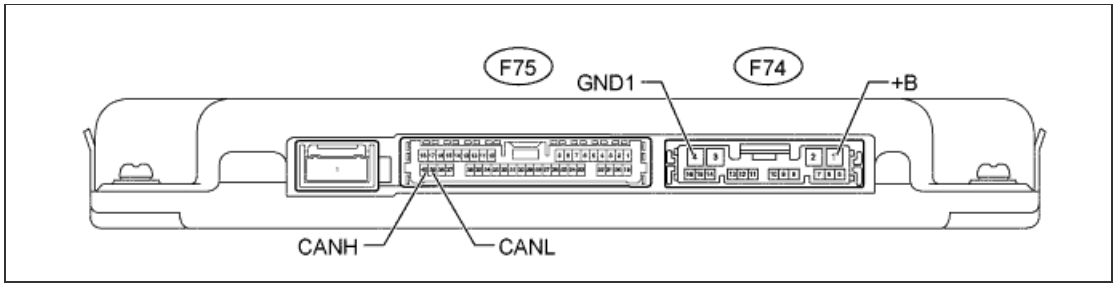



a. Disconnect F12 clearance warning ECU assembly connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F12-3 (CANH) - F12-5 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| F12-3 (CANH) - F12-17 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| F12-5 (CANL) - F12-17 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| F12-3 (CANH) - E22-16 (BAT) | V - BE | Engine switch off | 6 kΩ or higher |
| F12-5 (CANL) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK PARKING ASSIST ECU (w/ Side Monitor System)

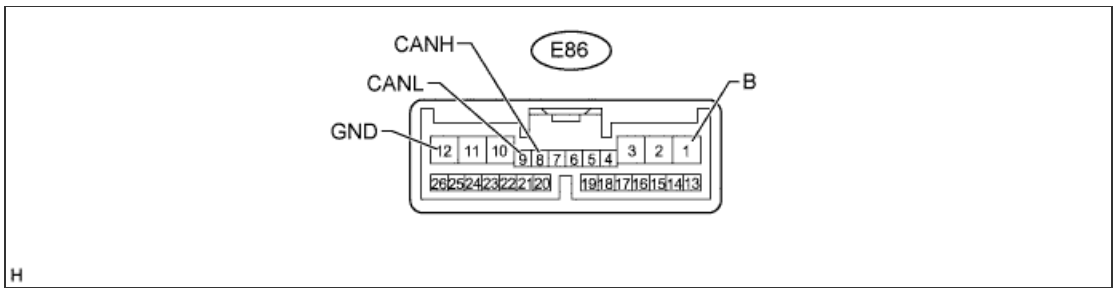



a. Disconnect the F74 and F75 parking assist ECU connectors.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F75-40 (CANH) - F75-39 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| F75-40 (CANH) - F74-4 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| F75-39 (CANL) - F74-4 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| F75-40 (CANH) - F74-1 (+B) | V - L | Engine switch off | 6 kΩ or higher |
| F75-39 (CANL) - F74-1 (+B) | L - L | Engine switch off | 6 kΩ or higher |

## CHECK DISTANCE CONTROL ECU ASSEMBLY (w/ Dynamic Radar Cruise Control System)

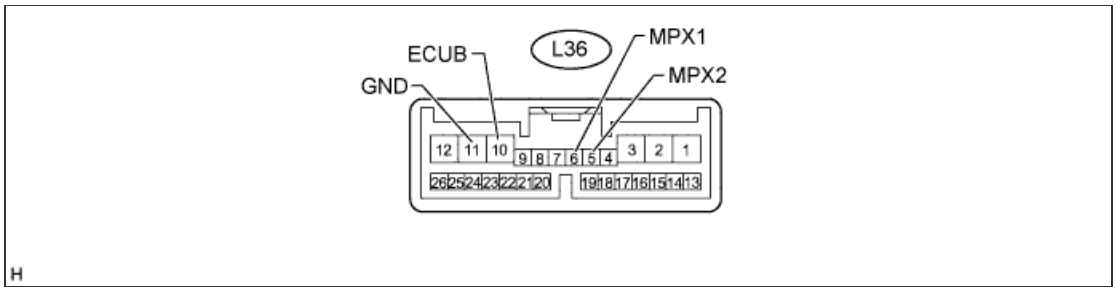



a. Disconnect the E86 distance control ECU assembly connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | SB - L | Engine switch off | 54 to 69 Ω |
| E86-8 (CANH) - E86-12 (GND) | SB - BR | Engine switch off | 200 Ω or higher |
| E86-9 (CANL) - E86-12 (GND) | L - BR | Engine switch off | 200 Ω or higher |
| E86-8 (CANH) - E86-1 (B) | SB - R | Engine switch off | 6 kΩ or higher |
| E86-9 (CANL) - E86-1 (B) | L - R | Engine switch off | 6 kΩ or higher |

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

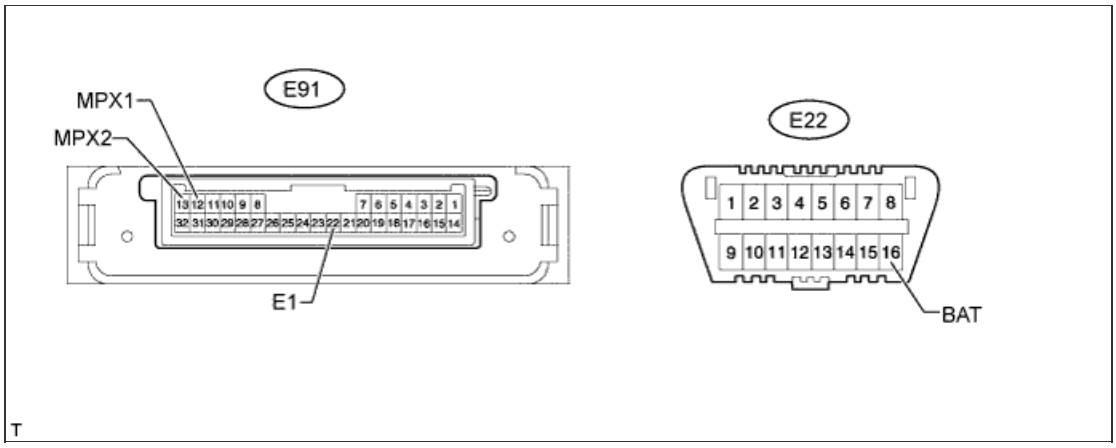



a. Disconnect the L36 power back door unit assembly (power back door ECU) connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | V - R | Engine switch off | 54 to 69 Ω |
| L36-6 (MPX1) - L36-11 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| L36-5 (MPX2) - L36-11 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| L36-6 (MPX1) - L36-10 (ECUB) | V - R | Engine switch off | 6 kΩ or higher |
| L36-5 (MPX2) - L36-10 (ECUB) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU)

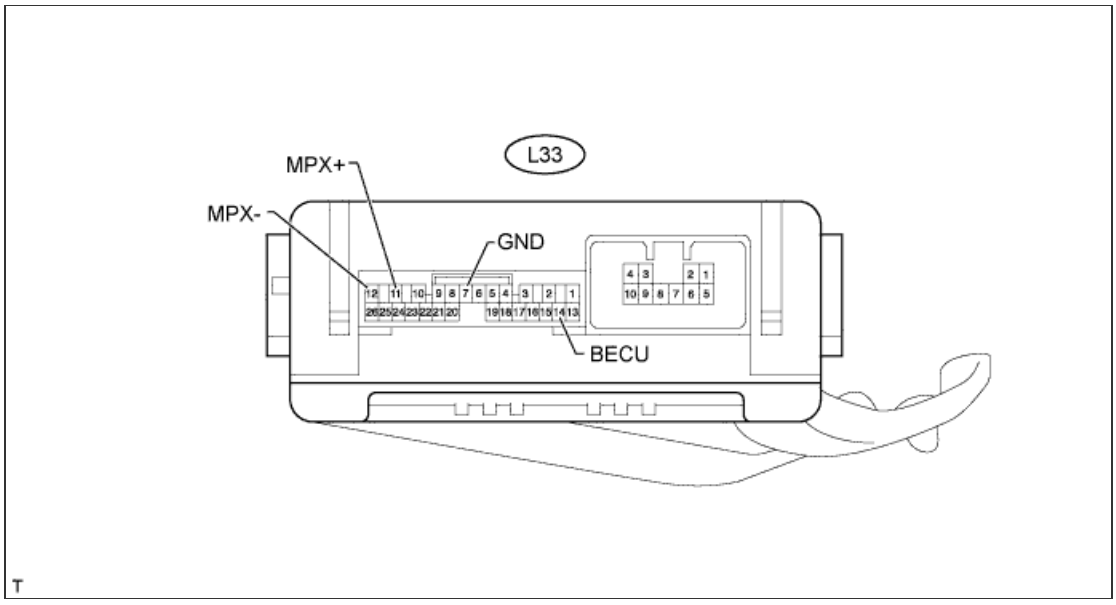



a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | LG - B | Engine switch off | 54 to 69 Ω |
| E91-12 (MPX1) - E91-22 (E1) | LG - W-B | Engine switch off | 200 Ω or higher |
| E91-13 (MPX2) - E91-22 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| E91-12 (MPX1) - E22-16 (BAT) | LG - BE | Engine switch off | 6 kΩ or higher |
| E91-13 (MPX2) - E22-16 (BAT) | B - BE | Engine switch off | 6 kΩ or higher |

**CHECK NO. 2 MAIN BODY ECU**




a. Disconnect the L33 No. 2 main body ECU connector.

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

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | LG - R | Engine switch off | 54 to 69 Ω |
| L33-11 (MPX+) - L33-7 (GND) | LG - W-B | Engine switch off | 200 Ω or higher |
| L33-12 (MPX-) - L33-7 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| L33-11 (MPX+) - L33-14 (BECU) | LG - R | Engine switch off | 6 kΩ or higher |
| L33-12 (MPX-) - L33-14 (BECU) | R - R | Engine switch off | 6 kΩ or higher |

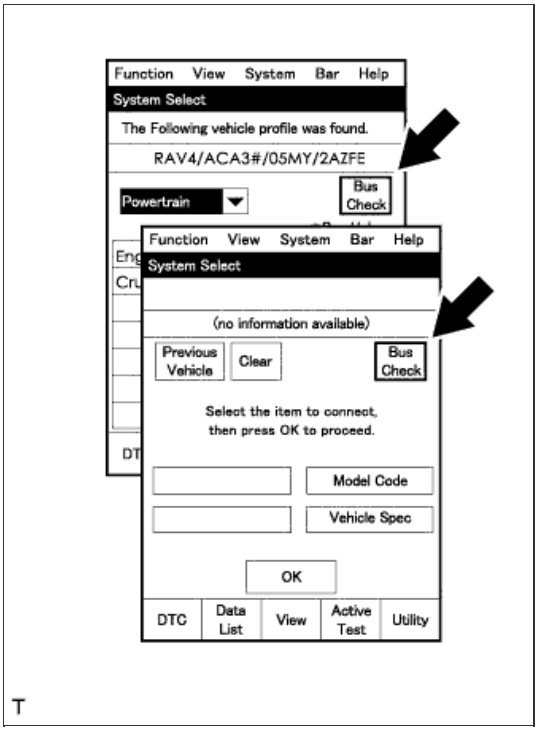
**for Preparation** Click here

## BUS CHECK (COMMUNICATION MALFUNCTION ECU)

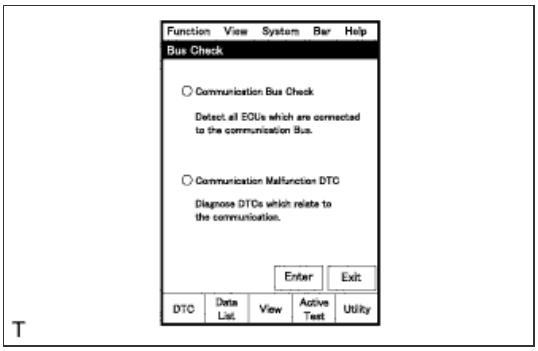
**HINT:**

Only CAN communication system DTCs for each ECU can be displayed on the intelligent tester.

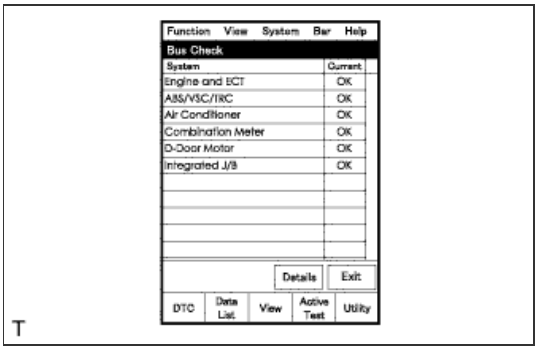
a. Select "Bus Check" from the "System Select" screen on the intelligent tester.



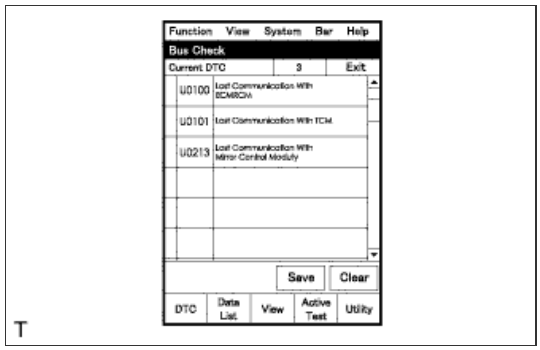

b. Select "Communication Malfunction DTC" from the "Bus Check" screen, and then select "Enter".




c. Select the system of the DTC to be checked and select "Details".




d. CAN communication system DTCs are displayed.

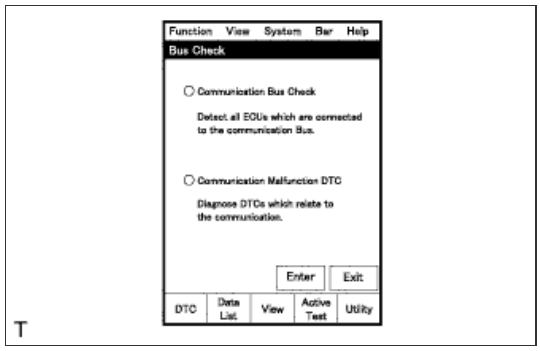



## BUS CHECK (COMMUNICATION BUS CHECK)

**HINT:**

The ECUs and sensors that are properly connected to the CAN communication system can be displayed using the intelligent tester.

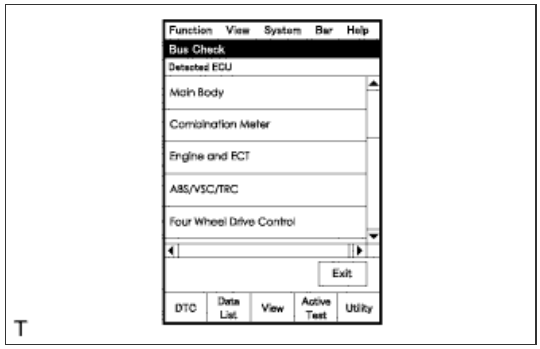
a. Select "Communication Bus Check" from the "Bus Check" screen.



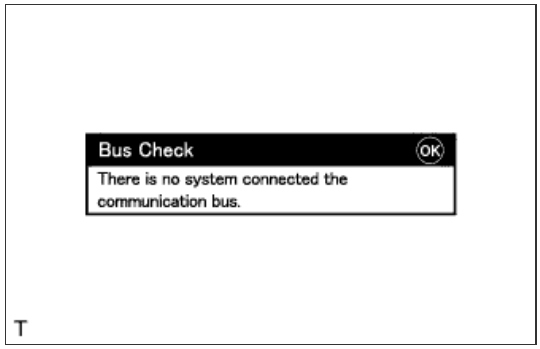

b. The screen displays the ECUs and sensors that are properly connected to the CAN communication system.

**HINT:**

If any properly connected ECUs or sensors are not displayed, there is a communication stop in the system (Click here).




c. "There is no system connected to the communication bus" is displayed if there are no ECUs or sensors connected to the CAN bus.




## CHECK INSTALLED SYSTEMS (ECUS AND SENSORS) THAT USE CAN COMMUNICATION

a. Systems (ECUs and sensors) that use CAN communication vary depending on the optional settings of the vehicle. Check which systems (ECUs and sensors) are installed on the vehicle.

| ECU/Sensor Name | Intelligent Tester Display | Installed on |
|---|---|---|
| Master cylinder solenoid (skid control ECU) | ABS/VSC/TRAC | All vehicles |
| Air conditioning amplifier | Air Conditioner | All vehicles |
| | | |

| | | |
|---|---|---|
| ECM | Engine | All vehicles |
| Main body ECU (cowl side junction block LH) | Main Body | All vehicles |
| Combination meter | Combination Meter | All vehicles |
| Center airbag sensor | SRS Airbag | All vehicles |
| Multi-display | AVN | All vehicles |
| Steering control ECU | VGRS | All vehicles |
| Steering angle sensor | Steering Angle Sensor | All vehicles |
| Yaw rate sensor | Yaw Rate / Deceleration Sensor | All vehicles |
| Seat belt control ECU | Pre-crash Seat Belt | Vehicles with pre-crash safety system |
| Clearance warning ECU | Clearance Sonar | Vehicles with LEXUS parking assist-sensor system |
| Parking assist ECU | Parking Assist Monitor | Vehicles with parking assist monitor system |
| Outer mirror control ECU | Driver Door/Mirror | All vehicles |
| Multiplex tilt and telescopic ECU | Tilt&Telescopic | All vehicles |
| Certification ECU (smart key ECU) | Entry & Start / Wireless Tuner | All vehicles |
| Position control ECU and switch | Driver Seat | All vehicles |
| Network gateway ECU | CAN Gateway | All vehicles |
| 4WD control ECU | Four Wheel Drive Control | All vehicles |
| No. 2 main body ECU | Body No.4 | All vehicles |
| Windshield wiper ECU | Rain Sensor | All vehicles |
| Distance control ECU) | Cruise Control (ACC) | Vehicles with dynamic radar cruise control system |
| AFS ECU (headlight swivel ECU) | AFS/HL AutoLeveling | All vehicles |
| Steering control ECU | VGRS | All vehicles |
| Power back door unit (power back door ECU) | Power Back Door | Vehicles with power back door system |

## DTC TABLE BY ECU

**HINT:**

- **In the CAN communication system, CAN communication system DTCs stored by the ECU can be output by using the intelligent tester.**
- **If CAN communication system DTCs are output, the trouble cannot be determined solely from the DTCs. Perform troubleshooting according to "How to Proceed with Troubleshooting".**

a. MASTER CYLINDER SOLENOID (SKID CONTROL ECU)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0073 | Control Module Communication Bus OFF |
| U0100 | Lost Communication with ECM/PCM "A" |
| U0114/38 | Lost Communication with 4WD Control ECU |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |

b. ECM/ECT

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0101 | Lost Communication with TCM |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |

| | |
|---|---|
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U1101 | Lost Communication with Distance Control ECU |

c. MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0141 | Lost Communication with Body Control Module "A" |
| U0199 | Lost Communication with "Door Control Module A" |
| U0208 | Lost Communication with "Seat Control Module A" |
| U0230 | Lost Communication with Rear Gate Module |
| U0327 | Software Incompatibility with Vehicle Security Control Module |
| U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body ECU) |
| U1111 | Lost Communication with Front Controller Module |
| U1115 | Lost Communication with Tilt and Telescopic Module |

d. COMBINATION METER

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0129 | Lost Communication with Brake System Control Module |

e. SEAT BELT CONTROL ECU
For vehicles with the pre-crash safety system only.

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0151 | Lost Communication with Airbag ECU |
| U1101 | Lost Communication with Distance Control ECU |

f. MULTIPLEX TILT AND TELESCOPIC ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B2621 | Communication Interruption |
| B2624* | Vehicle Speed Malfunction |

**HINT:**

*: Refer to the Power Tilt and Power Telescopic Steering Column System ( Click here).

g. MULTI-DISPLAY

**HINT:**

The multi-display is connected to the CAN communication system but CAN communication DTCs are not stored.

h. OUTER MIRROR CONTROL ECU

**HINT:**

The outer mirror control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

i. CENTER AIRBAG SENSOR

**HINT:**

The center airbag sensor is connected to the CAN communication system but CAN communication DTCs are not stored.

j. CERTIFICATION ECU (SMART KEY ECU)

**HINT:**

The certification ECU (smart key ECU) is connected to the CAN communication system but CAN communication DTCs are not stored.

k. AIR CONDITIONING AMPLIFIER

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B1499 | Multiplex Communication Circuit |

l. POSITION CONTROL ECU AND SWITCH

**HINT:**

The position control ECU and switch is connected to the CAN communication system but CAN communication DTCs are not stored.

m. NETWORK GATEWAY ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0114/38 | Lost Communication with 4WD Control ECU |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |
| U0132 | Lost Communication with Ride Level Control Module |
| U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module (Network Gateway ECU) |
| U1100 | Lost Communication with Seat Belt Control Module |
| U1101 | Lost Communication with Distance Control ECU |
| U1110 | Lost Communication with Clearance Sonar Module |
| U1126 | Lost Communication with Parking Assist ECU |

n. CLEARANCE WARNING ECU
For vehicles with the LEXUS parking assist-sensor system only.

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| C1AEF | Shift Position Information |
| U0155 | Lost Communication with Instrument Panel Cluster Control Module |

o. PARKING ASSIST ECU
For vehicles with the parking assist monitor system only.

**HINT:**

The parking assist ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

p. 4WD CONTROL ECU

**HINT:**

The 4WD control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

q. NO. 2 MAIN BODY ECU

**HINT:**

The No. 2 main body ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

r. WINDSHIELD WIPER ECU

**HINT:**

The windshield wiper ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

s. POWER BACK DOOR UNIT (POWER BACK DOOR ECU)
For vehicles with the power back door system only.

**HINT:**

The power back door unit (power back door ECU) is connected to the CAN communication system but CAN communication DTCs are not stored.

t. SUSPENSION CONTROL ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0101 | Lost Communication with TCM |
| U0114/38 | Lost Communication with 4WD Control ECU |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |
| U0140 | Lost Communication with Main Body ECU |

u. DISTANCE CONTROL ECU
For vehicles with the dynamic radar cruise control system only.

**HINT:**

The distance control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

v. AFS ECU (HEADLIGHT SWIVEL ECU)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B2427 | CAN Communication Malfunction |

w. STEERING CONTROL ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |

## DTC COMBINATION TABLE

*4: The ECM receives diagnosis data from the distance control ECU and stores a DTC.
*5: The seat belt control ECU receives diagnosis data from the distance control ECU and stores a DTC.

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | V Bus | | | |
| | | | | Main Body ECU Communication Stop Mode | Combination Meter Communication Stop Mode | Center Airbag Sensor Communication Stop Mode | Air Conditioning Amplifier Communication Stop Mode |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with 4WD Control ECU | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | - |
| | | | • Main Body | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | ○*1 | ○ | X | X |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | ○ | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | X | X | X | X |
| Air Conditioning Amplifier | B1499 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | ○ | ○ | X | ○*1 |
| Steering Control ECU | U0126 | Shift Position Information | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | ○ | X | X |
| | | | • ECM | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | ○ | X | X | X |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | ○ | X |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | ○*1 | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | ○*1 | X | X |
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U1111 | with Body No. 5 Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | V Bus | | | |
| | | | | Multi-display Communication Stop Mode | AFS ECU Communication Stop Mode | ECM Communication Stop Mode | Network Gateway ECU Communication Stop Mode |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Master Cylinder Solenoid (Skid Control ECU) | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*2 | ○*1, *2 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*2, *4 | ○*1 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | ○ | ○ |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | ○ | ○ |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | ○ | ○ |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | | Vehicle Speed | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | B2624 | Malfunction | Combination Meter | X | X | X | X |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*3 | ○*1, *3 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block LH) | X | X | X | ○*1 |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | X | X | ○*3 | ○*1, *3 |
| Air Conditioning Amplifier | B1499 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | X | X | X | X |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○ | ○*1 |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | ○ | ○*1 |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | X | X | ○*1 |
| | | | • ECM<br>• Master Cylinder Solenoid (Skid Control | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | X | ○*1 | ○ | ○*1 |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*5 | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | X | ○*1 |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○*1 |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○ | X |
| Main Body ECU (Cowl Side Junction Block) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U0199 | with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | Movement Control Bus | | | |
| | | | | Network Gateway ECU Communication Stop Mode | Clearance Warning ECU Communication Stop Mode | Parking Assist ECU Communication Stop Mode | Skid Control ECU Communication Stop Mode |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X | ○*1 |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | X | X | X | ○*1 |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○*2 | X | X | ○*1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Master Cylinder Solenoid (Skid Control ECU) | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | ○*1 |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X | ○*1 |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | ○*1 |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | X | X | X | ○*1 |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○ | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○*4 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | ○ | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | ○ | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | ○ | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM | ECM | ○*3 | X | X | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | "A" | | | | | |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○ |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | X |
| Suspension Control ECU | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | X | X | X | X |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block LH) | ○ | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X | X |
| | U0101 | Lost Communication with TCM | ECT | ○*3 | X | X | X |
| Air Conditioning Amplifier | B1499 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Control ECU | X | X | X | X |
| Steering Control ECU | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○ |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○ | X | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | ○ | ○*1 | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | ○ | ○*1 | X | X |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering | ○ | X | X | ○ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | | | | |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○ | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○ |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | X |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | ○ | X | X | X |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○ | X | X | ○ |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Main Body ECU (Cowl Side Junction Block) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| | | Lost | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Network Gateway ECU | U1100 | Communication with Seat Belt Control Module | Seat Belt Control ECU | ○ | X | X | X |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | ○ | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | ○ | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | ○ | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | ○ | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○ | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○ | X | X | ○ |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | ○ | X | ○ | X |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | ○ | ○ | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | ○ | X | X | X |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | Movement Control Bus | | | |
| | | | | 4WD Control ECU Communication Stop Mode | Steering Angle Sensor Communication Stop Mode | Yaw Rate Sensor Communication Stop Mode | Distance Control ECU Communication Stop Mode |
| Master Cylinder | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | ○ | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | X | X | ○ | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor | Steering Angle Sensor | X | ○ | X | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Solenoid (Skid Control ECU) | | Module | | | | | |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○ | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | X | ○ | ○ | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | ○*1, *4 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | ○*1, *4 |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | ○*4 | ○*1, *4 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○*4 | X | ○*1, *4 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○*1, *4 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | ○ |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | ○ |
| | 1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | ○ |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | | Lost Communication with Vehicle | Master Cylinder Solenoid (Skid Control | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Suspension Control ECU | U0122 | Dynamics Control Module | ECU) | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | X | X | ○ | X |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | X | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○*3 | X | X | X |
| | U0101 | Lost Communication with TCM | ECT | X | X | X | X |
| Air Conditioning Amplifier | B1499 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | X | X | X |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl | X | ○ | X | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Side Junction Block LH) | | | | |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | ○ |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | X | X |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | X | X | X | X |
| | | Lost | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Network Gateway ECU | U0132 | Communication with Ride Level Control Module | Suspension Control ECU | X | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | ○ |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | ○ | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○ | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | X | X | X | X |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | X | X | X | X |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | |
|---|---|---|---|---|---|---|
| | | | | Movement Control Bus | | |
| | | | | Steering Control ECU Communication Stop Mode | Suspension Control ECU Communication Stop Mode | Seat Belt Control ECU Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | X | X |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | ○ | X | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | - | - | - |
| Suspension | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | ○*1 | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | ○*1 | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○*1 | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | ○*1 | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| Control ECU | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | X | ○*1 | X |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | X | ○*1 | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | ○*1 | X |
| | U0101 | Lost Communication with TCM | ECT | X | ○*1 | X |
| Air Conditioning Amplifier | B1499 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | ○*1 | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○*1 | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○*1 | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | X | X |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | ○ | X | X |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | ○*1 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | ○*1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | ○*1 |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - |
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | X | X | ○ |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | X | ○ | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | X | X | X |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | X | X | X |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | MS Bus | | | |
| | | | | Outer Mirror Control ECU Communication Stop Mode | Windshield Wiper ECU Communication Stop Mode | Multiplex Tilt and Telescopic ECU Communication Stop Mode | Position Control ECU and Switch Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ECM | U0123 | with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | X | X | ○*1 | ○ |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | X | X | ○*1 | X |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block LH) | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication | ECT | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | with TCM | | | | | |
| Air Conditioning Amplifier | B1499 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | - | - | - | - |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | - | - | - | - |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | - | - | - | - |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | - | - | - | - |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | X | X | X | X |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | X | X | X | X |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | X | X | X | X |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | X | X | X | X |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | X | X | X | ○ |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | X | X | ○ | X |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | X | ○ | X | X |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | ○ | X | X | X |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle | Master Cylinder Solenoid (Skid Control | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Dynamics Control Module | ECU) | | | | |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | MS Bus | | | |
| | | | | Power Back Door ECU Communication Stop Mode | No. 2 Main Body ECU Communication Stop Mode | Certification ECU Communication Stop Mode | Main Body ECU Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ECM | U0126 | with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | X | X | X | ○ |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | X | X | X | ○ |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | - | - | - | - |
| Air Conditioning | | Multiplex | • Main Body ECU (Cowl Side | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Amplifier | B1499 | Communication Circuit | Junction Block LH)<br>• Combination Meter | - | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | - | - | - | - |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | - | - | - | - |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | - | - | - | - |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | - | - | - | - |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway | MS Bus Network Malfunction | X | X | X | ○ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Module | | | | | |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | X | X | ○ | ○ |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | X | ○ | X | ○ |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | ○ | X | X | ○ |
| Main Body ECU (Cowl Side Junction Block LH) | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | X | X | X | ○ |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | X | X | X | ○ |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | X | X | X | ○ |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | X | X | X | ○ |
| | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| Network Gateway ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | | Lost | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U1126 | Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

**HINT:**

○: Stored.

x: When one side of branch wire is open, storage may occur.

*1: Only stored when communication recovery has occurred. During communication stop, cannot be stored.

*2: Stored when vehicle speed is 15 km/h (9 mph) or more.

*3: Stored when vehicle speed is 30 km/h (18 mph) or more.

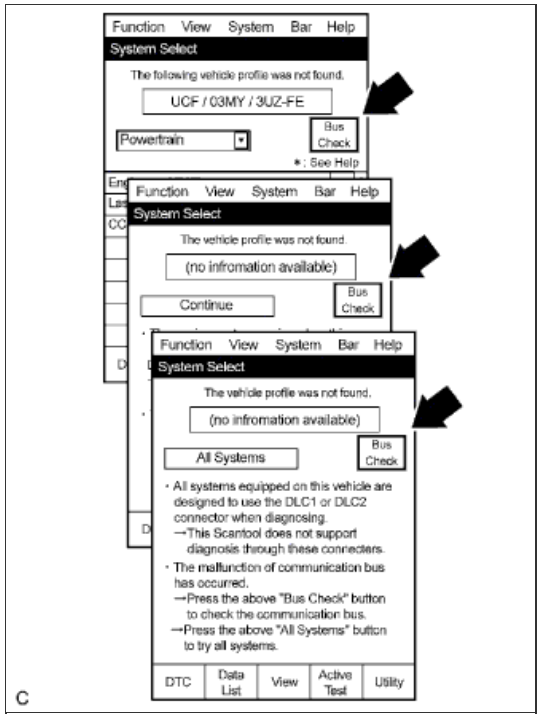
**for Preparation** Click here

## BUS CHECK (COMMUNICATION MALFUNCTION ECU)

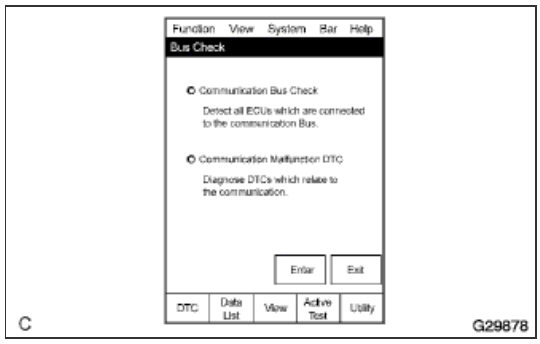
**HINT:**

Only CAN communication system DTCs for each ECU can be displayed on the intelligent tester.

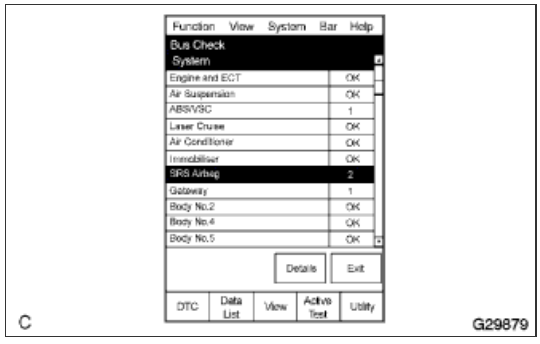
a. Select "Bus Check" from the "System Select" screen on the intelligent tester.



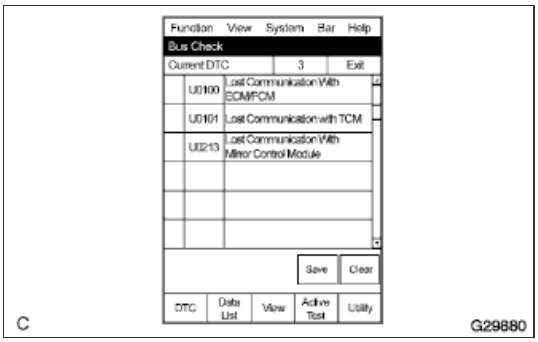

b. Select "Communication Malfunction DTC" from the "Bus Check" screen, and then select "Enter".




c. Select the system of the DTC to be checked and select "Details".




d. CAN communication system DTCs are displayed.

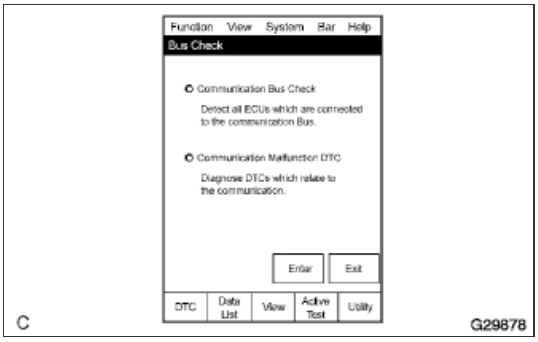



## BUS CHECK (COMMUNICATION BUS CHECK)

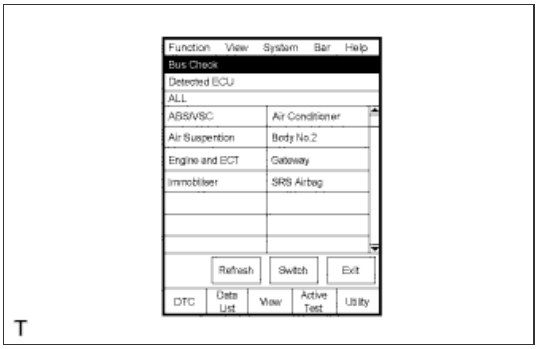
**HINT:**

The ECUs and sensors that are properly connected to the CAN communication system can be displayed using the intelligent tester.

a. Select "Communication Bus Check" from the "Bus Check" screen.

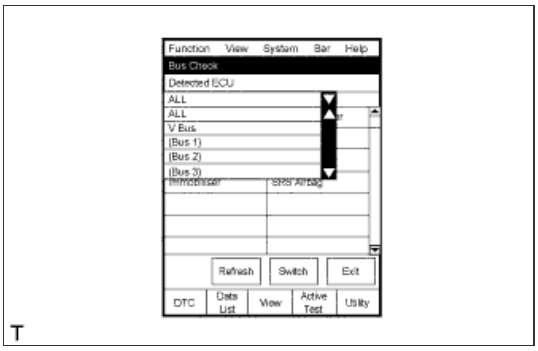



b. The screen displays the ECUs and sensors that are properly connected to the CAN communication system.




**HINT:**

- **If any properly connected ECUs or sensors are not displayed, there is a communication stop in the system (Click here).**




- **The default item displayed in the combo box is "ALL". When checking the ECUs (sensors) connected to each bus, pull down the combo box and select the bus to be checked from the drop down list. The drop down list displays "ALL", "V Bus", and the names of the remaining buses.**

| Combo Box | Display Content |
|---|---|
| ALL | All ECUs (sensors) connected to the CAN bus |
| V Bus | ECUs (sensors) connected to the V bus |
| Bus Name | ECUs (sensors) connected to the selected bus |

- **The connection status (shown below) is indicated by the background color displayed behind the system name.**

**ECU (Sensor) on V Bus**

| Background Color | Connection Status |
|---|---|
| White | Detected normally |
| Yellow | Could not be detected in the past, but is currently detected |
| Red | Detected in the past, but cannot be detected now |

| | |
|---|---|
| Not displayed | Has never been detected |

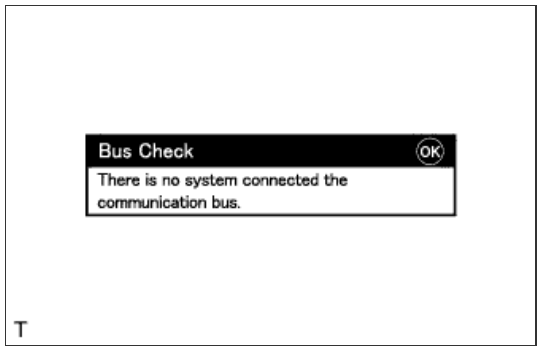
**ECU (Sensor) with no Data Monitor History**

| Background Color | Connection Status |
|---|---|
| White | Detected normally |
| Yellow | Could not be detected in the past, but is currently detected |
| Red | Detected in the past, but cannot be detected now |
| Not displayed | Has never been detected |

**ECU (Sensor) with no Data Monitor History**

| Background Color | Connection Status |
|---|---|
| White | Detected normally |
| Yellow | Could not be detected in the past, but is currently detected |
| Red | Detected in the past, but cannot be detected now |
| Red | Has never been detected bus has connection history |
| Not displayed | Has never been detected and has no connection history |

c. "There is no system connected to the communication bus" is displayed if there are no ECUs or sensors connected to the CAN bus.




## CHECK INSTALLED SYSTEMS (ECUS AND SENSORS) THAT USE CAN COMMUNICATION

a. Systems (ECUs and sensors) that use CAN communication vary depending on the optional settings of the vehicle. Check which systems (ECUs and sensors) are installed on the vehicle.

| ECU/Sensor Name | Intelligent Tester Display | Installed on |
|---|---|---|
| Master cylinder solenoid (skid control ECU) | ABS/VSC/TRAC | All vehicles |
| Air conditioning amplifier | Air Conditioner | All vehicles |
| ECM | Engine | All vehicles |
| Main body ECU (cowl side junction block LH) | Main Body | All vehicles |
| Combination meter | Combination Meter | All vehicles |
| Center airbag sensor | SRS Airbag | All vehicles |
| Display and navigation module display | AVN1 | All vehicles |
| Steering control ECU | VGRS | All vehicles |
| Steering angle sensor | Steering Angle Sensor | All vehicles |
| Yaw rate sensor | Yaw Rate / Deceleration Sensor | All vehicles |
| Seat belt control ECU | Pre-crash Seat Belt | Vehicles with pre-crash safety system |
| Clearance warning ECU | Clearance Sonar | Vehicles with LEXUS parking assist-sensor system |
| Parking assist ECU | Parking Assist Monitor | Vehicles with parking assist monitor |

| | | |
|---|---|---|
| | | system |
| Outer mirror control ECU | Driver Door/Mirror | All vehicles |
| Multiplex tilt and telescopic ECU | Tilt&Telescopic | All vehicles |
| Certification ECU (smart key ECU) | Entry & Start / Wireless Tuner | All vehicles |
| Position control ECU and switch | Driver Seat | All vehicles |
| Network gateway ECU | CAN Gateway | All vehicles |
| 4WD control ECU | Four Wheel Drive Control | All vehicles |
| No. 2 main body ECU | Body No.4 | All vehicles |
| Windshield wiper ECU | Rain Sensor | All vehicles |
| Distance control ECU) | Cruise Control (ACC) | Vehicles with dynamic radar cruise control system |
| AFS ECU (headlight swivel ECU) | AFS/HL AutoLeveling | All vehicles |
| Steering control ECU | VGRS | All vehicles |
| Power back door unit (power back door ECU) | Power Back Door | Vehicles with power back door system |

## DTC TABLE BY ECU

**HINT:**

- **In the CAN communication system, CAN communication system DTCs stored by the ECU can be output by using the intelligent tester.**
- **If CAN communication system DTCs are output, the trouble cannot be determined solely from the DTCs. Perform troubleshooting according to "How to Proceed with Troubleshooting".**

a. MASTER CYLINDER SOLENOID (SKID CONTROL ECU)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0073 | Control Module Communication Bus OFF |
| U0100 | Lost Communication with ECM/PCM "A" |
| U0114/38 | Lost Communication with 4WD Control ECU |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |

b. ECM/ECT

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U1101 | Lost Communication with Distance Control ECU |

c. MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0141 | Lost Communication with Body Control Module "A" |
| U0199 | Lost Communication with "Door Control Module A" |
| U0208 | Lost Communication with "Seat Control Module A" |
| U0230 | Lost Communication with Rear Gate Module |

| | |
|---|---|
| U0327 | Software Incompatibility with Vehicle Security Control Module |
| U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body ECU) |
| U1111 | Lost Communication with Front Controller Module |
| U1115 | Lost Communication with Tilt and Telescopic Module |

d. COMBINATION METER

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0129 | Lost Communication with Brake System Control Module |

e. SEAT BELT CONTROL ECU
For vehicles with the pre-crash safety system only.

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0151 | Lost Communication with Airbag ECU |
| U1101 | Lost Communication with Distance Control ECU |

f. MULTIPLEX TILT AND TELESCOPIC ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B2621 | Communication Interruption |
| B2624* | Vehicle Speed Malfunction |

**HINT:**

*: Refer to the Power Tilt and Power Telescopic Steering Column System ( Click here).

g. DISPLAY AND NAVIGATION MODULE DISPLAY

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0073 | Control Module Communication Bus OFF |
| U0100 | Lost Communication with ECM/PCM "A" |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0129 | Lost Communication with Brake System Control Module |
| U0155 | Lost Communication with Combination Meter |
| U0164 | Lost Communication with A/C ECU |
| U1110 | Lost Communication with Clearance Sonar Module |

h. OUTER MIRROR CONTROL ECU

**HINT:**

The outer mirror control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

i. CENTER AIRBAG SENSOR

**HINT:**

The center airbag sensor is connected to the CAN communication system but CAN communication DTCs are not stored.

j. CERTIFICATION ECU (SMART KEY ECU)

**HINT:**

The certification ECU (smart key ECU) is connected to the CAN communication system but CAN communication DTCs are not stored.

k. AIR CONDITIONING AMPLIFIER

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B1499 | Multiplex Communication Circuit |

l. POSITION CONTROL ECU AND SWITCH

**HINT:**

The position control ECU and switch is connected to the CAN communication system but CAN communication DTCs are not stored.

m. NETWORK GATEWAY ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0114/38 | Lost Communication with 4WD Control ECU |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |
| U0132 | Lost Communication with Ride Level Control Module |
| U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module (Network Gateway ECU) |
| U1100 | Lost Communication with Seat Belt Control Module |
| U1101 | Lost Communication with Distance Control ECU |
| U1110 | Lost Communication with Clearance Sonar Module |
| U1126 | Lost Communication with Parking Assist ECU |

n. CLEARANCE WARNING ECU
For vehicles with the LEXUS parking assist-sensor system only.

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| C1AEF | Shift Position Information |
| U0155 | Lost Communication with Instrument Panel Cluster Control Module |

o. PARKING ASSIST ECU
For vehicles with the parking assist monitor system only.

**HINT:**

The parking assist ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

p. 4WD CONTROL ECU

**HINT:**

The 4WD control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

q. NO. 2 MAIN BODY ECU

**HINT:**

The No. 2 main body ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

r. WINDSHIELD WIPER ECU

**HINT:**

The windshield wiper ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

s. POWER BACK DOOR UNIT (POWER BACK DOOR ECU)
For vehicles with the power back door system only.

**HINT:**

The power back door unit (power back door ECU) is connected to the CAN communication system but CAN communication DTCs are not stored.

t. SUSPENSION CONTROL ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0101 | Lost Communication with TCM |
| U0114/38 | Lost Communication with 4WD Control ECU |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |
| U0140 | Lost Communication with Main Body ECU |

u. DISTANCE CONTROL ECU
For vehicles with the dynamic radar cruise control system only.

**HINT:**

The distance control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

v. AFS ECU (HEADLIGHT SWIVEL ECU)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B2427 | CAN Communication Malfunction |

w. STEERING CONTROL ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |

## DTC COMBINATION TABLE

*4: The ECM receives diagnosis data from the distance control ECU and stores a DTC.
*5: The seat belt control ECU receives diagnosis data from the distance control ECU and stores a DTC.
*6: Only stored while malfunction continues.

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | V Bus | | | |
| | | | | Main Body ECU Communication Stop Mode | Combination Meter Communication Stop Mode | Center Airbag Sensor Communication Stop Mode | Air Conditioning Amplifier Communication Stop Mode |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Master Cylinder Solenoid (Skid Control ECU) | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with 4WD Control ECU | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | | Vehicle Speed | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | B2624 | Malfunction | Combination Meter | ○*1 | ○ | X | X |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | ○ | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | X | X | X | X |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | ○ | ○ | X | ○*1 |
| Steering Control ECU | U0126 | Shift Position Information | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | ○ | X | X |
| AFS ECU (Headlight | B2427 | CAN Communication | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle | ○ | X | X | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Swivel ECU) | | Malfunction | Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | | | | |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | ○ | X |
| Display and Navigation Module Display | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | X | X | X | X |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | X | X | X | ○ |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X | X |
| | U0155 | Lost Communication with Combination Meter | Combination Meter | X | ○ | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | ○*1 | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | ○*1 | X | X |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | | Software | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Main Body ECU (Cowl Side Junction Block LH) | U0327 | Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Body No. 5 Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |

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|---|---|---|---|---|---|---|---|
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | V Bus | | | |
| | | | | Display and Navigation Assembly Communication Stop Mode | AFS ECU Communication Stop Mode | ECM Communication Stop Mode | Network Gateway ECU Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*2 | ○*1, *2 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*2, *4 | ○*1 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | | Lost Communication | Master Cylinder | | | | |

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|---|---|---|---|---|---|---|---|
| | U0122 | with Vehicle Dynamics Control Module | Solenoid (Skid Control ECU) | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | ○ | ○ |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | ○ | ○ |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | X | X | X | X |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*3 | ○*1, *3 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block LH) | X | X | X | ○*1 |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | X | X | ○*3 | ○*1, *3 |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Steering Control ECU | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○ | ○*1 |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | ○ | ○*1 |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | X | X | ○*1 |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | X | ○*1 | ○ | ○*1 |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*5 | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | X | ○*1 |
| Display and Navigation Module Display | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | ○*1 | X | X | X |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | ○*1 | X | X | X |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | ○*1 | X | X | ○*1 |
| | U0155 | Lost Communication with Combination Meter | Combination Meter | ○*1 | X | X | X |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U0126 | with Steering Angle Sensor Module | Steering Angle Sensor | ○*1 | X | X | ○*1 |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○*1 | X | ○ | X |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○*1 | X | X | ○*1 |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○*1 |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○ | X |
| Main Body ECU (Cowl Side Junction Block) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control | Steering Control ECU | - | - | - | - |

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|---|---|---|---|---|---|---|---|
| Network Gateway ECU | | Module | | | | | |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | Movement Control Bus | | | |
| | | | | Network Gateway ECU Communication Stop Mode | Clearance Warning ECU Communication Stop Mode | Parking Assist ECU Communication Stop Mode | Skid Control ECU Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X | ○*1 |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | X | X | X | ○*1 |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○*2 | X | X | ○*1 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | ○*1 |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X | ○*1 |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | ○*1 |
| | | | • Yaw Rate | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U0073 | Control Module Communication Bus OFF | Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | X | X | X | ○*1 |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○ | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○*4 |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | ○ | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | ○ | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | - | - | - | - |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○*3 | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○ |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | | Lost Communication with Lateral | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U0124 | Acceleration Sensor Module | Yaw Rate Sensor | X | X | X | X |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block LH) | ○ | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X | X |
| | U0101 | Lost Communication with TCM | ECT | ○*3 | X | X | X |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Control ECU | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○ |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○ | X | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | ○ | ○*1 | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | ○ | ○*1 | X | X |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | ○ | X | X | ○ |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○ | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○ |
| | U1101 | Lost Communication with Distance | Distance Control ECU | X | X | X | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Control ECU | | | | | |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | ○ | X | X | X |
| Display and Navigation Module Display | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | ○*1 | ○ | X | X |
| | U0155 | Lost Communication with Combination Meter | Combination Meter | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | ○*1 | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○*1 | X | X | ○ |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○ | X | X | ○ |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Main Body ECU (Cowl Side Junction Block) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | | Lost | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U1115 | Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | ○ | X | X | X |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | ○ | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | ○ | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | ○ | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | ○ | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○ | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○ | X | X | ○ |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | ○ | X | ○ | X |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | ○ | ○ | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | ○ | X | X | X |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | Movement Control Bus | | | |
| | | | | 4WD Control ECU Communication Stop Mode | Steering Angle Sensor Communication Stop Mode | Yaw Rate Sensor Communication Stop Mode | Distance Control ECU Communication Stop Mode |
| | U0123 | Lost Communication with Yaw Rate | | X | X | ○ | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Master Cylinder Solenoid (Skid Control ECU) | | Sensor Module | Yaw Rate Sensor | | | | |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | X | X | ○ | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○ | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | X | X | X | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | ○*1, *4 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | ○*1, *4 |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | ○*4 | ○*1, *4 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○*4 | X | ○*1, *4 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○*1, *4 |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | ○ |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | ○ |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | B2624 | Vehicle Speed Malfunction | Combination Meter | - | - | - | - |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | X | X | ○ | X |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | X | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○*3 | X | X | X |
| | U0101 | Lost Communication with TCM | ECT | X | X | X | X |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | X | X | X |
| | | | • ECM<br>• Master Cylinder Solenoid (Skid | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | X | ○ | X | X |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | ○ |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | X | X |
| Display and Navigation Module Display | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X | X |
| | U0155 | Lost Communication with Combination Meter | Combination Meter | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | | Lost | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | X | X | X | X |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | X | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | ○ |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | ○ | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○ | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Control Module | | | | | |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | X | X | X | X |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | X | X | X | X |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | |
|---|---|---|---|---|---|---|
| | | | | Movement Control Bus | | |
| | | | | Steering Control ECU Communication Stop Mode | Suspension Control ECU Communication Stop Mode | Seat Belt Control ECU Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | X | X |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | X | X | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Module | | | | |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | - | - | - |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | ○*1 | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | ○*1 | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○*1 | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | ○*1 | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | X | ○*1 | X |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | X | ○*1 | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | ○*1 | X |
| | U0101 | Lost Communication with TCM | ECT | X | ○*1 | X |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | ○*1 | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○*1 | X | X |
| | U0100 | Lost Communication | ECM | ○*1 | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | with ECM/PCM "A" | | | | |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | X | X |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | ○ | X | X |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | ○*1 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | ○*1 |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | ○*1 |
| Display and Navigation Module Display | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X |
| | U0155 | Lost Communication with Combination Meter | Combination Meter | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |
| | | Lost | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Combination Meter | U0129 | Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - |
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | X | X | ○ |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | X | ○ | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Module | | | | | |
| U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | X | X | X | |
| U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X | |
| U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | X | X | X | |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | MS Bus | | | |
| | | | | Outer Mirror Control ECU Communication Stop Mode | Windshield Wiper ECU Communication Stop Mode | Multiplex Tilt and Telescopic ECU Communication Stop Mode | Position Control ECU and Switch Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ECM | U0126 | with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | X | X | ○*1 | ○ |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | X | X | ○*1 | X |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block LH) | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | - | - | - | - |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | - | - | - | - |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | - | - | - | - |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | - | - | - | - |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | - | - | - | - |
| Display and | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Navigation Module Display | U0155 | with Combination Meter | Combination Meter | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | X | X | X | X |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | X | X | X | X |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | X | X | X | X |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | X | X | X | X |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | X | X | X | ○ |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | X | X | ○ | X |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | X | ○ | X | X |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | ○ | X | X | X |
| | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level | Suspension Control ECU | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Control Module | | | | | |
| Network Gateway ECU | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | MS Bus | | | |
| | | | | Power Back Door ECU Communication Stop Mode | No. 2 Main Body ECU Communication Stop Mode | Certification ECU Communication Stop Mode | Main Body ECU Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | X | X | X | ○ |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | X | X | X | ○ |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Suspension Control ECU | U0130 | with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | - | - | - | - |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | - | - | - | - |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | - | - | - | - |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | | Lost Communication | Master Cylinder | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Seat Belt Control ECU | U0122 | with Vehicle Dynamics Control Module | Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | - | - | - | - |
| Display and Navigation Module Display | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U0155 | Lost Communication with Combination Meter | Combination Meter | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Main Body ECU (Cowl Side Junction Block | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | X | X | X | ○ |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | X | X | ○ | ○ |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | X | ○ | X | ○ |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | ○ | X | X | ○ |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| LH) | U0208 | with "Seat Control Module A" | Position Control ECU and Switch | X | X | X | ○ |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | X | X | X | ○ |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | X | X | X | ○ |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | X | X | X | ○ |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

**HINT:**

○: Stored.

x: When one side of branch wire is open, storage may occur.

*1: Only stored when communication recovery has occurred. During communication stop, cannot be stored.

*2: Stored when vehicle speed is 15 km/h (9 mph) or more.

*3: Stored when vehicle speed is 30 km/h (18 mph) or more.

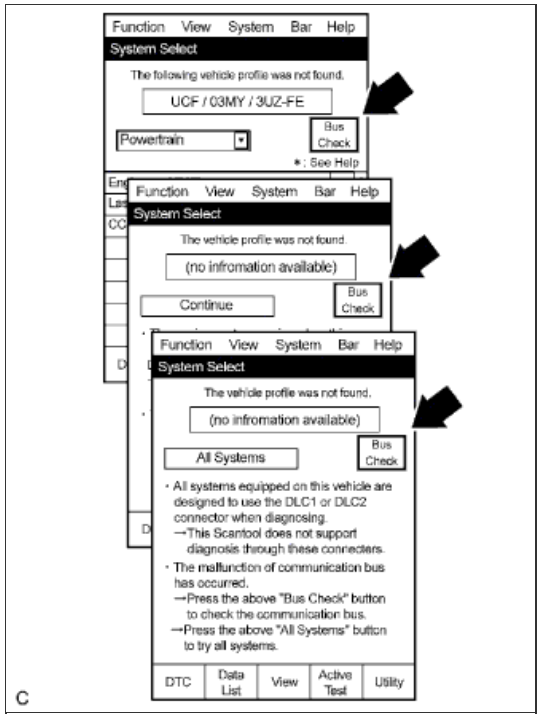
**for Preparation** Click here

## BUS CHECK (COMMUNICATION MALFUNCTION ECU)

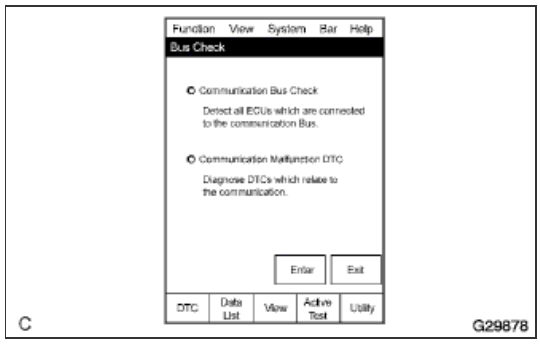
**HINT:**

Only CAN communication system DTCs for each ECU can be displayed on the intelligent tester.

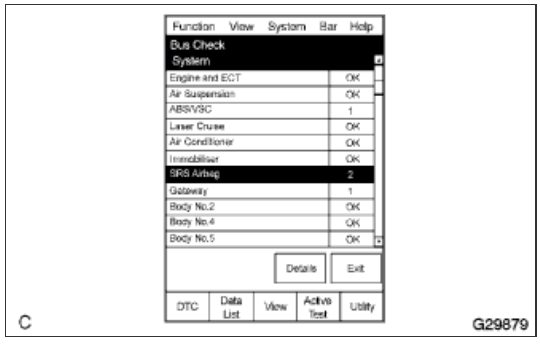
a. Select "Bus Check" from the "System Select" screen on the intelligent tester.



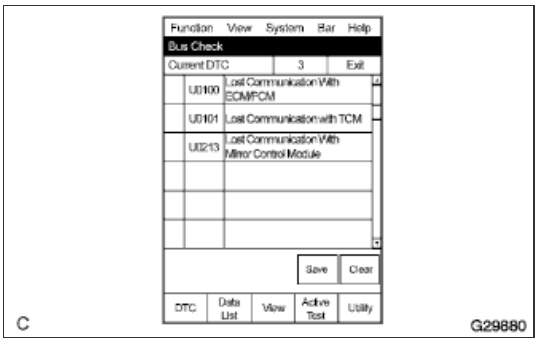

b. Select "Communication Malfunction DTC" from the "Bus Check" screen, and then select "Enter".




c. Select the system of the DTC to be checked and select "Details".




d. CAN communication system DTCs are displayed.

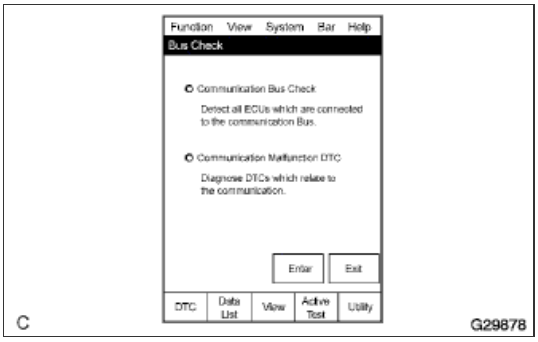



## BUS CHECK (COMMUNICATION BUS CHECK)

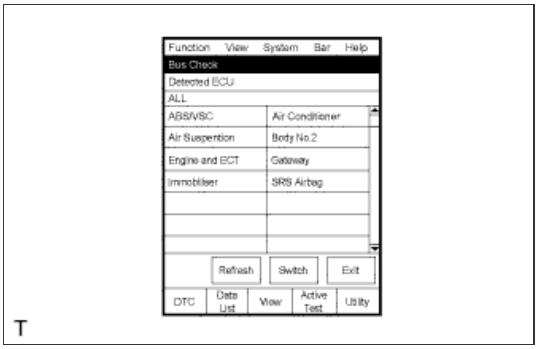
**HINT:**

The ECUs and sensors that are properly connected to the CAN communication system can be displayed using the intelligent tester.

a. Select "Communication Bus Check" from the "Bus Check" screen.

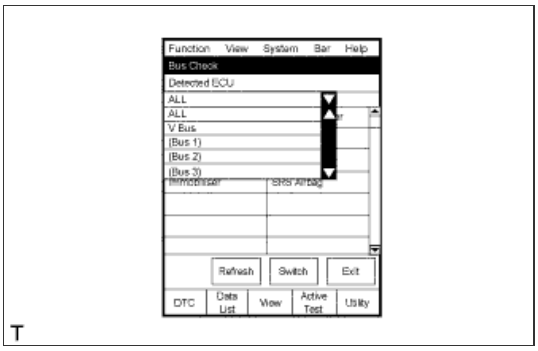



b. The screen displays the ECUs and sensors that are properly connected to the CAN communication system.




**HINT:**

- **If any properly connected ECUs or sensors are not displayed, there is a communication stop in the system (Click here).**




- **The default item displayed in the combo box is "ALL". When checking the ECUs (sensors) connected to each bus, pull down the combo box and select the bus to be checked from the drop down list. The drop down list displays "ALL", "V Bus", and the names of the remaining buses.**

| Combo Box | Display Content |
|---|---|
| ALL | All ECUs (sensors) connected to the CAN bus |
| V Bus | ECUs (sensors) connected to the V bus |
| Bus Name | ECUs (sensors) connected to the selected bus |

- **The connection status (shown below) is indicated by the background color displayed behind the system name.**

**ECU (Sensor) on V Bus**

| Background Color | Connection Status |
|---|---|
| White | Detected normally |
| Yellow | Could not be detected in the past, but is currently detected |
| Red | Detected in the past, but cannot be detected now |

| | |
|---|---|
| Not displayed | Has never been detected |

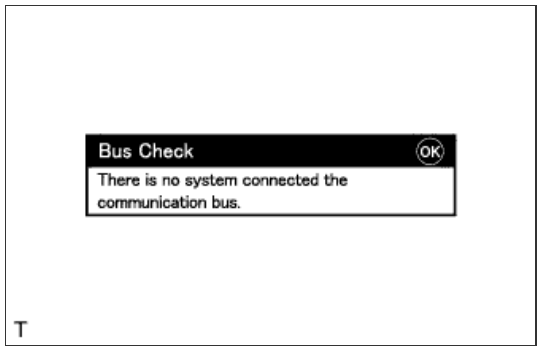
**ECU (Sensor) with no Data Monitor History**

| Background Color | Connection Status |
|---|---|
| White | Detected normally |
| Yellow | Could not be detected in the past, but is currently detected |
| Red | Detected in the past, but cannot be detected now |
| Not displayed | Has never been detected |

**ECU (Sensor) with no Data Monitor History**

| Background Color | Connection Status |
|---|---|
| White | Detected normally |
| Yellow | Could not be detected in the past, but is currently detected |
| Red | Detected in the past, but cannot be detected now |
| Red | Has never been detected bus has connection history |
| Not displayed | Has never been detected and has no connection history |

c. "There is no system connected to the communication bus" is displayed if there are no ECUs or sensors connected to the CAN bus.




## CHECK INSTALLED SYSTEMS (ECUS AND SENSORS) THAT USE CAN COMMUNICATION

a. System (ECUs and sensors) that use CAN communication vary depending on the optional settings of the vehicle. Check which systems (ECUs and sensors) are installed on the vehicle.

| ECU/Sensor Name | Tester Display | Installed to |
|---|---|---|
| ECM | ECM (Engine) | All vehicles |
| Air conditioning amplifier assembly | Air Conditioning Amplifier | All vehicles |
| Main body ECU (cowl side junction block LH) | Main Body | All vehicles |
| Combination meter assembly | Combination Meter | All vehicles |
| Master cylinder solenoid (skid control ECU) | Skid Control (ABS/VSC/TRAC) | All vehicles |
| Center airbag sensor assembly | Airbag | All vehicles |
| Multi-media module receiver assembly | Display and Navigation (AVN) | All vehicles |
| Steering angle sensor | Spiral cable (Steering Angle Sensor) | All vehicles |
| Yaw rate sensor assembly | Yaw Rate Sensor | All vehicles |
| Seat belt control ECU | Seat Belt Control (Pre-Crash) | Vehicles with pre-crash safety system |
| Outer mirror control ECU assembly | Front Door LH/L-Mirror (FL-Door2/L-Miror) | All vehicles |
| Multiplex tilt and telescopic ECU | Multiplex Tilt and Telescopic | All vehicles |
| Certification ECU (smart key ECU assembly) | Certification (Smart) | All vehicles |

| | | |
|---|---|---|
| Position control ECU and switch | D-Seat | All vehicles |
| Network gateway ECU | CAN Gateway | All vehicles |
| 4WD control ECU | Four Wheel Drive Control | All vehicles |
| No. 2 main body ECU | Rear Junction Block (Body No.4) | All vehicles |
| Parking assist ECU | Parking Assist Monitor System | Vehicles with side monitor system |
| Clearance warning ECU assembly | Clearance Warning (Clearance Sonar) | Vehicles without side monitor system |
| Suspension control ECU | Suspension Control (Air Suspension) | All vehicles |
| Windshield wiper ECU | Front Controller (Body No.5) | All vehicles |
| Steering control ECU | Steering Control (VGRS) | All vehicles |
| Headlight swivel ECU assembly (AFS ECU) | Headlight swivel (AFS) | All vehicles |
| Distance control ECU assembly | Driving Support (Cruise Control-ACC) | Vehicles with dynamic radar cruise control system |
| Power back door unit assembly (power back door ECU) | Back Door | Vehicles with power back door system |

## DTC TABLE BY ECU

**HINT:**

- **In the CAN communication system, CAN communication system DTCs stored by the ECU can be output by using the intelligent tester.**
- **If CAN communication system DTCs are output, the trouble cannot be determined solely from the DTCs. Perform troubleshooting according to "How to Proceed with Troubleshooting".**

a. ECM

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0235* | Lost Communication with Cruise Control Front Distance Range Sensor |
| U1101 | Lost Communication with Distance Control ECU |
| U1102* | Lost Communication with Radar Sensor |

**HINT:**

*: Refer to the Dynamic Radar Cruise Control System ( Click here).

b. MASTER CYLINDER SOLENOID (SKID CONTROL ECU)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0073 | Control Module Communication Bus OFF |
| U0100 | Lost Communication with ECM/PCM "A" |
| U0114 | Lost Communication with 4WD Control ECU |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |

c. MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0141 | Lost Communication with Body Control Module "A" |
| U0199 | Lost Communication with "Door Control Module A" |
| U0208 | Lost Communication with "Seat Control Module A" |
| U0230 | Lost Communication with Rear Gate Module |
| U0327 | Software Incompatibility with Vehicle Security Control Module |
| U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) |
| U1111 | Lost Communication with Body No.5 Module |
| U1115 | Lost Communication with Tilt and Telescopic Module |

d. COMBINATION METER ASSEMBLY

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0129 | Lost Communication with Brake System Control Module |
| U0130 | Lost Communication with VGRS |
| U0142 | Lost Communication with Body Control Module "B" |
| U0151 | Lost Communication with Restraints Control Module |

e. SEAT BELT CONTROL ECU
For vehicles with a pre-crash safety system.

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0122 | Lost Communication with Brake System Control Module |
| U0151 | Lost Communication With SRS Airbag ECU |
| U0235* | Lost Communication With Cruise Control Front Distance Range Sensor |
| U1101 | Lost Communication With Distance Control ECU |
| U1102* | Lost Communication With Front Radar Sensor |

**HINT:**

*: Refer to the Pre-crash Safety System ( Click here).

f. MULTIPLEX TILT AND TELESCOPIC ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B2621* | Communication Interruption |
| B2624* | Vehicles Speed |

**HINT:**

*: Refer to the Power Tilt and Power Telescopic Steering Column System ( Click here).

g. MULTI-MEDIA MODULE RECEIVER ASSEMBLY

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0073 | Sending Malfunction (Navigation to APGS) |
| U0100 | Engine ECU Communication |
| U0126 | Steering Sensor Communication |

| | |
|---|---|
| U0130 | VGRS ECU Communication |
| U0140 | Lost Communication with Body Control Module |
| U0155 | Meter ECU Communication |
| U1110 | Clearance Sonar ECU Communication |

h. AIR CONDITIONING AMPLIFIER ASSEMBLY

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication With ECM/PCM "A" |
| U0142 | Lost Communication With Body Control Module "B" |
| U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module |

i. NETWORK GATEWAY ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0104 | Lost Communication with Cruise Control Module |
| U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module |
| U0125 | Lost Communication with Yaw Rate Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0129 | Lost Communication with Brake System Control Module |
| U0130 | Lost Communication with Steering Effort Control Module |
| U0132 | Lost Communication with Ride Level Control Module |
| U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module |
| U1100 | Lost Communication with Pre-Crash Module |
| U110B | Lost Communication with Parking Assist Control Module "B" |
| U1110 | Lost Communication with Clearance Sonar Module |

j. PARKING ASSIST ECU
For vehicles with a side monitor system.

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0114 | Lost Communication with 4WD Control ECU |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0129 | Lost Communication with Brake System Control Module |
| U0130 | Lost Communication with Steering Effort Control Module |
| U0140 | Lost Communication with Body Control Module |

k. CLEARANCE WARNING ECU ASSEMBLY
For vehicles without a side monitor system.

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| C1AEF | Shift Position Information |
| U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module |

l. SUSPENSION CONTROL ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0101 | Lost Communication with TCM |
| U0114 | Lost Communication with 4WD Control ECU |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with VGRS |
| U0140 | Lost Communication with Main Body ECU |

m. HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B2427 | CAN Lost Communication |

n. STEERING CONTROL ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |

o. YAW RATE SENSOR ASSEMBLY

**HINT:**

The yaw rate sensor assembly is connected to the CAN communication system but CAN communication DTCs are not stored.

p. STEERING ANGLE SENSOR

**HINT:**

The steering angle sensor is connected to the CAN communication system but CAN communication DTCs are not stored.

q. CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

**HINT:**

The certification ECU (smart key ECU assembly) is connected to the CAN communication system but CAN communication DTCs are not stored.

r. OUTER MIRROR CONTROL ECU ASSEMBLY

**HINT:**

The outer mirror control ECU assembly is connected to the CAN communication system but CAN communication DTCs are not stored.

s. POSITION CONTROL ECU AND SWITCH

**HINT:**

The position control ECU and switch is connected to the CAN communication system but CAN communication DTCs are not stored.

t. WINDSHIELD WIPER ECU

**HINT:**

The windshield wiper ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

u. POWER BACK DOOR UNIT ASSEMBLY (POWER BACK DOOR ECU)

For vehicles with a power back door system.

**HINT:**

The power back door unit assembly (power back door ECU) is connected to the CAN communication system but CAN communication DTCs are not stored.

v. NO. 2 MAIN BODY ECU

**HINT:**

The No. 2 main body ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

w. 4WD CONTROL ECU

**HINT:**

The 4WD control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

x. CENTER AIRBAG SENSOR ASSEMBLY

**HINT:**

The center airbag sensor assembly is connected to the CAN communication system but CAN communication DTCs are not stored.

## DTC COMBINATION TABLE

**HINT:**

- **○: Stored.**
- **X: When one side of CAN branch wire is open, storage may occur.**
- **-: Not stored.**
- ***1: Only stored when communication recovery has occurred. During communication stop, cannot be stored.**
- ***2: Stored when vehicle speed is 15 km/h (9 mph) or more.**
- ***3: Stored when vehicle speed is 30 km/h (18 mph) or more.**

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|
| | | | V Bus | | | |
| | | | Main Body ECU Communication Stop Mode | Combination Meter ECU Communication Stop Mode | Center Airbag Sensor Communication Stop Mode | Air Conditioning Amplifier Communication Stop Mode |
| Master cylinder solenoid (skid control ECU) | U0073 | Control Module Communication Bus OFF | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | | Lost Communication | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| ECM | U0122 | with Vehicle Dynamics Control Module | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | X | X | X | X |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | X | X | X | ○*1 |
| | U0142 | Lost Communication With Body Control Module "B" | ○ | X | X | ○*1 |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | X | ○ | X | ○*1 |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | - | - | - | - |
| | B2624 | Vehicles Speed | ○ | ○ | X | X |
| Suspension control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | U0101 | Lost Communication with TCM | X | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with VGRS | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | ○ | X | X | X |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | | Lost | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0126 | Communication with Steering Angle Sensor Module | - | - | - | - |
| Parking assist ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0140 | Lost Communication with Body Control Module | ○ | X | X | X |
| Clearance warning ECU assembly | C1AEF | Shift Position Information | X | X | X | X |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | X | ○ | X | X |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | ○ | ○ | X | X |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0151 | Lost Communication With SRS Airbag ECU | - | - | ○ | - |
| | U1101 | Lost Communication With Distance Control ECU | - | - | - | - |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | X | X | X | X |
| | U0100 | Engine ECU Communication | X | X | X | X |
| | U0126 | Steering Sensor Communication | X | X | X | X |
| | U0130 | VGRS ECU Communication | X | X | X | X |
| | U0140 | Lost Communication with Body Control Module | ○ | X | X | X |
| | U0155 | Meter ECU Communication | X | ○ | X | X |
| | U1110 | Clearance Sonar ECU Communication | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | X | ○*1 | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| Combination meter assembly | U0129 | Lost Communication with Brake System Control Module | X | ○*1 | X | X |
| | U0130 | Lost Communication with VGRS | X | ○*1 | X | X |
| | U0142 | Lost Communication with Body Control Module "B" | ○ | ○*1 | X | X |
| | U0151 | Lost Communication with Restraints Control Module | X | ○*1 | ○ | X |
| Main body ECU (cowl side junction block LH) | U0141 | Lost Communication with Body Control Module "A" | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | - | - | - | - |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | - | - | - | - |
| | U1111 | Lost Communication with Body No.5 Module | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | - | - | - | - |
| | U0104 | Lost Communication with Cruise Control Module | - | - | - | - |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | - | - | - | - |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | | Lost | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Network gateway ECU | U0130 | Communication with Steering Effort Control Module | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | - | - | - | - |
| | U1100 | Lost Communication with Pre-Crash Module | - | - | - | - |
| | U110B | Lost Communication with Parking Assist Control Module "B" | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | - | - | - | - |

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|
| | | | V Bus | | | |
| | | | Multi-media Module Receiver Assembly Communication Stop Mode | AFS ECU Communication Stop Mode | ECM Communication Stop Mode | Gateway ECU Communication Stop Mode |
| Master cylinder solenoid (skid control ECU) | U0073 | Control Module Communication Bus OFF | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○*2 | ○*1 |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○*3 | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | X | X | ○*3 | ○*1 |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | X | X | ○ | X |
| | U0142 | Lost Communication With Body Control Module "B" | X | X | X | X |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | X | X | X | X |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | - | - | - | - |
| | B2624 | Vehicles Speed | X | X | X | X |
| Suspension control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○*3 | ○*1 |
| | U0101 | Lost Communication with TCM | X | X | ○*3 | ○*1 |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with VGRS | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | X | X | X | ○*1 |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○ | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○ | ○*1 |
| | | Lost | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Parking assist ECU | U0114 | Communication with 4WD Control ECU | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0140 | Lost Communication with Body Control Module | X | X | ○ | ○*1 |
| Clearance warning ECU assembly | C1AEF | Shift Position Information | X | X | X | ○*1 |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | X | X | X | ○*1 |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | X | ○*1 | ○ | ○*1 |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0151 | Lost Communication With SRS Airbag ECU | - | - | - | ○*1 |
| | U1101 | Lost Communication With Distance Control ECU | - | - | - | - |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | ○*1 | X | X | X |
| | U0100 | Engine ECU Communication | ○*1 | X | ○ | X |
| | U0126 | Steering Sensor Communication | ○*1 | X | X | ○*1 |
| | U0130 | VGRS ECU Communication | ○*1 | X | X | ○*1 |
| | U0140 | Lost Communication with Body Control Module | ○*1 | X | X | X |
| | U0155 | Meter ECU Communication | ○*1 | X | X | X |
| | U1110 | Clearance Sonar ECU Communication | ○*1 | X | X | ○*1 |
| Combination meter | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○ | X |
| | U0129 | Lost Communication with Brake System Control Module | X | X | X | ○*1 |
| | U0130 | Lost Communication | X | X | X | ○*1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| assembly | | with VGRS | | | | |
| | U0142 | Lost Communication with Body Control Module "B" | X | X | X | X |
| | U0151 | Lost Communication with Restraints Control Module | X | X | X | X |
| Main body ECU (cowl side junction block LH) | U0141 | Lost Communication with Body Control Module "A" | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | - | - | - | - |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | - | - | - | - |
| | U1111 | Lost Communication with Body No.5 Module | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | - | - | - | - |
| Network gateway ECU | U0104 | Lost Communication with Cruise Control Module | - | - | - | - |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | - | - | - | - |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0132 | Lost Communication with Ride Level | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Control Module | | | | |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | - | - | - | - |
| | U1100 | Lost Communication with Pre-Crash Module | - | - | - | - |
| | U110B | Lost Communication with Parking Assist Control Module "B" | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | - | - | - | - |

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|
| | | | Movement Control Bus | | | |
| | | | Gateway ECU Communication Stop Mode | Clearance Warning ECU Communication Stop Mode | Parking Assist ECU Communication Stop Mode | 4WD Control ECU Communication Stop Mode |
| Master cylinder solenoid (skid control ECU) | U0073 | Control Module Communication Bus OFF | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | X | ○ |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | X | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | X | X | X | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X | X |
| | U1101 | Lost Communication with Distance | ○*1 | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Control ECU | | | | |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | - | - | - | - |
| | U0142 | Lost Communication With Body Control Module "B" | - | - | - | - |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | - | - | - | - |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | - | - | - | - |
| | B2624 | Vehicles Speed | - | - | - | - |
| Suspension control ECU | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | X | X | X |
| | U0101 | Lost Communication with TCM | ○*1 | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | X | ○*3 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X | X |
| | U0130 | Lost Communication with VGRS | X | X | X | X |
| | U0140 | Lost Communication with Main Body ECU | ○*1 | X | X | X |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | X | ○*1 | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | ○*1 | ○ |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | ○*1 | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| Parking assist ECU | U0129 | Lost Communication with Brake System Control Module | X | X | ○*1 | X |
| | U0130 | Lost Communication with Steering Effort Control Module | X | X | ○*1 | X |
| | U0140 | Lost Communication with Body Control Module | ○*1 | X | ○*1 | X |
| Clearance warning ECU assembly | C1AEF | Shift Position Information | ○*1 | ○*1 | X | X |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | ○*1 | ○*1 | X | X |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | ○*1 | X | X | X |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | X | X | X | X |
| | U0151 | Lost Communication With SRS Airbag ECU | ○*1 | X | X | X |
| | U1101 | Lost Communication With Distance Control ECU | X | X | X | X |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | - | - | - | - |
| | U0100 | Engine ECU Communication | - | - | - | - |
| | U0126 | Steering Sensor Communication | ○*1 | X | X | X |
| | U0130 | VGRS ECU Communication | ○*1 | X | X | X |
| | U0140 | Lost Communication with Body Control Module | - | - | - | - |
| | U0155 | Meter ECU Communication | - | - | - | - |
| | U1110 | Clearance Sonar ECU Communication | ○*1 | ○ | X | X |
| Combination meter assembly | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | ○*1 | X | X | X |
| | U0130 | Lost Communication with VGRS | ○*1 | X | X | X |
| | U0142 | Lost Communication with Body Control Module "B" | - | - | - | - |
| | | Lost Communication | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0151 | with Restraints Control Module | - | - | - | - |
| Main body ECU (cowl side junction block LH) | U0141 | Lost Communication with Body Control Module "A" | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | - | - | - | - |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | - | - | - | - |
| | U1111 | Lost Communication with Body No.5 Module | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | - | - | - | - |
| Network gateway ECU | U0104 | Lost Communication with Cruise Control Module | ○*1 | X | X | X |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | ○*1 | X | X | ○ |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | ○*1 | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | ○*1 | X | X | X |
| | U0129 | Lost Communication with Brake System Control Module | ○*1 | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | ○*1 | X | X | X |
| | U0132 | Lost Communication with Ride Level Control Module | ○*1 | X | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | ○*1 | X | X | X |
| | U1100 | Lost Communication with Pre-Crash | ○*1 | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Module | | | | |
| | U110B | Lost Communication with Parking Assist Control Module "B" | ○*1 | X | ○ | X |
| | U1110 | Lost Communication with Clearance Sonar Module | X | ○ | X | X |

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|
| | | | Movement Control Bus | | | |
| | | | Skid Control ECU Communication Stop Mode | Steering Angle Sensor Communication Stop Mode | Yaw Rate Sensor Communication Stop Mode | Distance Control ECU Communication Stop Mode |
| Master cylinder solenoid (skid control ECU) | U0073 | Control Module Communication Bus OFF | ○*1 | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | ○*1 | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | ○*1 | X | ○ | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | ○*1 | X | ○ | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | ○*1 | ○ | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | ○*1 | X | X | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | ○ | X | X | ○*1 |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | X | X | ○ | ○*1 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | ○ | X | ○*1 |
| | U1101 | Lost Communication with Distance Control ECU | X | X | X | ○*1 |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | - | - | - | - |
| | U0142 | Lost Communication With Body Control Module "B" | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | - | - | - | - |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | - | - | - | - |
| | B2624 | Vehicles Speed | - | - | - | - |
| Suspension control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | U0101 | Lost Communication with TCM | X | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | ○ | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | X | X | ○ | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | ○ | X | X |
| | U0130 | Lost Communication with VGRS | X | X | X | X |
| | U0140 | Lost Communication with Main Body ECU | X | X | X | X |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | ○ | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | ○ | X | X |
| Parking assist ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | ○ | X | X |
| | U0129 | Lost Communication with Brake System Control Module | ○ | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | X | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0140 | Lost Communication with Body Control Module | X | X | X | X |
| Clearance warning ECU assembly | C1AEF | Shift Position Information | X | X | X | X |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | X | X | X | X |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | ○ | ○ | X | X |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | ○ | X | X | X |
| | U0151 | Lost Communication With SRS Airbag ECU | X | X | X | X |
| | U1101 | Lost Communication With Distance Control ECU | X | X | X | ○ |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | - | - | - | - |
| | U0100 | Engine ECU Communication | - | - | - | - |
| | U0126 | Steering Sensor Communication | X | ○ | X | X |
| | U0130 | VGRS ECU Communication | X | X | X | X |
| | U0140 | Lost Communication with Body Control Module | - | - | - | - |
| | U0155 | Meter ECU Communication | - | - | - | - |
| | U1110 | Clearance Sonar ECU Communication | X | X | X | X |
| Combination meter assembly | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | ○ | X | X | X |
| | U0130 | Lost Communication with VGRS | X | X | X | X |
| | U0142 | Lost Communication with Body Control Module "B" | - | - | - | - |
| | U0151 | Lost Communication with Restraints Control Module | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | - | - | - | - |
| | | Lost Communication | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Main body ECU (cowl side junction block LH) | U0199 | with "Door Control Module A" | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | - | - | - | - |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | - | - | - | - |
| | U1111 | Lost Communication with Body No.5 Module | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | - | - | - | - |
| Network gateway ECU | U0104 | Lost Communication with Cruise Control Module | X | X | X | ○ |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | X | X | X | X |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | X | X | ○ | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | ○ | X | X |
| | U0129 | Lost Communication with Brake System Control Module | ○ | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | X | X | X | X |
| | U0132 | Lost Communication with Ride Level Control Module | X | X | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | X | X | X | X |
| | U1100 | Lost Communication with Pre-Crash Module | X | X | X | X |
| | U110B | Lost Communication with Parking Assist Control Module "B" | X | X | X | X |
| | U1110 | Lost Communication | X | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | with Clearance Sonar Module | | | | |

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | |
|---|---|---|---|---|---|
| | | | Movement Control Bus | | |
| | | | Steering Control ECU Communication Stop Mode | Suspension Control ECU Communication Stop Mode | Seat Belt Control ECU Communication Stop Mode |
| Master cylinder solenoid (skid control ECU) | U0073 | Control Module Communication Bus OFF | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | ○ | X | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | X | X | X |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | - | - | - |
| | U0142 | Lost Communication With Body Control Module "B" | - | - | - |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | - | - | - |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | - | - | - |
| | B2624 | Vehicles Speed | - | - | - |
| Suspension control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | ○*1 | X |
| | U0101 | Lost Communication with TCM | X | ○*1 | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | ○*1 | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | ○*1 | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | X | ○*1 | X |

| | | | | | |
|---|---|---|---|---|---|
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | ○*1 | X |
| | U0130 | Lost Communication with VGRS | ○ | ○*1 | X |
| | U0140 | Lost Communication with Main Body ECU | X | ○*1 | X |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | ○*1 | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | ○*1 | X | X |
| Parking assist ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X |
| | U0129 | Lost Communication with Brake System Control Module | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | X | ○ | X |
| | U0140 | Lost Communication with Body Control Module | X | X | X |
| Clearance warning ECU assembly | C1AEF | Shift Position Information | X | X | X |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | X | X | X |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | ○ | ○ | X |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | X | X | ○*1 |
| | U0151 | Lost Communication With SRS Airbag ECU | X | X | ○*1 |
| | U1101 | Lost Communication With Distance Control ECU | X | X | ○*1 |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | - | - | - |
| | U0100 | Engine ECU Communication | - | - | - |
| | U0126 | Steering Sensor Communication | X | X | X |
| | U0130 | VGRS ECU Communication | ○ | X | X |
| | U0140 | Lost Communication with Body Control Module | - | - | - |
| | U0155 | Meter ECU Communication | - | - | - |
| | U1110 | Clearance Sonar ECU Communication | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | X | X | X |

| | | | | | |
|---|---|---|---|---|---|
| Combination meter assembly | U0130 | Lost Communication with VGRS | X | X | X |
| | U0142 | Lost Communication with Body Control Module "B" | - | - | - |
| | U0151 | Lost Communication with Restraints Control Module | - | - | - |
| Main body ECU (cowl side junction block LH) | U0141 | Lost Communication with Body Control Module "A" | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | - | - | - |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | - | - | - |
| | U1111 | Lost Communication with Body No.5 Module | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | - | - | - |
| Network gateway ECU | U0104 | Lost Communication with Cruise Control Module | X | X | X |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | X | X | X |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X |
| | U0129 | Lost Communication with Brake System Control Module | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | ○ | X | X |
| | U0132 | Lost Communication with Ride Level Control Module | X | ○ | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | X | X | X |
| | U1100 | Lost Communication with Pre-Crash Module | X | X | ○ |
| | U110B | Lost Communication with Parking Assist Control Module "B" | X | X | X |
| | U1110 | Lost Communication with Clearance Sonar Module | | | |

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|
| | | | MS Bus | | | |
| | | | Outer Mirror Control ECU Communication Stop Mode | Windshield Wiper ECU Communication Stop Mode | Multiplex Tilt and Telescopic ECU Communication Stop Mode | Position Control ECU and Switch Communication Stop Mode |

| | | | | | | |
|---|---|---|---|---|---|---|
| Master cylinder solenoid (skid control ECU) | U0073 | Control Module Communication Bus OFF | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | - | - | - | - |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | - | - | - | - |
| | U0142 | Lost Communication With Body Control Module "B" | - | - | - | - |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | - | - | - | - |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | X | X | ○*1 | ○ |
| | B2624 | Vehicles Speed | X | X | ○*1 | X |
| | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0101 | Lost Communication with TCM | - | - | - | - |
| | U0114 | Lost Communication | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | with 4WD Control ECU | | | | |
| Suspension control ECU | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with VGRS | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | - | - | - | - |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| Parking assist ECU | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0140 | Lost Communication with Body Control Module | - | - | - | - |
| Clearance warning ECU assembly | C1AEF | Shift Position Information | - | - | - | - |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | - | - | - | - |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | - | - | - | - |
| | | Lost Communication | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Seat belt control ECU | U0122 | with Brake System Control Module | - | - | - | - |
| | U0151 | Lost Communication With SRS Airbag ECU | - | - | - | - |
| | U1101 | Lost Communication With Distance Control ECU | - | - | - | - |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | - | - | - | - |
| | U0100 | Engine ECU Communication | - | - | - | - |
| | U0126 | Steering Sensor Communication | - | - | - | - |
| | U0130 | VGRS ECU Communication | - | - | - | - |
| | U0140 | Lost Communication with Body Control Module | - | - | - | - |
| | U0155 | Meter ECU Communication | - | - | - | - |
| | U1110 | Clearance Sonar ECU Communication | - | - | - | - |
| Combination meter assembly | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with VGRS | - | - | - | - |
| | U0142 | Lost Communication with Body Control Module "B" | - | - | - | - |
| | U0151 | Lost Communication with Restraints Control Module | - | - | - | - |
| Main body ECU (cowl side junction block LH) | U0141 | Lost Communication with Body Control Module "A" | X | X | X | X |
| | U0199 | Lost Communication with "Door Control Module A" | ○ | X | X | X |
| | U0208 | Lost Communication with "Seat Control Module A" | X | X | X | ○ |
| | U0230 | Lost Communication with Rear Gate Module | X | X | X | X |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | X | X | X | X |
| | | Lost Communication | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U1002 (CAN MS BUS) | with Gateway Module (Main Body) | X | X | X | X |
| | U1111 | Lost Communication with Body No.5 Module | X | ○ | X | X |
| | U1115 | Lost Communication with Tilt and Telescopic Module | X | X | ○ | X |
| Network gateway ECU | U0104 | Lost Communication with Cruise Control Module | - | - | - | - |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | - | - | - | - |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | - | - | - | - |
| | U1100 | Lost Communication with Pre-Crash Module | - | - | - | - |
| | U110B | Lost Communication with Parking Assist Control Module "B" | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | - | - | - | - |

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|
| | | | MS Bus | | | |
| | | | Power Back Door ECU Communication Stop Mode | No. 2 Main Body ECU Communication Stop Mode | Certification ECU Communication Stop Mode | Main Body ECU Communication Stop Mode |
| | U0073 | Control Module Communication Bus OFF | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| Master cylinder solenoid (skid control ECU) | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | - | - | - | - |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | - | - | - | - |
| | U0142 | Lost Communication With Body Control Module "B" | - | - | - | - |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | - | - | - | - |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | X | X | X | ○ |
| | B2624 | Vehicles Speed | X | X | X | ○ |
| | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0101 | Lost Communication with TCM | - | - | - | - |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| Suspension control ECU | | Module | | | | |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with VGRS | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | - | - | - | - |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| Parking assist ECU | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0140 | Lost Communication with Body Control Module | - | - | - | - |
| Clearance warning ECU assembly | C1AEF | Shift Position Information | - | - | - | - |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | - | - | - | - |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | - | - | - | - |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0151 | Lost Communication With SRS Airbag ECU | - | - | - | - |
| | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U1101 | Lost Communication With Distance Control ECU | - | - | - | - |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | - | - | - | - |
| | U0100 | Engine ECU Communication | - | - | - | - |
| | U0126 | Steering Sensor Communication | - | - | - | - |
| | U0130 | VGRS ECU Communication | - | - | - | - |
| | U0140 | Lost Communication with Body Control Module | - | - | - | - |
| | U0155 | Meter ECU Communication | - | - | - | - |
| | U1110 | Clearance Sonar ECU Communication | - | - | - | - |
| Combination meter assembly | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with VGRS | - | - | - | - |
| | U0142 | Lost Communication with Body Control Module "B" | - | - | - | - |
| | U0151 | Lost Communication with Restraints Control Module | - | - | - | - |
| Main body ECU (cowl side junction block LH) | U0141 | Lost Communication with Body Control Module "A" | X | ○ | X | ○*1 |
| | U0199 | Lost Communication with "Door Control Module A" | X | X | X | ○*1 |
| | U0208 | Lost Communication with "Seat Control Module A" | X | X | X | ○*1 |
| | U0230 | Lost Communication with Rear Gate Module | ○ | X | X | ○*1 |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | X | X | ○ | ○*1 |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | X | X | X | ○*1 |
| | U1111 | Lost Communication with Body No.5 Module | X | X | X | ○*1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U1115 | Lost Communication with Tilt and Telescopic Module | X | X | X | ○*1 |
| Network gateway ECU | U0104 | Lost Communication with Cruise Control Module | - | - | - | - |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | - | - | - | - |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | - | - | - | - |
| | U1100 | Lost Communication with Pre-Crash Module | - | - | - | - |
| | U110B | Lost Communication with Parking Assist Control Module "B" | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | - | - | - | - |

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## FAIL-SAFE FUNCTION

a. When communication fails in any of the main wires (communication lines) due to a short circuit or other causes, the fail-safe function, which is specified for each system, operates to prevent the system from malfunctioning.

b. The table below shows the effects on each system when communication is impossible. For further details, refer to each system.

| System | Function | Control Description | 1. Control Master<br>2. System Related<br>3. Control Actuator | Related ECU | Fail-safe Function System Behavior | Indicator and Buzzer Behavior or User Notification |
|---|---|---|---|---|---|---|
| Airbag (ABG) | TC DTC/output service | When TC is on, DTCs (warning light turn on/turn off request signals) are output. | 1. Center Airbag Sensor<br>2. -<br>3. Combination Meter | • Center Airbag Sensor<br>• Combination Meter | - | - |
| | Event recorder (EDR) | Records the vehicle information during a collision (the vehicle speed, accelerator pedal opening angle, shift position, etc.). | 1. Center Airbag Sensor<br>2. Combination Meter, ECM<br>3. - | • Center Airbag Sensor<br>• Combination Meter<br>• ECM | - | - |
| | SRS warning light control | Turns the SRS warning light on/off. | 1. Combination Meter<br>2. Center Airbag Sensor<br>3. - | • Center Airbag Sensor<br>• Combination Meter | The SRS warning light turns on. | - |
| | Information output function (Refer to related system for control description details) | The collision detection signal stops the fuel pump during a collision. | 1. ECM<br>2. Center Airbag Sensor<br>3. - | • ECM<br>• Center Airbag Sensor | - | - |
| | | The driver/passenger seat buckle switch stops PSB control when the seat belt is not fastened. | 1. Seat Belt Control ECU, Combination Meter<br>2. Center Airbag Sensor<br>3. - | • Seat Belt Control ECU<br>• Combination Meter | - | - |
| | | The passenger seat occupant detection signal turns on the seat belt warning light when the seat belt is not fastened. | 1. Combination Meter<br>2. Center Airbag Sensor<br>3. - | Combination Meter | - | - |
| | Warning light control | BRL, ABS, VSC-OFF, SLIP and CRAWL light control (turn on/off, blink, DTC output). | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. -<br>3. Combination Meter | Combination Meter | - | - |
| | ABS control | ABS control according to the G sensor signal. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. Yaw Rate Sensor<br>3. Master Cylinder Solenoid (Skid Control ECU) | Yaw Rate Sensor | The ABS does not operate. | ABS warning light turns on. |
| | | | 1. Master Cylinder Solenoid (Skid | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Brake (VSC) | TRC control<br>CRAWL control | Brake control and engine torque control during acceleration slip. | (Skid Control ECU)<br>2. ECM, 4WD Control ECU<br>3. Master Cylinder Solenoid (Skid Control ECU) | • ECM<br>• 4WD Control ECU | TRC does not operate. | VSC OFF indicator light turns on.<br>CRAWL indicator light turns on. |
| | VSC control | VSC control according to the yaw rate and steering angle sensor signal. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. ECM, 4WD Control ECU, Steering Angle Sensor, Yaw Rate Sensor, Steering Control ECU<br>3. Master Cylinder Solenoid (Skid Control ECU) | • ECM<br>• Steering Angle Sensor<br>• Yaw Rate Sensor<br>• Steering Control ECU<br>• 4WD Control ECU | VSC does not operate. | ABS and VSC warning lights turn on. |
| | ACC control | The brake control according to the request from the distance control ECU via the ECM. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. ECM<br>3. Master Cylinder Solenoid (Skid Control ECU) | ECM | ACC does not operate. | VSC warning light turns on. |
| Dynamic Radar Cruise Control (ACC) | ACC | Acceleration/deceleration control when following the vehicle in front. | 1. -<br>2. ECM<br>3. ECM | ECM | ACC control is canceled. | • "Check Cruise Control System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | Yaw Rate Sensor | | |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. Master Cylinder Solenoid (Skid Control ECU) | Master Cylinder Solenoid (Skid Control ECU) | - | - |
| | | | 1. Distance Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | - | - |
| | | | 1. -<br>2. Combination | Combination Meter | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 3. Meter<br>3. - | [illegible] | | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | - | - |
| Dynamic Radar Cruise Control (ACC) | PSC | Seat belt and brake control immediately before a collision. | 1. -<br>2. ECM<br>3. - | ECM | Radar linked PCS control stops. | • "Check Cruise Control System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | Yaw Rate Sensor | | |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | PCS control stops. | |
| | | | 1. Distance Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | - | - |
| | | | 1. -<br>2. -<br>3. Seat Belt Control ECU | Seat Belt Control ECU | - | - |
| Tilt and Telescopic (TAT) | Microcomputer preset steering | Automatically begins the steering auto away/auto return when the engine switch is turned on (IG) or off. | 1. Multiplex Tilt and Telescopic ECU<br>2. Position Control ECU and Switch, Main Body ECU (Cowl Side Junction Block LH) (V Bus), Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Combination Meter<br>3. Multiplex Tilt and Telescopic ECU | Main Body ECU (Cowl Side Junction Block LH) | The power tilt and power telescopic steering column system does not operate. | - |
| | | | | Position Control ECU and Switch | Memory restore control does not operate. | - |
| | | | | Combination Meter | Auto return/auto away control does not operate. | - |
| | Switching control between High and Low | Switching between High and Low is prohibited during the following conditions: 1) When there is a vehicle speed violation, engine speed violation, or large difference in wheel speeds, 2) when the shift lever is not in N, or 3) when the clutch is not on. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU) | Switching between High and Low is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if switching between High and Low can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or 4LO indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | | | [illegible] | [illegible] | [illegible] | [illegible] |

| | | | | | | |
|---|---|---|---|---|---|---|
| Mechanical 4WD (FWM) | Neutral switching control | Switching to neutral is prohibited during the following conditions: 1) When there is a vehicle speed violation or engine speed violation, or 2) when the shift lever is not in N or the clutch is not on. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU) | Switching to neutral is prohibited. | 4LO indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | Center differential lock switching control (between Free and Lock) | Center differential lock switching is prohibited when there is a vehicle speed violation or large difference in wheel speeds. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Center differential lock switching is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if center differential lock switching can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| Mechanical 4WD (FWM) | Rear differential lock switching control (between Rr Free and Rr Lock) | Rear differential lock switching is prohibited when there is a vehicle speed violation. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Rear differential lock switching is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if rear differential lock switching can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | L4F switching control | Switching to L4F is prohibited and the operation is performed with L4L when VSC is malfunctioning. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | L4F switching is prohibited and the operation is performed with L4L. | No user notification. |
| | Specialized control when temperature is low | Changes the ACT conductive current value according to the temperature (low temperature use or normal temperature use). | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Air Conditioning Amplifier, ECM<br>3. - | • Air Conditioning Amplifier<br>• ECM | Changes the temperature used for the calculation of ACT temperature adjustment control. | No user notification. |
| Mechanical 4WD (FWM) | Specialized control during wheel speed failure | When there is a wheel speed failure, switching is permitted only when specified conditions are met (the wheel speed malfunction is 1 wheel or more and 3 wheels or less, the brake is applied, the engine speed is low, and all normal wheel speeds are low). | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU) | If the wheel speed malfunction is 1 wheel or more and 3 wheels or less, only when the wheel speed failure specified conditions are met, switching is permitted. When 4 wheels are malfunctioning, switching is prohibited | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | (the wheel speed failure specialized control does not operate). | |
| Mechanical 4WD (FWM) | Indicator and buzzer signal output | Signal output of the indicator and buzzer condition that indicates the actuator position and switching status. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | High-Low actuator failure signal output | When the High-Low actuator limit switch is malfunctioning, a signal is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | C/C cancel signal output | Outputs a cruise control cancel signal when center differential switching is not completed even though 5 sec. or more have elapsed from the start of switching. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | L4 status signal condition output | A signal is output when switching between the L4F and L4L position is completed. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | C/D lock condition signal output | CDL switch condition is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | R/D lock condition signal output | R switch condition is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | T/F N condition signal output | NP switch condition is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| Gasoline Engine | Engine control system | Adjusts the fuel injection volume according to each sensor value and controls the engine. | 1. ECM<br>2. -<br>3. - | - | - | - |
| | ECT control system | Changes the ECT shift position based on the vehicle speed and torque. | 1. ECM<br>2. -<br>3. - | - | - | - |
| | Cruise control system | Maintains a constant vehicle speed and drives the vehicle. | 1. ECM<br>2. -<br>3. - | - | - | - |
| Power | Power back door operation conditions | Prohibits the power back door operation according to the vehicle state (the engine switch, shift position, vehicle speed, and lock position). | 1. Power Back Door Unit (Power Back Door ECU)<br>2. -<br>3. Power Back Door Unit (Power Back Door ECU) | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) Main Body ECU (Cowl Side Junction Block LH) (V Bus), Combination Meter, ECM<br>3. - | • ECM<br>• Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | The power back door system does not operate (when the start signal is received, the buzzer sounds a warning that the conditions are not met). | - |
| | Power back door operation requests | Receives the power back door close/open operation trigger from the operation switch or wireless switch and begins the power back door operation. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. -<br>3. Power Back Door Unit (Power Back Door ECU) | - | - | - |
| | | | 1. -<br>2. Main body ECU (Cowl Side Junction Block LH) | • Main Body ECU (Cowl Side Junction Block LH) | The power back door system does not | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Back Door (BKD) | | | (MS Bus), Certification ECU (Smart Key ECU)<br>3. - | Block LH)<br>• Certification ECU (Smart Key ECU) | operate. | |
| | Power back door operation status output | Sends the hazard illumination request when the power back door operation begins and back door unlock request. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | When the back door operation begins, the hazard warning lights may not illuminate. | - |
| | | | 1. -<br>2. -<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | Main Body ECU (Cowl Side Junction Block LH) | - | - |
| | DTC transmission/reception | Performs the power back door customization, malfunction detection, Active Test, etc. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. -<br>3. Power Back Door Unit (Power Back Door ECU) | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | DTC function does not operate. | - |
| Active Height Control Suspension (4-WHEEL AHC) | Damping force control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, and steering angle sensor, detects the driving conditions, road surface conditions, etc. and changes the damping force of the shock absorbers. | 1. Suspension Control ECU<br>2. -<br>3. Suspension Control ECU | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | Damping force control is prohibited. | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | | - |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | | - |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | | - |
| Active Height Control Suspension (4-WHEEL AHC) | Spring switching control is prohibited | Based on the information from the master cylinder solenoid (skid control ECU), steering control ECU, yaw rate sensor and steering angle sensor, detects the driving conditions, road surface conditions, etc. and changes the front spring constant value (ON/OFF). | 1. Suspension Control ECU<br>2. -<br>3. Suspension Control ECU | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Spring switching control is prohibited. | "Check 4-WHEEL AHC System" illuminates. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | | |
| | | | 1 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | Yaw Rate Sensor | | |
| Active Height Control Suspension (4-WHEEL AHC) | Vehicle height control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, 4WD, main body ECU (cowl side junction block LH), and steering angle sensor, detects the driving conditions, road surface conditions, etc. and restricts vehicle height changes. | 1. Suspension Control ECU<br>2. -<br>3. Suspension Control ECU | - | - | - |
| | | | 1. Suspension Control ECU<br>2. ECM<br>3. Suspension Control ECU | ECM | Vehicle height control is prohibited. | - |
| | | | 1. -<br>2. ECM<br>3. - | ECT | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | Vehicle height control is prohibited. | - |
| | | | 1. -<br>2. 4WD Control ECU<br>3. - | 4WD Control ECU | - | - |
| Active Height Control Suspension (4-WHEEL AHC) | Vehicle height control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, 4WD, main body ECU (cowl side junction block LH), and steering angle sensor, detects the driving conditions, road surface conditions, etc. and restricts vehicle height changes. | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Vehicle height control is prohibited. | "Check 4-WHEEL AHC System" illuminates. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | | |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | Yaw Rate Sensor | | |
| Air Conditioner (ACN) | Air conditioning system | • Air conditioning vent temperature control according to the engine coolant temperature information.<br>• Air conditioning vent switching control according to the engine coolant temperature information.<br>• Air conditioning vent airflow amount control according to the engine coolant temperature information.<br>• Compensation of the engine | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | None | Coolant information: Control is performed by using the default value (80°C (176°F).<br>Engine type: The condition is maintained (when unconfirmed, control is performed by using the default (507F)). | - |

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| | | of the engine coolant temperature information according to the engine type.<br>• Compressor lock judgment value switching according to the engine type. | | | | |
| Air Conditioner (ACN) | Air conditioning system | Compressor lock judgment by NE. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | None | NE: Control is performed by using the default value (0 km/h (0 mph)). | - |
| | | The electric load control condition is limited according to the load control level. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | None | Load control: No load control (normal control). | - |
| | | • Activation control according to the viscous heater activation permission information.<br>• Activation control according to the PTC heater activation permission information. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | None | Permission information: Control is performed according to the operation prohibition state. | - |
| | | • Air conditioning system operation status control and panel switch IND output control according to panel switch operation information.<br>• Exhaust gas automatic air presence judgment and circulation control switching according to exhaust gas automatic air presence information. | 1. Air Conditioning Amplifier<br>2. Multi-Display<br>3. - | Multi-display | None (Air conditioning system operation condition switching is not possible). | - |
| Air | | Dimmer information output to the LIN panel according to the display dimmer information. | 1. Air Conditioning Amplifier<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | None | Condition is maintained (after the reset, the dimmer condition is fixed). | - |
| | | PTC control switching based on the headlight illumination information. | 1. Air Conditioning Amplifier<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | None | PTC control (the headlight flickering countermeasure) is not performed. | - |
| | | | 1. Air Conditioning | | | |

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| Conditioner (ACN) | Air conditioning system | A/C control pattern switching based on the country specific information. | 1. Amplifier<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | None | Condition is maintained (when unconfirmed, control is performed according to the default value). | - |
| | | Air conditioning system operation condition switching and the outside temperature display output adjustment according to the vehicle speed information. | 1. Air Conditioning Amplifier<br>2. Combination Meter<br>3. - | None | • Decrease in reliability and consistency of the exterior temperature value of the outside temperature display.<br>• Decrease in the optimum level of A/C vent airflow amount adjustment. | - |
| Steering Sensor (STR) | Steering angle detection function | The steering angle change information is output to the CAN according to the steering wheel operation. | 1. Steering Angle Sensor<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | • Initialization condition: Data output response request (STS=0).<br>• When the trigger frame VSC 1S01 is not received from the master cylinder solenoid (skid control ECU), the data output response of the output response request changes from STS=0 to STS=1. | - |
| | | | | Master Cylinder Solenoid (Skid Control ECU) | Communication is stopped after transmission is sent 4 times at 12 msec. intervals as the data output response non-request STS=0. When the above conditions are met, the sensor internal zero point memory invalid SAZS=1 and SFRZ=previous value + 1 during the next transmission. | - |
| Steering Sensor (STR) | Steering angle detection function | The steering angle change information is output to the CAN according to the steering wheel operation. | 1. -<br>2. -<br>3. - | • Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Control ECU<br>• ECM | Communication is stopped after transmission is sent 4 times at 12 millisecond intervals as the data output response non-request STS=0. When the above conditions are met, the sensor internal zero point memory invalid SAZA=1 and SFRZ=previous value + 1 during the next transmission. | Depends on the partner ECU specification. |
| | | | 1. Position Control ECU and Switch<br>2. -<br>3. Position Control ECU | • Master Cylinder Solenoid (Skid Control ECU)<br>• Steering | - | - |

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| | | | and Switch | Control ECU<br>• ECM | | |
| | | | 1. -<br>2. ECM<br>3. - | ECT | The memory restore function does not operate. | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The memory restore function does not operate. | - |
| | | Memory restore function | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The memory restore function does not operate. | - |
| Seat (DST) | Seat system | | 1. -<br>2. Position Control ECU and Switch<br>3. - | Position Control ECU and Switch | The memory restore function does not operate. | - |
| | | Memory call function | 1. Position Control ECU and Switch<br>2. -<br>3. Position Control ECU and Switch | - | - | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | Certification ECU (Smart Key ECU) | The memory call does not operate. | - |
| | | Tilt and telescopic operation permission function | 1. Position Control ECU and Switch<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Multiplex Tilt and Telescopic ECU<br>3. Multiplex Tilt and Telescopic ECU | Multiplex Tilt and Telescopic ECU | The tilt and telescopic operation does not operate. | - |
| | Mirror surface manual control | Function that adjusts the mirror surface with the manual switch. | 1. Outer Mirror Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The mirror surface manual adjustment function does not operate (stops if there is a disruption during the operation). | - |
| | Mirror surface memory control | Function that records the mirror surface position. | 1. Outer Mirror Control ECU<br>2. Position Control ECU and Switch, Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | The mirror surface recording function does not operate | - |
| | Mirror surface recovery control | Function that moves the mirror surface to the recorded mirror surface position. | 1. Outer Mirror Control ECU<br>2. Position Control ECU and Switch<br>3. - | Position Control ECU and Switch | The mirror surface recovery function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | | | 1. Outer Mirror Control ECU<br>2. Main Body | | | |

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| Mirror (DRD) | Mirror surface reverse control | Function that tilts the mirror surface downward when the vehicle is moving in reverse. | ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), ECM<br>3. - | • Main Body ECU (Cowl Side Junction Block LH)<br>• ECT | The reverse shift-linked function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Electric retract/return control | Function that retracts/returns the mirror housing. | 1. Outer Mirror Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), ECM<br>3. - | • Main Body ECU (Cowl Side Junction Block LH)<br>• ECT | The mirror housing retract/return function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Foot light illumination control | Function that turns on/off the foot light illumination that is on the bottom of the mirror housing. | 1. Outer Mirror Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The foot light illumination turns off (if illuminated, turns off). | - |
| Wiper (FRN) | Front wiper control | System that operates the wiper HI and LO operation, vehicle speed sensing intermittent wiper function, vehicle speed switching function, washer linked function, and auto wiper. | 1. Windshield Wiper ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | With the engine switch on (IG) and the wipers operating with the LO switch on, the intermittent wiper function does not operate while the vehicle is stopped due to the vehicle speed switching control not operating. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | • With the engine switch on (IG) and the wipers operating with the LO switch on, the intermittent wiper function does not operate while the vehicle is stopped due to the vehicle speed switching control not operating.<br>• With the engine switch on (IG), the | - |

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| | | | | | • washer fluid delay timing becomes fixed.<br>• With the engine switch on (IG), the intervals do not change according to the vehicle speed while the intermittent wiper function is operating. | |
| Wiper (FRN) | LIN communication control | System that assists the outer wiper function by communication with the windshield wiper ECU. | 1. Windshield Wiper ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | With the engine switch on (IG), the disruption value data is routed to the rain sensor. Otherwise, the rain sensor operation depends on the specifications. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | | - |
| Navigation (EMV) | Auto dimmer function and forced day screen function | Forced day screen switching, and auto dimmer function control. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. -<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The auto dimmer function and forced day screen function do not operate. | - |
| | Air conditioning function | Displays the air conditioning control screen by using the information from the air conditioning amplifier, and has a control function that notifies the air conditioning ECU of screen switch operating information. | 1. -<br>2. Multi-display<br>3. - | - | - | - |
| | | | 1. Air Conditioning Amplifier<br>2. -<br>3. - | Air Conditioning Amplifier (air conditioning functions) | • With the engine switch on (IG), the screen is displayed without air conditioning if ACN1S06 is not received for 10 sec.<br>• Panel switch control, screen switch control, and voice control do not operate. | Warning function: The screen displays without the air conditioning.<br>Warning function: Nothing.<br>Behavior: The air conditioning control screen/panel indicator light and set temperature indicator turn on and do not change.<br>Displayed using the EMV. |
| Navigation (EMV) | Country specification switching function | Function that changes the country specification based on the country specification information received from the vehicle. | 1. -<br>2. Multi-display<br>3. - | - | - | - |
| | | | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. -<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | - | - |
| | | | 1. -<br>2. Multi-display | - | - | - |

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| | | | 3. - | | | |
| | Clearance sonar screen display and clearance sonar cooperative display | System that displays the clearance sonar detection information. | 1. Clearance Warning ECU<br>2. -<br>3. - | Clearance Warning ECU | The clearance sonar screen display is off (it is determined that the clearance sonar ECU is not present). | Warning function: Nothing.<br>Behavior: Information menu screen "CLEAN SONAR" TSW is not displayed.<br>Displayed using the EMV. |
| Navigation (EMV) | Clearance sonar screen display and clearance sonar cooperative display | System that displays the clearance sonar detection information. | 1. ECM<br>2. -<br>3. - | ECT | Shift: Maintains previous value concerning R information, however there is no particular problem (Shift: Maintained in R). It is not possible to make the warning screen not display by shifting to N → R → N consecutively. However, it is possible to switch to the warning screen and cooperative screen (camera) if the normal shift operation is performed. Therefore, there is no problem (Shift: Maintained in a position other than R (default)). It is not possible to make the camera screen not display by shifting to P → N → R when starting. However, it is possible to switch to the warning screen and cooperative screen (camera) if the normal shift operation is performed. Therefore, there is no problem. | - |
| Navigation (EMV) | Clearance sonar settings | System that sets the operation of the clearance sonar. | 1. -<br>2. Multi-display<br>3. - | - | - | - |
| | | | 1. Clearance Warning ECU<br>2. -<br>3. - | Clearance Warning ECU | The clearance sonar screen display is off (it is determined that the clearance sonar ECU is not present). | Warning function: Nothing.<br>Behavior: The information menu screen "CLEAN SONAR" TSW is not displayed.<br>Displayed using the EMV. |
| No. 2 Body ECU (RRJ) | Rear wiper control | System that performs the rear wiper LO speed operation, washer linked function, intermittent wiper function, vehicle speed switching control, and reverse linked control. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | With the engine switch on (IG), the rear wiper does not stop due to the rear upper door opening during the rear wiper operation. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | With the engine switch on (IG), the intermittent wiper function does not operate while the wipers are stopped due to the vehicle speed switching control not operating during the rear wiper operation. | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | With the engine switch on (IG), the rear wiper does not activate due to the reverse operation control not operating when the front wiper is operating. | - |
| | | | 1. -<br>2. Windshield Wiper ECU<br>3. - | Windshield Wiper ECU | | - |
| | | | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - | - |

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| | Lower door closer control | System that independently controls the internal closer motors (RH, LH) of the rear lower door at the same time. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | Does not activate release, and does not release the lower door latch. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | With the engine switch on (IG), does not activate release, and does not release the lower door latch. | - |
| No. 2 Body ECU (RRJ) | Illumination control | System that fades the inside handle illumination, and step illumination in and out. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | Does not turn on the inside handle illumination or step illumination. | - |
| | LIN communication control | System that routes the CAN data to the overhead module using LIN communication. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | Routes the disrupted value data to the overhead module. | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | Certification ECU (Smart Key ECU) | | - |
| Variable Gear Ratio Steering (VGR) | VGRS system | System that changes the steering gear ratio based on the vehicle speed information and steering angle. | 1. Steering Control ECU<br>2. -<br>3. Steering Control ECU | - | - | - |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | VGRS system does not operate. | Master warning light illuminates and display is shown on multi-information display (meter display). |
| | | | 1. -<br>2. ECM<br>3. - | ECM | | |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | | |
| Clearance Sonar (CSR) | LEXUS parking assist-sensor system | System that activates the ultrasonic sensor, measures the distance from obstacles, and notifies the user by using the display and buzzer. | 1. Clearance Warning ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Air Conditioning Amplifier<br>3. - | Air Conditioning Amplifier | The sonar system functions normally. Maintains distance by maintaining the outside temperature at 25°C (77°F). | - |
| | | | 1. -<br>2. Windshield Wiper ECU<br>3. - | Windshield Wiper ECU | The sonar system functions normally. Operates the obstacle judgments with the wiper off (except in rain). | - |
| | | | 1. -<br>2. ECM | ECM | If data received from the ECM is lost, the system is inoperable as control is performed with the | - |

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| | | | 3. - | | is performed with the shift position data set to P. | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The clearance sonar main switch indicator is maintained with the brightness as the previous value. | - |
| | | | | | The sonar system functions normally. Control is maintained with the country specification information as the previous value (with or without a warning sound). | - |
| Clearance Sonar (CSR) | LEXUS parking assist-sensor system | System that activates the ultrasonic sensor, measures the distance from obstacles, and notifies the user by using the display and buzzer. | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | If data received from the meter ECU is lost, the system is inoperable as the clearance sonar is controlled at 20 km/h (12.5 mph) or more. | - |
| | | | 1. -<br>2. Multi-display<br>3. - | Multi-display | The sonar system functions normally. The clearance sonar customize information is maintained. | - |
| | | | | | The sonar system functions normally. Information on the camera presence is maintained. | - |
| | | | | | The sonar system functions normally. Notification on the screen that the clearance sonar is off is disabled. | - |
| AFS | Leveling | System that adjusts the beam axis direction of the headlights vertically according to the pitch angle requested by the wheel speed sensor and vehicle height sensor. | 1. AFS ECU (Headlight Swivel ECU)<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | • Leveling control continues.<br>• Swivel control centers the headlights. | AFS OFF indicator light blinks. |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | • Leveling control continues with the vehicle speed set to 0 km/h (0 mph).<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | - | - |
| | | | 1. AFS ECU (Headlight Swivel ECU)<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | • Leveling control continues.<br>• Swivel control | |

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| AFS | Swivel | System that measures the turning diameter based on the wheel speed and steering angle, and then moves the headlights left and right according to the turning diameter. | 3. | | centers the headlights. | AFS OFF indicator blinks. |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | • Leveling control continues with the vehicle speed set to 0.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering Angle Sensor, Steering Control ECU<br>3. - | • Steering Angle Sensor<br>• Steering Control ECU | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | • Level control continues.<br>• Swivel control centers the headlights. | |
| | AFS indicator | Monitors for AFS system malfunctions and blinks the indicator of the meter when a malfunction is detected. | 1. AFS ECU (Headlight Swivel ECU)<br>2. -<br>3. AFS ECU (Headlight Swivel ECU) | - | - | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | - | - |
| Rear View Monitor (DS2) | Rear view monitor system | System that displays the expected course lines in the back camera image of the display that links to the steering angle to assist in parking (garage parking, parallel parking, etc.). | 1. Parking Assist ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECT | The rear view monitor system does not operate. | Nothing (informed to user by not displaying image). |
| | | | 1. -<br>2. Steering Angle Sensor, Steering Control ECU<br>3. - | • Steering Angle Sensor<br>• Steering Control ECU | | Does not display the expected course lines on the display. Displays "Guidance unavailable" on the navigation screen. |
| | Wide view front and side monitor system | System that displays the front and side camera image on the display (the side monitor is linked with the steering angle to display the expected course lines). | 1. Parking Assist ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECT | The wide view front and side monitor system does not operate. | Nothing (informed to user by not displaying image). |
| | | | 1. -<br>2. Steering Angle Sensor, Steering Control ECU<br>3. - | • Steering Angle Sensor<br>• Steering Control ECU | | Does not display the expected course lines on the display. Displays "Guidance unavailable" on the navigation screen. |
| | | When the VSC system suddenly brakes and/or the vehicle is unable to be | 1. Seat Belt Control ECU<br>2. -<br>3. Seat Belt Control ECU | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control | Master Cylinder Solenoid (Skid Control | Detects that communication with the | - |

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| | | controlled (while spinning or drifting), the seat belt control ECU operates the pre-collision seat belts (PSB) that are fastened (receives the buckle switch information from the center airbag sensor) by tightening the seat belts to increase the occupant restraint. | (Skid Control ECU)<br>3. - | ECU) | seat belt control ECU is lost. Control is stopped. | |
| | PCS (brake linked) | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Detects that communication with the seat belt control ECU is lost. Control is stopped (brake linked). | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | Center Airbag Sensor | Detects that communication with the seat belt control ECU is lost. Control is stopped. | - |
| Pre-crash Seat Belt (PSB) | PCS (millimeter wave radar sensor linked) | When ACC determines that a collision is unavoidable based on the information from the millimeter wave radar sensor, the seat belt control ECU operates the pre-collision seat belts (PSB) that are fastened by tightening the seat belts to increase the occupant restraint. | 1. Seat Belt Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Distance Control ECU<br>3. - | Distance Control ECU | Detects that communication with the seat belt control ECU is lost. Control is stopped (millimeter wave radar sensor linked). | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | Center Airbag Sensor | Detects that communication with the seat belt control ECU is lost. Control is stopped. | - |
| | Meter display request | Receives the seat belt control ECU malfunction information or ACC malfunction information, and requests the display of the indicator to the meter ("PCS" indicator turn off/turn on request).<br>**HINT:**<br>As long as there is a signal in the ACC frame, the blinking request outputs an illumination request to the combination meter. When communication with the ACC frame is lost, it is determined that a malfunction exists and an illumination request is output along with the malfunction.<br>The priority order is determined by the combination meter. The illumination is the first priority. | 1. Seat Belt Control ECU<br>2. -<br>3. - | - | - | Exclusive indicator "PCS" turns on. |
| | | | 1. -<br>2. Combination Meter, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • Combination Meter<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Distance Control ECU | | |
| | | | 1. -<br>2. Combination Meter, Distance Control ECU<br>3. - | • Combination Meter<br>• Distance Control ECU | | |
| | 2 digit DTC output | When terminal TC of the DLC3 is connected to terminal GND, a 2 digit DTC (BCD) is displayed by the blinking of "PCS". | 1. Seat Belt Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | - | - |
| | Speedometer | Indicates the vehicle speed according to the vehicle speed signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | The speedometer indicates 0 km/h (0 mph). | - |
| | | | 1. Combination Meter | | | |

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|---|---|---|---|---|---|---|
| Meter (MET) | Tachometer | Indicates the engine speed according to the engine speed signal. | 1. Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The tachometer indicates 0 rpm. | - |
| | ODO/TRIP meter | Calculates and displays the driven distance according to the vehicle speed pulse signal calculated value. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | • The ODO/TRIP meter stops calculating and the last displayed value continues to be displayed.<br>• Optitron meter: In multi-display.<br>• Regular analog meter: Independent LCD. | - |
| | Engine coolant temperature gauge | Indicates the coolant temperature according to the engine coolant temperature signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The coolant temperature gauge displays less than the C mark. | - |
| Meter (MET) | Fuel gauge | Indicates the remaining fuel according to the fuel sender (direct line) input (uses the CAN communication (the vehicle speed signal) to determine if the vehicle is being driven or not). | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | Control is performed with the speed input as 0 km/h (0 mph). | - |
| | Oil pressure gauge | Indicates the engine oil pressure according to the oil pressure sender (direct line) input (uses the CAN communication to determine if the engine is on or off by the engine speed signal). | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The oil pressure gauge displays less than the L mark. | - |
| | Shift lever indicator | The shift information is displayed according to the shift position signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The shift lever indicator and shift position in the multi-information display turns off. | - |
| | | | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | The speed warning buzzer does not sound (for Middle East). | - |
| | | | | • Master Cylinder Solenoid (Skid Control ECU)<br>• Main Body | Conditions for the seat belt buzzer not sounding:<br>When VSC1S03 is lost: Does not sound.<br>When BDB1S01 is lost: | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| Meter (MET) | Buzzer | Controls the buzzer to sound and not sound according to the various signals that are input. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | ECU (Cowl Side Junction Block LH) | Does not sound.<br>When ECT1S90 is lost: Control is performed with B_R=0b. | |
| | | | | • Master Cylinder Solenoid (Skid Control ECU)<br>• Main Body ECU (Cowl Side Junction Block LH) | Conditions for the seat belt buzzer sounding:<br>When VSC1S03 is lost: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>When VSC1S95 is lost: Control is performed with B_CPKB=0b.<br>When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | | • Master Cylinder Solenoid (Skid Control ECU)<br>• Main Body ECU (Cowl Side Junction Block LH) | The door ajar driving warning buzzer does not sound. | - |
| Meter (MET) | Buzzer | Controls the buzzer to sound and not sound according to the various signals that are input. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The light reminder buzzer does not sound. | - |
| | | | | Main Body ECU (Cowl Side Junction Block LH) | The sliding roof buzzer condition is maintained (until bus sleep). | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The A/T reverse buzzer does not sound. | - |
| | | | | ECM | • The sports shift reject buzzer condition is maintained.<br>• The radar cruise low speed buzzer does not sound.<br>• The radar cruise warning buzzer does not sound. | - |
| | | | 1. -<br>2. 4WD Control ECU<br>3. - | 4WD Control ECU | The last state of the 4WD buzzer is maintained. | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | Certification ECU (Smart Key ECU) | The door control transmitter buzzer (single push, continuous push, and intermittent push) does not sound.<br>The immobiliser verification completion notification buzzer does not sound. | - |
| | | | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. Master Cylinder (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | The ABS indicator turns on. | The ABS indicator turns on. |
| | | | 1. -<br>2. Main Body | | | |

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| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • Master Cylinder Solenoid (Skid Control ECU)<br>• Main Body ECU (Cowl Side Junction Block LH) | Brake warning light<br>When VSC1S95 is lost: Illuminates.<br>When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | SLIP indicator light condition is maintained.<br>VSC OFF indicator light condition is maintained.<br>The downhill assist control indicator light condition is maintained.<br>The CRAWL indicator light condition is maintained. | - |
| | | | | Master Cylinder Solenoid (Skid Control ECU) | 120 km/h (75 mph) speed warning turns off (for Middle East). | - |
| | | | | Master Cylinder Solenoid (Skid Control ECU) | Control is performed with the speed condition as 0 km/h (0 mph) for the following display: FUEL FILTER clog indicator.<br>The odometer calculation is stopped for the following display conditions: T-BELT indicator. | - |
| | | | 1. -<br>2. AFS ECU<br>3. - | AFS ECU | Maintains the AFS OFF indicator condition. | - |
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | When there is determined to be a disruption, the following indicators operate as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off.<br>• DOOR indicator light<br>• Driver side seat belt indicator light | - |
| | | | | Main Body ECU (Cowl Side Junction Block LH) | When there is determined to be a disruption, the following indicators operate as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off.<br>• FRONT FOG indicator light<br>• REAR FOG indicator light<br>• TAIL indicator<br>• HEAD indicator<br>• BEAM indicator | - |

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| | | | 1. -<br>2. Parking Assist ECU<br>3. - | Parking Assist ECU | CLEARANCE SONAR indicator light turns off. | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The A/T P warning light condition is maintained.<br>The ECT PWR indicator light condition is maintained.<br>The 2nd START indicator light condition is maintained.<br>The CHARGE warning light condition is maintained.<br>The CRUISE main indicator light condition is maintained. | - |
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. ECM, 4WD Control ECU<br>3. - | • ECM<br>• 4WD Control ECU | The A/T P warning light conditions are maintained. | - |
| | | | 1. -<br>2. 4WD Control ECU<br>3. - | 4WD Control ECU | The center differential lock indicator light turns off.<br>The 4LO indicator light turns off. | - |
| | | | 1. -<br>2. Seat Belt Control ECU<br>3. - | Seat Belt Control ECU | The PCS indicator light condition is maintained. | - |
| | | | 1. -<br>2. Suspension Control ECU<br>3. - | Suspension Control ECU | The ACCESS MODE indicator light<br>• When the engine switch is on (IG): The condition is maintained.<br>• When the engine switch is off: Turns off. | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | Center Airbag Sensor | The SRS warning light turns on. | The SRS warning indicator turns on. |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, radar cruise, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU) | Displays a blank screen and drive monitor operation and calculation of the following values stops: instant fuel economy, average fuel economy after refueling, distance to empty, average vehicle speed after engine start, driving distance after engine start. | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Parking brake drag warning display<br>conditions:<br>When VSC1S03 is lost: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>When VSC1S95 is lost: Control is performed with B_CPKB=0b.<br>When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction | | | |

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| | | | Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • Master Cylinder Solenoid (Skid Control ECU)<br>• Main Body ECU (Cowl Side Junction Block LH) | The CRAWL system display is maintained.<br>The VSC display is maintained. | - |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Control is performed with the speed condition as 0 km/h (0 mph) for the following displays: Door open while driving display, FUEL FILTER clog display.<br>ODO calculation stops for the following display conditions: Oil maintenance display, T-BELT display. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • Master Cylinder Solenoid (Skid Control ECU)<br>• Main Body ECU (Cowl Side Junction Block LH) | Conditions for the door open display and door open while driving display:<br>VSC1S03: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>BSB1S01: Display state is maintained.<br>BDB1S08: No display. | - |
| | | | 1. -<br>2. Air Conditioning Amplifier<br>3. - | Air Conditioning Amplifier | The outside temperature display is "E". | The outside temperature display is "E" (in the meter). |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The shift lever display turns off. | - |
| | | | | Main Body ECU (Cowl Side Junction Block LH) | The door control transmitter display condition is as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off. | - |
| | | | | Main Body ECU (Cowl Side Junction Block LH) | The sliding roof open display condition is as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off. | - |
| | | | 1. -<br>2. Parking Assist ECU<br>3. - | Parking Assist ECU | The clearance warning sonar display condition is maintained. | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The A/T shift position display turns off. | - |
| | | | | ECM | The A/T OIL TEMP display state is maintained. | - |
| | | | 1. -<br>2. Seat Belt Control ECU<br>3. - | Seat Belt Control ECU | The PCS display condition is maintained. | - |
| | | | | | The door control | |

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| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | Certification ECU (Smart Key ECU) | transmitter display condition is maintained.<br>The security display condition is maintained.<br>The door control transmitter unlock mode display condition is maintained. | - |
| | | | 1. -<br>2. Suspension Control ECU<br>3. - | Suspension Control ECU | 4-WHEEL AHC vehicle height display turns off.<br>"Check 4-WHEEL AHC System" is displayed. | 4-WHEEL AHC vehicle height display turns off.<br>"Check 4-WHEEL AHC System" is displayed. |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | "Check VGRS System" is displayed. | "Check VGRS System" is displayed. |
| | Illumination function | Controls dimming and meter illumination on/off according to the CAN signals. | 1. Combination Meter<br>2. -<br>3. Combination Meter | Combination Meter | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | Daytime brightness. | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | - | - |
| Meter (MET) | Passenger seat belt warning indicator | Blinks the passenger seat belt warning indicator according to the CAN signals. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | Center Airbag Sensor | The passenger seat belt warning indicator condition is maintained. | - |
| | | | 1. -<br>2. -<br>3. Multi-display | Multi-display | - | - |
| Body (BDB) | Power supply switching control | The system that switches the power supply between +B, ACC, and IG. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter, ECM<br>3. - | ECM | The forced engine switch off function does not operate. | - |
| | | | | Combination Meter | When the power supply switching conditions are met, power supply switching control is permitted.<br>When the power supply condition IG2 start/stop switch turns from off to on, the power supply condition is changed to IG1, and the IG relay output stops. | - |
| Body (BDB) | Security | The system that operates the warning when a theft is detected. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Certification ECU (Smart Key ECU)<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | Certification ECU (Smart Key ECU) | The security control does not operate (The headlight/taillight warning output, horn warning output, and hazard warning light output do not operate).<br>The forced door lock function lock output does not operate.<br>The dome light warning control does not operate.<br>The lighting system answer back control does not operate.<br>(The taillight warning output and hazard warning light output do not operate). | - |
| | | | | Certification ECU (Smart Key ECU) | When the security warning is operating, warning output stops during hazard warning light output | - |

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| | | | | | light output. | |
| | | | | Certification ECU (Smart Key ECU) | When the security warning is operating, the dome light turns off during dome light illumination. | - |
| | Entry and start/wireless | The system that operates the lock/unlock, engine switch, back door opener, warning, etc. by pressing the switch when the door control transmitter is within the vehicle detection area. The system that operates the vehicle lock/unlock, panic, back door opener, etc. by remote control. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Certification ECU (Smart Key ECU)<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | Certification ECU (Smart Key ECU) | Entry and start/wireless control does not operate.<br>The door lock/unlock control and entry and start back door opener control do not operate. | - |
| Body (BDB) | Vehicle speed linked auto lock | The system that locks the doors when the vehicle speed is 20 km/h (12 mph) or more. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter, ECM<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | ECM | When the vehicle speed linked auto lock signal is lost, operation is permitted. | - |
| | | | | Combination Meter | The vehicle speed linked auto lock does not operate. | - |
| | Shift linked auto lock/unlock | The system that unlocks all the doors when the shift lever is moved to P, and locks all doors when the shift lever is moved from P to another position while the engine is running. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter, ECM<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | ECM | The shift linked auto lock/unlock function does not operate. | - |
| | | | | Combination Meter | When the shift linked auto lock/unlock signal is lost, operation is permitted. | - |
| | DRL | The system that illuminates lights when driving the vehicle to improve the visibility of pedestrians and other vehicles in the daytime. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. ECM<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | ECM | DRL control does not operate.<br>**HINT:**<br>If operated once, the operation continues until the engine switch is turned off, even if the signal is lost. | - |
| | Boarding | System that controls the front (rear) dome light, door mirror foot light, center console spot light, and interior foot light. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Certification ECU (Smart Key ECU), Combination Meter, ECM, Parking Assist ECU<br>3. Outer Mirror Control ECU, No. 2 Main Body ECU, Main | Certification ECU (Smart Key ECU) | Front (rear) dome light, door mirror foot light, center console spot light, and interior foot light control does not operate. | - |
| | | | | Combination Meter | While the interior foot light is illuminated, the center console does not turn off. | - |
| | | | | ECM | When the interior foot light is illuminated, the dimmer operates.<br>When the engine switch is on (IG), the door mirror foot light does not operate by the manual unlock. | - |
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| | | | Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus) | Parking Assist ECU | When the side monitor is operating, the door mirror foot light can illuminate. | - |
| Body (BDB) | Back door | System that operates the hazard warning lights as an answer back when the power back door begins to operate. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. Power Back Door Unit (Power Back Door ECU)<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | Power Back Door Unit (Power Back Door ECU) | The hazard warning light answer back does not operate when the back door begins to operate. | - |
| | Back door opener | The system that releases the door latch (turns opener motor on) by turning on the switch built into the outside door handle. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | Combination Meter | Prohibits the back door opener control. | - |
| | One motion power back door opener | System that unlocks and opens the back door in one motion when the wireless back door opening operation is performed. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Power Back Door Unit (Power Back Door ECU)<br>3. Power Back Door Unit (Power Back Door ECU) | Power Back Door Unit (Power Back Door ECU) | Back door opener control does not operate. | - |
| | Display automatic dimmer control | System that controls the brightness of the interior display/indicators, etc. only during twilight and nighttime by determining the time of day and using the light sensor signal. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter<br>3. Windshield Wiper ECU, No. 2 Main Body ECU, ECU, Combination Meter, Multi-display, Air Conditioning Amplifier, Clearance Warning ECU | Combination Meter | Operates the display automatic dimmer control when the tail cancel switch is on. When the value of the light sensor illumination intensity signal is less than the display dimmer value, the brightness of the vehicle interior display/indicator is dimmed. | - |
| | Power window | The system that operates power window control based on the request from wireless/entry and start control. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Certification ECU (Smart Key ECU)<br>3. - | Certification ECU (Smart Key ECU) | Power window control does not operate. Power window control stops during wireless/entry power window control operation. | - |
| | | | 1. Certification ECU (Smart Key ECU) | | | |

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|---|---|---|---|---|---|---|
| | | | Key ECU)<br>2. -<br>3. - | - | - | - |
| Verification (IDT) | Entry function | Entry and start/lock/back door/warning, etc. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | • The entry lock/unlock does not operate.<br>• The entry back door does not operate.<br>• The entry and start warning message does not operate.<br>• The key lock-in prevention function does not operate.<br>• The entry illumination does not operate. | - |
| | | | | Main Body ECU (Cowl Side Junction Block LH) | Package default setting. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | The vehicle speed is determined to be 0 km/h (0 mph). | - |
| | | | | Combination Meter | - | - |
| | Wireless buzzer function | The wireless buzzer sounding control. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. Certification ECU (Smart Key ECU) | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | Does not sound even though there is a wireless buzzer request. | - |
| | | | | Main Body ECU (Cowl Side Junction Block LH) | Package default settings. | - |
| | | | 1. -<br>2. Suspension Control ECU<br>3. - | Suspension Control ECU | Does not sound even though there is an access mode warning buzzer request. | - |
| Verification (IDT) | Immobiliser function | The immobiliser control by the warning and remote engine start. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. Certification ECU (Smart Key ECU) | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The engine switch is forcibly turned off. | - |
| | Wireless function | Wireless electric wave information transmission. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. Certification ECU (Smart Key ECU) | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | - | - |
| | | | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. Certification ECU (Smart Key ECU) | - | - | - |

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| | Security function | Security alarm control. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The alarm is not unset.<br>The alarm is not set. | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The alarm is not unset by the engine start. | - |
| Movement Control Bus (CGW) | Movement control bus monitor function | Monitoring of communication stop. | 1. Network Gateway ECU (Movement Control Bus)<br>2. Seat Belt Control ECU<br>3. - | Seat Belt Control ECU | The reception interval counter (RAM and CAN controller initialization). | - |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Distance Control ECU<br>3. - | Distance Control ECU | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Clearance Warning ECU<br>3. - | Clearance Warning ECU | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Parking Assist ECU<br>3. - | Parking Assist ECU | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Suspension Control ECU<br>3. - | Suspension Control ECU | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Yaw Rate Sensor<br>3. - | Yaw Rate Sensor | | |
| | | | 1. Network Gateway ECU (Movement | | | |

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| | | | (Movement Control Bus)<br>2. Steering Control ECU<br>3. - | Steering Control ECU | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. 4WD Control ECU<br>3. - | 4WD Control ECU | | |
| Movement Control Bus (CGW) | Movement Control Bus (CGW) | Monitoring of communication stop. | 1. Network Gateway ECU (Movement Control Bus)<br>2. Parking Assist ECU, Master Cylinder Solenoid (Skid Control ECU), 4WD Control ECU, Steering Angle Sensor, Yaw Rate Sensor, Distance Control ECU, Steering Control ECU, Seat Belt Control ECU, Suspension Control ECU<br>3. - | • Parking Assist ECU<br>• Clearance Warning ECU<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• 4WD Control ECU<br>• Steering Angle Sensor<br>• Yaw Rate Sensor<br>• Distance Control ECU<br>• Steering Control ECU<br>• Seat Belt Control ECU<br>• Suspension Control ECU | The reception interval counter (RAM and CAN controller initialization). | - |

**for Preparation** Click here

## FAIL-SAFE FUNCTION

a. When communication fails in any of the main wires (communication lines) due to a short circuit or other causes, the fail-safe function, which is specified for each system, operates to prevent the system from malfunctioning.

b. The table below shows the effects on each system when communication is impossible. For further details, refer to each system.

| System | Function | Control Description | 1. Control Master<br>2. System Related<br>3. Control Actuator | Fail-safe Function System Behavior | Indicator and Buzzer Behavior or User Notification |
|---|---|---|---|---|---|
| Airbag (ABG) | TC DTC/output service | When TC is on, DTCs (warning light turn on/turn off request signals) are output. | 1. Center Airbag Sensor<br>2. -<br>3. Combination Meter | - | - |
| | Event recorder (EDR) | Records the vehicle information during a collision (the vehicle speed, accelerator pedal opening angle, shift position, etc.). | 1. Center Airbag Sensor<br>2. Combination Meter, ECM<br>3. - | - | - |
| | SRS warning light control | Turns the SRS warning light on/off. | 1. Combination Meter<br>2. Center Airbag Sensor<br>3. - | The SRS warning light turns on. | - |
| | Information output function (Refer to related system for control description details) | The collision detection signal stops the fuel pump during a collision. | 1. ECM<br>2. Center Airbag Sensor<br>3. - | - | - |
| | | The driver/passenger seat buckle switch stops PSB control when the seat belt is not fastened. | 1. Seat Belt Control ECU<br>2. Center Airbag Sensor<br>3. - | - | - |
| | | The passenger seat occupant detection signal turns on the seat belt warning light when the seat belt is not fastened. | 1. Combination Meter<br>2. Center Airbag Sensor<br>3. - | - | - |
| | Warning light control | BRL, ABS, VSC-OFF, SLIP and CRAWL light control (turn on/off, blink, DTC output). | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. -<br>3. Combination Meter | - | - |
| | ABS control | ABS control according to the G sensor signal. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. Yaw Rate Sensor<br>3. Master | The ABS does not operate. | ABS warning light turns on. |

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|---|---|---|---|---|---|
| | | | Cylinder Solenoid (Skid Control ECU) | | |
| Brake (VSC) | TRC control<br>CRAWL control | Brake control and engine torque control during acceleration slip. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. ECM, 4WD Control ECU<br>3. Master Cylinder Solenoid (Skid Control ECU) | TRC does not operate. | VSC OFF indicator light turns on.<br>CRAWL indicator light turns on. |
| | VSC control | VSC control according to the yaw rate and steering angle sensor signal. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. ECM, 4WD Control ECU, Steering Angle Sensor, Yaw Rate Sensor, Steering Control ECU<br>3. Master Cylinder Solenoid (Skid Control ECU) | VSC does not operate. | ABS and VSC warning lights turn on. |
| | ACC control | The brake control according to the request from the distance control ECU via the ECM. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. ECM<br>3. Master Cylinder Solenoid (Skid Control ECU) | ACC does not operate. | VSC warning light turns on. |
| | | | 1. -<br>2. ECM<br>3. ECM | ACC control is canceled. | • "Check Cruise Control System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | | |
| | | | 1. -<br>2. Master Cylinder Solenoid | | |

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|---|---|---|---|---|---|
| Dynamic Radar Cruise Control (ACC) | ACC | Acceleration/deceleration control when following the vehicle in front. | (Skid Control ECU)<br>3. Master Cylinder Solenoid (Skid Control ECU) | - | - |
| | | | 1. Distance Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | - | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | - | - |
| Dynamic Radar Cruise Control (ACC) | PCS | Seat belt and brake control immediately before a collision. | 1. -<br>2. ECM<br>3. - | Radar linked PCS control stops. | • "Check Cruise Control System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | | |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. Master Cylinder Solenoid (Skid Control ECU) | PCS control stops. | |
| | | | 1. Distance Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | - | - |
| | | | 1. -<br>2. -<br>3. Seat Belt Control ECU | - | - |
| | | | 1. Multiplex Tilt and Telescopic ECU<br>2. Position Control ECU | The power tilt and power telescopic steering column system does not operate. | - |
| | | | | Memory restore control does not operate. | - |

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| Tilt and Telescopic (TAT) | Microcomputer preset steering | Automatically begins the steering auto away/auto return when the engine switch is turned on (IG) or off. | and Switch, Main Body ECU (Cowl Side Junction Block LH) (V Bus), Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Combination Meter<br>3. Multiplex Tilt and Telescopic ECU | Auto return/auto away control does not operate. | - |
| Mechanical 4WD (FWM) | Switching control between High and Low | Switching between High and Low is prohibited during the following conditions: 1) When there is a vehicle speed violation, engine speed violation, or large difference in wheel speeds, 2) when the shift lever is not in N, or 3) when the clutch is not on. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Switching between High and Low is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if switching between High and Low can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or 4LO indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | Neutral switching control | Switching to neutral is prohibited during the following conditions: 1) When there is a vehicle speed violation or engine speed violation, or 2) when the shift lever is not in N or the clutch is not on. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Switching to neutral is prohibited. | 4LO indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | Center differential lock switching control (between Free and Lock) | Center differential lock switching is prohibited when there is a vehicle speed violation or large difference in wheel speeds. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Center differential lock switching is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if center differential lock switching can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | Rear differential lock | Rear differential lock | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. - | Rear differential lock switching is prohibited.<br>**HINT:** | |

| | | | | | |
|---|---|---|---|---|---|
| Mechanical 4WD (FWM) | switching control (between Rr Free and Rr Lock) | switching is prohibited when there is a vehicle speed violation. | 2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | When there is a wheel speed malfunction, function No. 7 is controlled to determine if rear differential lock switching can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | L4F switching control | Switching to L4F is prohibited and the operation is performed with L4L when VSC is malfunctioning. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | L4F switching is prohibited and the operation is performed with L4L. | No user notification. |
| | Specialized control when temperature is low | Changes the ACT conductive current value according to the temperature (low temperature use or normal temperature use). | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Air Conditioning Amplifier, ECM<br>3. - | Changes the temperature used for the calculation of ACT temperature adjustment control. | No user notification. |
| Mechanical 4WD (FWM) | Specialized control during wheel speed failure | When there is a wheel speed failure, switching is permitted only when specified conditions are met (the wheel speed malfunction is 1 wheel or more and 3 wheels or less, the brake is applied, the engine speed is low, and all normal wheel speeds are low). | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | If the wheel speed malfunction is 1 wheel or more and 3 wheels or less, only when the wheel speed failure specified conditions are met, switching is permitted. When 4 wheels are malfunctioning, switching is prohibited (the wheel speed failure specialized control does not operate). | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| Mechanical 4WD (FWM) | Indicator and buzzer signal output | Signal output of the indicator and buzzer condition that indicates the actuator position and switching status. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | High-Low actuator failure signal output | When the High-Low actuator limit switch is malfunctioning, a signal is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | C/C cancel signal output | Outputs a cruise control cancel signal when center differential switching is not completed even though 5 sec. or more have elapsed from the start of switching. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | L4 status signal condition output | A signal is output when switching between the L4F and L4L position is completed. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | C/D lock condition signal output | CDL switch condition is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |

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| | R/D lock condition signal output | R switch condition is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | T/F N condition signal output | NP switch condition is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| Gasoline Engine | Engine control system | Adjusts the fuel injection volume according to each sensor value and controls the engine. | 1. ECM<br>2. -<br>3. - | - | - |
| | ECT control system | Changes the ECT shift position based on the vehicle speed and torque. | 1. ECM<br>2. -<br>3. - | - | - |
| | Cruise control system | Maintains a constant vehicle speed and drives the vehicle. | 1. ECM<br>2. -<br>3. - | - | - |
| Power Back Door (BKD) | Power back door operation conditions | Prohibits the power back door operation according to the vehicle state (the engine switch, shift position, vehicle speed, and lock position). | 1. Power Back Door Unit (Power Back Door ECU)<br>2. -<br>3. Power Back Door Unit (Power Back Door ECU) | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) Main Body ECU (Cowl Side Junction Block LH) (V Bus), Combination Meter, ECM<br>3. - | The power back door system does not operate (when the start signal is received, the buzzer sounds a warning that the conditions are not met). | - |
| | Power back door operation requests | Receives the power back door close/open operation trigger from the operation switch or wireless switch and begins the power back door operation. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. -<br>3. Power Back Door Unit (Power Back Door ECU) | - | - |
| | | | 1. -<br>2. Main body ECU (Cowl Side Junction Block LH) (MS Bus), Certification ECU (Smart Key ECU)<br>3. - | The power back door system does not operate. | |
| | Power back door | Sends the hazard illumination request when | 1. Power Back Door Unit (Power Back Door ECU)<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. Power Back | When the back door operation begins, the hazard warning lights may not illuminate. | - |

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| | operation status output | the power back door operation begins and back door unlock request. | Door Unit (Power Back Door ECU) | | |
| | | | 1. -<br>2. -<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | - | - |
| | DTC transmission/reception | Performs the power back door customization, malfunction detection, Active Test, etc. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. -<br>3. Power Back Door Unit (Power Back Door ECU) | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | DTC function does not operate. | - |
| Active Height Control Suspension (4-WHEEL AHC) | Damping force control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, and steering angle sensor, detects the driving conditions, road surface conditions, etc. and changes the damping force of the shock absorbers. | 1. Suspension Control ECU<br>2. -<br>3. Suspension Control ECU | - | - |
| | | | 1. -<br>2. ECM<br>3. - | Damping force control is prohibited. | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | | - |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | | - |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | | - |
| Active Height Control Suspension (4-WHEEL AHC) | Spring switching control is prohibited | Based on the information from the master cylinder solenoid (skid control ECU), steering control ECU, yaw rate sensor and steering angle sensor, detects the driving conditions, road surface conditions, etc. and changes the front spring constant value (ON/OFF). | 1. Suspension Control ECU<br>2. -<br>3. Suspension Control ECU | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Spring switching control is prohibited. | "Check 4-WHEEL AHC System" illuminates. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | | |
| | | | 1. - | | |

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| | | | 2. Steering Control ECU<br>3. - | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | | |
| Active Height Control Suspension (4-WHEEL AHC) | Vehicle height control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, 4WD, main body ECU (cowl side junction block LH), yaw rate sensor and steering angle sensor, detects the driving conditions, road surface conditions, etc. and restricts vehicle height changes. | 1. Suspension Control ECU<br>2. -<br>3. Suspension Control ECU | - | - |
| | | | 1. Suspension Control ECU<br>2. ECM<br>3. Suspension Control ECU | Vehicle height control is prohibited. | - |
| | | | 1. -<br>2. ECM<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V bus)<br>3. - | Vehicle height control is prohibited. | - |
| | | | 1. -<br>2. 4WD Control ECU<br>3. - | - | - |
| Active Height Control Suspension (4-WHEEL AHC) | Vehicle height control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, 4WD, main body ECU (cowl side junction block LH), yaw rate sensor and steering angle sensor, detects the driving conditions, road surface conditions, etc. and restricts vehicle height changes. | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Vehicle height control is prohibited. | "Check 4-WHEEL AHC System" illuminates. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | | |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | | |
| | | • Air conditioning vent temperature control according to the engine coolant temperature information.<br>• Air conditioning vent switching control according to the engine coolant temperature information. | | Coolant information: Control is performed by | |

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| Air Conditioner (ACN) | Air conditioning system | • Air conditioning vent airflow amount control according to the engine coolant temperature information.<br>• Compensation of the engine coolant temperature information according to the engine type.<br>• Compressor lock judgment value switching according to the engine type. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | using the default value (80°C (176°F).<br>Engine type: The condition is maintained (when unconfirmed, control is performed by using the default (507F)). | - |
| Air Conditioner (ACN) | Air conditioning system | Compressor lock judgment by NE. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | NE: Control is performed by using the default value (0 km/h (0 mph)). | - |
| | | The electric load control condition is limited according to the load control level. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | Load control: No load control (normal control). | - |
| | | • Activation control according to the viscous heater activation permission information.<br>• Activation control according to the PTC heater activation permission information. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | Permission information: Control is performed according to the operation prohibition state. | - |
| | | • Air conditioning system operation status control and panel switch IND output control according to panel switch operation information.<br>• Exhaust gas automatic air presence judgment and circulation control switching according to exhaust gas automatic air presence information. | 1. Air Conditioning Amplifier<br>2. Display and Navigation Module Display<br>3. - | None (Air conditioning system operation condition switching is not possible). | - |

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| Air Conditioner (ACN) | Air conditioning system | Dimmer information output to the LIN panel according to the display dimmer information. | 1. Air Conditioning Amplifier<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Condition is maintained (after the reset, the dimmer condition is fixed). | - |
| | | PTC control switching based on the headlight illumination information. | 1. Air Conditioning Amplifier<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | PTC control (the headlight flickering countermeasure) is not performed. | - |
| | | A/C control pattern switching based on the country specific information. | 1. Air Conditioning Amplifier<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Condition is maintained (when unconfirmed, control is performed according to the default value). | - |
| | | Air conditioning system operation condition switching and the outside temperature display output adjustment according to the vehicle speed information. | 1. Air Conditioning Amplifier<br>2. Combination Meter<br>3. - | • Decrease in reliability and consistency of the exterior temperature value of the outside temperature display.<br>• Decrease in the optimum level of A/C vent airflow amount adjustment. | - |
| Steering Sensor (STR) | Steering angle detection function | The steering angle change information is output to the CAN according to the steering wheel operation. | 1. Steering Angle Sensor<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • Initialization condition: Data output response request (STS=0).<br>• When the trigger frame VSC 1S01 is not received from the master cylinder solenoid (skid control ECU), the data output response of the output response request changes from STS=0 to STS=1. | - |
| | | | | Communication is stopped after | |

| | | | | | |
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| | | | | transmission is sent 4 times at 12 msec. intervals as the data output response non-request STS=0.<br>When the above conditions are met, the sensor internal zero point memory invalid SAZS=1 and SFRZ=previous value + 1 during the next transmission. | - |
| Steering Sensor (STR) | Steering angle detection function | The steering angle change information is output to the CAN according to the steering wheel operation. | 1. Steering Angle Sensor<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Communication is stopped after transmission is sent 4 times at 12 millisecond intervals as the data output response non-request STS=0.<br>When the above conditions are met, the sensor internal zero point memory invalid SAZA=1 and SFRZ=previous value + 1 during the next transmission. | Depends on the partner ECU specification. |
| Seat (DST) | Seat system | Memory restore function | 1. Position Control ECU and Switch<br>2. -<br>3. Position Control ECU and Switch | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The memory restore function does not operate. | - |
| | | | 1. -<br>2. ECM<br>3. - | The memory restore function does not operate. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | The memory restore function does not operate. | - |
| | | | 1. -<br>2. Position Control ECU and Switch<br>3. - | The memory restore function does not operate. | - |
| | | Memory call function | 1. Position Control ECU and Switch<br>2. -<br>3. Position Control ECU and Switch | - | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | The memory call does not operate. | - |
| | | | 1. Position Control ECU | | |

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| | | | and Switch<br>2. -<br>3. - | - | - |
| | | Tilt and telescopic operation permission function | 1. -<br>2. Multiplex Tilt and Telescopic ECU<br>3. Multiplex Tilt and Telescopic ECU | The tilt and telescopic operation does not operate. | - |
| Mirror (DRD) | Mirror surface manual control | Function that adjusts the mirror surface with the manual switch. | 1. Outer Mirror Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | The mirror surface manual adjustment function does not operate (stops if there is a disruption during the operation). | - |
| | Mirror surface memory control | Function that records the mirror surface position. | 1. Outer Mirror Control ECU<br>2. Position Control ECU and Switch, Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | The mirror surface recording function does not operate | - |
| | Mirror surface recovery control | Function that moves the mirror surface to the recorded mirror surface position. | 1. Outer Mirror Control ECU<br>2. Position Control ECU and Switch<br>3. - | The mirror surface recovery function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Mirror surface reverse control | Function that tilts the mirror surface downward when the vehicle is moving in reverse. | 1. Outer Mirror Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), ECM<br>3. - | The reverse shift-linked function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Electric retract/return control | Function that retracts/returns the mirror housing. | 1. Outer Mirror Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), ECM<br>3. - | The mirror housing retract/return function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | | | 1. Outer Mirror Control ECU | | |

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|---|---|---|---|---|---|
| | Foot light illumination control | Function that turns on/off the foot light illumination that is on the bottom of the mirror housing. | 2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | The foot light illumination turns off (if illuminated, turns off). | - |
| Wiper (FRN) | Front wiper control | System that operates the wiper HI and LO operation, vehicle speed sensing intermittent wiper function, vehicle speed switching function, washer linked function, and auto wiper. | 1. Windshield Wiper ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | With the engine switch on (IG) and the wipers operating with the LO switch on, the intermittent wiper function does not operate while the vehicle is stopped due to the vehicle speed switching control not operating. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | • With the engine switch on (IG) and the wipers operating with the LO switch on, the intermittent wiper function does not operate while the vehicle is stopped due to the vehicle speed switching control not operating.<br>• With the engine switch on (IG), the washer fluid delay timing becomes fixed.<br>• With the engine switch on (IG), the intervals do not change according to the vehicle speed while the intermittent wiper function is operating. | - |
| | | | 1. Windshield Wiper ECU | - | - |

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| | | | 2. -<br>3. - | | |
| Wiper (FRN) | LIN communication control | System that assists the outer wiper function by communication with the windshield wiper ECU. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | With the engine switch on (IG), the disruption value data is routed to the rain sensor. Otherwise, the rain sensor operation depends on the specifications. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | | - |
| Navigation (EMVN) | Air Conditioner Control | Controls all Air Conditioner functions. | 1. Display and Navigation Module Display<br>2. Air Conditioning Amplifier<br>3. - | Clears display screens that do not respond to SW. | Displayed on-screen. |
| | Clearance Sonar Settings / Communication | Displays Sonar Status, and issues audible warnings. | 1. Display and Navigation Module Display<br>2. ECM, Parking Assist ECU<br>3. - | Clears display screens that do not respond to SW. | Icon disappears. |
| | Destination ID | Determines the vehicle destination, and decides the display language, time zones, etc. | 1. Display and Navigation Module Display (w/ Navigation System)<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | Destination data saved prior to system stoppage is used. | Cannot detect. |
| No. 2 Body ECU (RRJ) | Rear wiper control | System that performs the rear wiper LO speed operation, washer linked function, intermittent wiper function, vehicle speed switching control, and reverse linked control. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | With the engine switch on (IG), the rear wiper does not stop due to the rear upper door opening during the rear wiper operation. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | With the engine switch on (IG), the intermittent wiper function does not operate while the wipers are stopped due to the vehicle speed switching control not operating during the rear wiper operation. | - |
| | | | 1. -<br>2. ECM<br>3. - | With the engine switch on (IG), the rear wiper does not activate due to the reverse operation control not operating when the front wiper is | - |
| | | | 1. -<br>2. Windshield | | - |

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| | | | 3. Wiper ECU | operating. | |
| | Lower door closer control | System that independently controls the internal closer motors (RH, LH) of the rear lower door at the same time. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | Does not activate release, and does not release the lower door latch. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | With the engine switch on (IG), does not activate release, and does not release the lower door latch. | - |
| No. 2 Body ECU (RRJ) | Illumination control | System that fades the inside handle illumination, and step illumination in and out. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Does not turn on the inside handle illumination or step illumination. | - |
| | LIN communication control | System that routes the CAN data to the overhead module using LIN communication. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Routes the disrupted value data to the overhead module. | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | | - |
| Variable Gear Ratio Steering (VGR) | VGRS system | System that changes the steering gear ratio based on the vehicle speed information and steering angle. | 1. Steering Control ECU<br>2. -<br>3. Steering Control ECU | - | - |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | VGRS system does not operate. | Master warning light illuminates and display is shown on multi-information display (meter display). |
| | | | 1. -<br>2. ECM<br>3. - | | |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | | |
| | | | 1. Clearance Warning ECU<br>2. - | - | - |

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| | | | 3. - | | |
| Clearance Sonar (CSR) | LEXUS parking assist-sensor system | System that activates the ultrasonic sensor, measures the distance from obstacles, and notifies the user by using the display and buzzer. | 1. -<br>2. Air Conditioning Amplifier<br>3. - | The sonar system functions normally. Maintains distance by maintaining the outside temperature at 25°C (77°F). | - |
| | | | 1. -<br>2. Windshield Wiper ECU<br>3. - | The sonar system functions normally. Operates the obstacle judgments with the wiper off (except in rain). | - |
| | | | 1. -<br>2. ECM<br>3. - | If data received from the ECM is lost, the system is inoperable as control is performed with the shift position data set to P. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | The clearance sonar main switch indicator is maintained with the brightness as the previous value. | - |
| | | | | The sonar system functions normally. Control is maintained with the country specification information as the previous value (with or without a warning sound). | - |
| Clearance Sonar (CSR) | LEXUS parking assist-sensor system | System that activates the ultrasonic sensor, measures the distance from obstacles, and notifies the user by using the display and buzzer. | 1. -<br>2. Combination Meter<br>3. - | If data received from the meter ECU is lost, the system is inoperable as the clearance sonar is controlled at 20 km/h (12.5 mph) or more. | - |
| | | | 1. -<br>2. Display and Navigation Module Display<br>3. - | The sonar system functions normally. The clearance sonar customize information is maintained. | - |
| | | | | The sonar system functions normally. Information on the camera presence is maintained. | - |
| | | | | The sonar system functions normally. Notification on the screen that the clearance sonar is off is disabled. | - |
| AFS | Leveling | System that adjusts the beam axis direction of the headlights vertically according to the pitch | 1. AFS ECU (Headlight Swivel ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | AFS OFF indicator |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid | • Leveling control continues with the vehicle speed set to 0 km/h (0 | |

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| | | angle requested by the wheel speed sensor and vehicle height sensor. | Control ECU)<br>3. - | mph).<br>• Swivel control centers the headlights. | light blinks. |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | - | - |
| AFS | Swivel | System that measures the turning diameter based on the wheel speed and steering angle, and then moves the headlights left and right according to the turning diameter. | 1. AFS ECU (Headlight Swivel ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | AFS OFF indicator blinks. |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | • Leveling control continues with the vehicle speed set to 0.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering Angle Sensor, Steering Control ECU<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | • Level control continues.<br>• Swivel control centers the headlights. | |
| | AFS indicator | Monitors for AFS system malfunctions and blinks the indicator of the meter when a malfunction is detected. | 1. AFS ECU (Headlight Swivel ECU)<br>2. -<br>3. AFS ECU (Headlight Swivel ECU) | - | - |
| | | | 1. -<br>2. Combination Meter | - | - |

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| | | | 3. - | | |
| Rear View Monitor (DS2) | Rear view monitor system | System that displays the expected course lines in the back camera image of the display that links to the steering angle to assist in parking (garage parking, parallel parking, etc.). | 1. Parking Assist ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The rear view monitor system does not operate. | Nothing (informed to user by not displaying image). |
| | | | 1. -<br>2. Steering Angle Sensor, Steering Control ECU<br>3. - | | Does not display the expected course lines on the display. Displays "Guidance unavailable" on the navigation screen. |
| | Wide view front and side monitor system | System that displays the front and side camera image on the display (the side monitor is linked with the steering angle to display the expected course lines). | 1. Parking Assist ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The wide view front and side monitor system does not operate. | Nothing (informed to user by not displaying image). |
| | | | 1. -<br>2. Steering Angle Sensor, Steering Control ECU<br>3. - | | Does not display the expected course lines on the display. Displays "Guidance unavailable" on the navigation screen. |
| Pre-crash Seat Belt (PSB) | PCS (brake linked) | When the VSC system suddenly brakes and/or the vehicle is unable to be controlled (while spinning or drifting), the seat belt control ECU operates the pre-collision seat belts (PSB) that are fastened (receives the buckle switch information from the center airbag sensor) by tightening the seat belts to increase the occupant restraint. | 1. Seat Belt Control ECU<br>2. -<br>3. Seat Belt Control ECU | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Detects that communication with the seat belt control ECU is lost. Control is stopped. | - |
| | | | 1. -<br>2. Distance Control ECU<br>3. - | - | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | Detects that communication with the seat belt control ECU is lost. Control is stopped. | - |
| | PCS (millimeter wave radar sensor linked) | When ACC determines that a collision is unavoidable based on the information from the millimeter wave radar sensor, the seat belt control ECU operates the pre-collision seat belts (PSB) that are fastened by tightening the seat belts to increase the occupant restraint. | 1. Seat Belt Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Distance Control ECU<br>3. - | Detects that communication with the seat belt control ECU is lost. Control is stopped (millimeter wave radar sensor linked). | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | Detects that communication with the seat belt control ECU is lost. Control is stopped. | - |
| | | Receives the seat belt control ECU malfunction information or ACC malfunction information, and requests the display | 1. Seat Belt Control ECU<br>2. -<br>3. - | | |
| | | | 1. - | | |

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| Pre-crash Seat Belt (PSB) | Meter display request | of the indicator to the meter ("PCS" indicator turn off/turn on request).<br>**HINT:**<br>As long as there is a signal in the ACC frame, the blinking request outputs an illumination request to the combination meter. When communication with the ACC frame is lost, it is determined that a malfunction exists and an illumination request is output along with the malfunction.<br>The priority order is determined by the combination meter. The illumination is the first priority. | 2. Combination Meter, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | - | Exclusive indicator "PCS" turns on. |
| | | | 1. -<br>2. Combination Meter, Distance Control ECU<br>3. - | | |
| | 2 digit DTC output | When terminal TC of the DLC3 is connected to terminal GND, a 2 digit DTC (BCD) is displayed by the blinking of "PCS". | 1. Seat Belt Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | - | - |
| Meter (MET) | Speedometer | Indicates the vehicle speed according to the vehicle speed signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | The speedometer indicates 0 km/h (0 mph). | - |
| | Tachometer | Indicates the engine speed according to the engine speed signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The tachometer indicates 0 rpm. | - |
| | ODO/TRIP meter | Calculates and displays the driven distance according to the vehicle speed pulse signal calculated value. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • The ODO/TRIP meter stops calculating and the last displayed value continues to be displayed.<br>• Optitron meter: In multi-display.<br>• Regular | - |

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| | | | | analog meter: Independent LCD. | |
| | Engine coolant temperature gauge | Indicates the coolant temperature according to the engine coolant temperature signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The coolant temperature gauge displays less than the C mark. | - |
| Meter (MET) | Fuel gauge | Indicates the remaining fuel according to the fuel sender (direct line) input (uses the CAN communication (the vehicle speed signal) to determine if the vehicle is being driven or not). | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Control is performed with the speed input as 0 km/h (0 mph). | - |
| | Oil pressure gauge | Indicates the engine oil pressure according to the oil pressure sender (direct line) input (uses the CAN communication to determine if the engine is on or off by the engine speed signal). | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The oil pressure gauge displays less than the L mark. | - |
| | Shift lever indicator | The shift information is displayed according to the shift position signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The shift lever indicator and shift position in the multi-information display turns off. | - |
| Meter (MET) | Buzzer | Controls the buzzer to sound and not sound according to the various signals that are input. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | The speed warning buzzer does not sound (for Middle East). | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder | Conditions for the seat belt buzzer not sounding:<br>When VSC1S03 is lost: Does not sound.<br>When BDB1S01 is lost: Does not sound.<br>When ECT1S90 is lost: Control is performed with B_R=0b. | - |
| | | | | Conditions for the seat belt buzzer sounding:<br>When VSC1S03 is lost: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>When VSC1S95 is lost: | - |

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| | | | 1. Solenoid (Skid Control ECU)<br>2. -<br>3. - | Control is performed with B_CPKB=0b.<br>When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | |
| | | | | The door ajar driving warning buzzer does not sound. | - |
| Meter (MET) | Buzzer | Controls the buzzer to sound and not sound according to the various signals that are input. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | The light reminder buzzer does not sound. | - |
| | | | | The sliding roof buzzer condition is maintained (until bus sleep). | - |
| | | | 1. -<br>2. ECM<br>3. - | The A/T reverse buzzer does not sound. | - |
| | | | | • The sports shift reject buzzer condition is maintained.<br>• The radar cruise low speed buzzer does not sound.<br>• The radar cruise warning buzzer does not sound. | - |
| | | | 1. -<br>2. 4WD Control ECU<br>3. - | The last state of the 4WD buzzer is maintained. | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | The door control transmitter buzzer (single push, continuous push, and intermittent push) does not sound.<br>The immobiliser verification completion notification buzzer does not sound. | - |
| | | | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. Master Cylinder (Skid Control ECU)<br>3. - | The ABS indicator turns on. | The ABS indicator turns on. |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side | Brake warning light<br>When VSC1S95 is lost: | |

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| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Illuminates.<br>When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | SLIP indicator light condition is maintained.<br>VSC OFF indicator light condition is maintained.<br>The downhill assist control indicator light condition is maintained.<br>The CRAWL indicator light condition is maintained. | - |
| | | | | 120 km/h (75 mph) speed warning turns off (for Middle East). | - |
| | | | | Control is performed with the speed condition as 0 km/h (0 mph) for the following display:<br>FUEL FILTER clog indicator.<br>The odometer calculation is stopped for the following display conditions: T-BELT indicator. | - |
| | | | 1. -<br>2. AFS ECU<br>3. - | Maintains the AFS OFF indicator condition. | - |
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | When there is determined to be a disruption, the following indicators operate as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off.<br>• DOOR indicator light<br>• Driver side seat belt indicator light | - |
| | | | | When there is determined to be a disruption, the following indicators operate as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off.<br>• FRONT FOG indicator light<br>• REAR FOG indicator light<br>• TAIL indicator<br>• HEAD | - |

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| | | | | indicator<br>• BEAM indicator | |
| | | | 1. -<br>2. Parking Assist ECU<br>3. - | CLEARANCE SONAR indicator light turns off. | - |
| | | | 1. -<br>2. ECM<br>3. - | The A/T P warning light condition is maintained.<br>The ECT PWR indicator light condition is maintained.<br>The 2nd START indicator light condition is maintained.<br>The CHARGE warning light condition is maintained.<br>The CRUISE main indicator light condition is maintained. | - |
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. ECM, 4WD Control ECU<br>3. - | The A/T P warning light conditions are maintained. | - |
| | | | 1. -<br>2. 4WD Control ECU<br>3. - | The center differential lock indicator light turns off.<br>The 4LO indicator light turns off. | - |
| | | | 1. -<br>2. Seat Belt Control ECU<br>3. - | The PCS indicator light condition is maintained. | - |
| | | | 1. -<br>2. Suspension Control ECU<br>3. - | The ACCESS MODE indicator light<br>• When the engine switch is on (IG): The condition is maintained.<br>• When the engine switch is off: Turns off. | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | The SRS warning light turns on. | The SRS warning indicator turns on. |
| | | | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Displays a blank screen and drive monitor operation and calculation of the following values stops: instant fuel economy, average fuel economy after refueling, distance to empty, average vehicle speed after engine start, driving distance after engine start. | - |
| | | | 1. -<br>2. Master | Parking brake drag warning display conditions:<br>When VSC1S03 is lost: | |

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| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, radar cruise, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | Cylinder Solenoid (Skid Control ECU)<br>3. - | Control is performed with the vehicle speed as 0 km/h (0 mph).<br>When VSC1S95 is lost: Control is performed with B_CPKB=0b.<br>When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | The CRAWL system display is maintained.<br>The VSC display is maintained. | - |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Control is performed with the speed condition as 0 km/h (0 mph) for the following displays: Door open while driving display, FUEL FILTER clog display.<br>ODO calculation stops for the following display conditions: Oil maintenance display, T-BELT display. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Conditions for the door open display and door open while driving display:<br>VSC1S03: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>BSB1S01: Display state is maintained.<br>BDB1S08: No display. | - |
| | | | 1. -<br>2. Air Conditioning Amplifier<br>3. - | The outside temperature display is "E". | The outside temperature display is "E" (in the meter). |
| | | Displays information about | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), | The shift lever display turns off. | - |
| | | | | The door control transmitter display condition is as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch | - |

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| | | | Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | is off: Turns off. | |
| Meter (MET) | Multi-display | the drive monitor, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | | The sliding roof open display condition is as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off. | - |
| | | | 1. -<br>2. Parking Assist ECU<br>3. - | The clearance warning sonar display condition is maintained. | - |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. ECM<br>3. - | The A/T shift position display turns off. | - |
| | | | | The A/T OIL TEMP display state is maintained. | - |
| | | | 1. -<br>2. Seat Belt Control ECU<br>3. - | The PCS display condition is maintained. | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | The door control transmitter display condition is maintained.<br>The security display condition is maintained.<br>The door control transmitter unlock mode display condition is maintained. | - |
| | | | 1. -<br>2. Suspension Control ECU<br>3. - | 4-WHEEL AHC vehicle height display turns off.<br>"Check 4-WHEEL AHC System" is displayed. | 4-WHEEL AHC vehicle height display turns off.<br>"Check 4-WHEEL AHC System" is displayed. |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | "Check VGRS System" is displayed. | "Check VGRS System" is displayed. |
| | Illumination function | Controls dimming and meter illumination on/off according to the CAN signals. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Daytime brightness. | - |
| | | | 1. -<br>2. ECM<br>3. - | - | - |
| Meter (MET) | Passenger seat belt warning indicator | Blinks the passenger seat belt warning indicator according to the CAN signals. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | The passenger seat belt warning indicator condition is maintained. | - |
| | | | 1. -<br>2. -<br>3. Display and Navigation Module Display | - | - |
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| | | | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Combination Meter, ECM<br>3. - | The forced engine switch off function does not operate. | - |
| Body (BDB) | Power supply switching control | The system that switches the power supply between +B, ACC, and IG. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter, ECM<br>3. - | When the power supply switching conditions are met, power supply switching control is permitted.<br>When the power supply condition IG2 start/stop switch turns from off to on, the power supply condition is changed to IG1, and the IG relay output stops. | - |
| Body (BDB) | Security | The system that operates the warning when a theft is detected. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Certification ECU (Smart Key ECU)<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | The security control does not operate (The headlight/taillight warning output, horn warning output, and hazard warning light output do not operate).<br>The forced door lock function lock output does not operate.<br>The dome light warning control does not operate.<br>The lighting system answer back control does not operate.<br>(The taillight warning output and hazard warning light output do not operate). | - |
| | | | | When the security warning is operating, warning output stops during hazard warning light output. | - |
| | | | | When the security warning is operating, the dome light turns off during dome light illumination. | - |
| | Entry and start/wireless | The system that operates the lock/unlock, engine switch, back door opener, warning, etc. by pressing the switch when the door control transmitter is within the vehicle detection area.<br>The system that operates the vehicle lock/unlock, panic, back door opener, etc. by remote control. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Certification ECU (Smart Key ECU)<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | Entry and start/wireless control does not operate.<br>The door lock/unlock control and entry and start back door opener control do not operate. | - |
| | Vehicle speed linked auto lock | The system that locks the doors when the vehicle speed is 20 km/h (12 mph) or more. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter, ECM<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | When the vehicle speed linked auto lock signal is lost, operation is permitted. | - |
| | | | | The vehicle speed linked auto lock does not operate. | - |

| | | | | | |
|---|---|---|---|---|---|
| Body (BDB) | Shift linked auto lock/unlock | The system that unlocks all the doors when the shift lever is moved to P, and locks all doors when the shift lever is moved from P to another position while the engine is running. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter, ECM<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | The shift linked auto lock/unlock function does not operate. | - |
| | | | | When the shift linked auto lock/unlock signal is lost, operation is permitted. | - |
| | DRL | The system that illuminates lights when driving the vehicle to improve the visibility of pedestrians and other vehicles in the daytime. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. ECM<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | DRL control does not operate.<br>**HINT:**<br>If operated once, the operation continues until the engine switch is turned off, even if the signal is lost. | - |
| | Boarding | System that controls the front (rear) dome light, door mirror foot light, center console spot light, and interior foot light. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Certification ECU (Smart Key ECU), Combination Meter, ECM, Parking Assist ECU<br>3. Outer Mirror Control ECU, No. 2 Main Body ECU, Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus) | Front (rear) dome light, door mirror foot light, center console spot light, and interior foot light control does not operate. | - |
| | | | | While the interior foot light is illuminated, the center console does not turn off. | - |
| | | | | When the interior foot light is illuminated, the dimmer operates.<br>When the engine switch is on (IG), the door mirror foot light does not operate by the manual unlock. | - |
| | | | | When the side monitor is operating, the door mirror foot light can illuminate. | - |
| | Back door | System that operates the hazard warning lights as an answer back when the power back door begins to operate. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. Power Back Door Unit (Power Back Door ECU)<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | The hazard warning light answer back does not operate when the back door begins to operate. | - |

| | | | | | |
|---|---|---|---|---|---|
| Body (BDB) | Back door opener | The system that releases the door latch (turns opener motor on) by turning on the switch built into the outside door handle. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | Prohibits the back door opener control. | - |
| | One motion power back door opener | System that unlocks and opens the back door in one motion when the wireless back door opening operation is performed. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Power Back Door Unit (Power Back Door ECU)<br>3. Power Back Door Unit (Power Back Door ECU) | Back door opener control does not operate. | - |
| | Display automatic dimmer control | System that controls the brightness of the interior display/indicators, etc. only during twilight and nighttime by determining the time of day and using the light sensor signal. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter<br>3. Windshield Wiper ECU, No. 2 Main Body ECU, ECU, Combination Meter, Display and Navigation Module Display, Air Conditioning Amplifier, Clearance Warning ECU | Operates the display automatic dimmer control when the tail cancel switch is on. When the value of the light sensor illumination intensity signal is less than the display dimmer value, the brightness of the vehicle interior display/indicator is dimmed. | - |
| | Power window | The system that operates power window control based on the request from wireless/entry and start control. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Certification ECU (Smart Key ECU)<br>3. - | Power window control does not operate. Power window control stops during wireless/entry power window control operation. | - |
| | | | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. - | - | - |
| | | | 1. - | • The entry lock/unlock does not operate.<br>• The entry back door does not | |

| | | | | | |
|---|---|---|---|---|---|
| Verification (IDT) | Entry function | Entry and start/lock/back door/warning, etc. | 2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | operate.<br>• The entry and start warning message does not operate.<br>• The key lock-in prevention function does not operate.<br>• The entry illumination does not operate. | - |
| | | | | Package default setting. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | The vehicle speed is determined to be 0 km/h (0 mph). | - |
| | | | | - | - |
| | Wireless buzzer function | The wireless buzzer sounding control. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. Certification ECU (Smart Key ECU) | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Does not sound even though there is a wireless buzzer request. | - |
| | | | | Package default settings. | - |
| | | | 1. -<br>2. Suspension Control ECU<br>3. - | Does not sound even though there is an access mode warning buzzer request. | - |
| Verification (IDT) | Immobiliser function | The immobiliser control by the warning and remote engine start. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The engine switch is forcibly turned off. | - |
| | Wireless function | Wireless electric wave information transmission. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | - | - |
| | Security function | Security alarm control. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction | The alarm is not unset.<br>The alarm is not set. | - |

| | | | | | |
|---|---|---|---|---|---|
| | | | Block LH) (MS Bus)<br>3. - | | |
| | | | 1. -<br>2. ECM<br>3. - | The alarm is not unset by the engine start. | - |
| Movement Control Bus (CGW) | Movement control bus monitor function | Monitoring of communication stop. | 1. Network Gateway ECU (Movement Control Bus)<br>2. Seat Belt Control ECU<br>3. - | The reception interval counter (RAM and CAN controller initialization). | - |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Distance Control ECU<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Clearance Warning ECU<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Parking Assist ECU<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Steering Angle Sensor<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Suspension Control ECU<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Yaw Rate | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | 1. Sensor<br>2. -<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Steering Control ECU<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. 4WD Control ECU<br>3. - | | |
| Movement Control Bus (CGW) | Movement Control Bus (CGW) | Monitoring of communication stop. | 1. Network Gateway ECU (Movement Control Bus)<br>2. Clearance Warning ECU, Parking Assist ECU, Master Cylinder Solenoid (Skid Control ECU), 4WD Control ECU, Steering Angle Sensor, Yaw Rate Sensor, Distance Control ECU, Steering Control ECU, Seat Belt Control ECU, Suspension Control ECU<br>3. - | The reception interval counter (RAM and CAN controller initialization). | - |

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## FAIL-SAFE FUNCTION

a. When communication fails in any of the main wires (communication lines) due to a short circuit or other causes, the fail-safe function, which is specified for each system, operates to prevent the system from malfunctioning.

b. The table below shows the effects on each system when communication is impossible. For further details, refer to each system.

| System | Function | Control Description | 1. Control Master<br>2. System Related<br>3. Control Actuator | Fail-safe Function System Behavior | Indicator and Buzzer Behavior or User Notification |
|---|---|---|---|---|---|
| Airbag (ABG) | TC DTC/output service | When TC is on, DTCs (warning light turn on/ turn off request signals) are output. | 1. Center airbag sensor assembly<br>2. ECM<br>3. Combination meter assembly | If the TC signal is lost during TC service (TC=ON), the TC is determined to be OFF and TC service ends. | - |
| | Event recorder (EDR) | Records the vehicle information during a crash (the vehicle speed, accelerator pedal opening angle, shift position, etc.). | 1. Center airbag sensor assembly<br>2. ECM, Master cylinder solenoid (skid control ECU), Steering angle sensor, Yaw rate sensor assembly<br>3. - | An invalid value is stored in the EDR. | - |
| | SRS warning light control | Turns the SRS warning light on/off. | 1. Combination meter assembly<br>2. Center airbag sensor assembly<br>3. - | - | The SRS warning light turns on. |
| | Crash Detection Signal | Reports a crash in order to perform a fuel cut, trigger the EDR, etc. during a crash. | 1. ECM<br>2. Center airbag sensor assembly<br>3. - | - | - |
| | Seat Belt Warning Light Control | Sends passenger information in order to turn the seat belt warning light on and off. | 1. Main body ECU (cowl side junction block LH), Combination meter assembly<br>2. Center airbag sensor assembly<br>3. - | - | - |
| | Warning light control | BRL, ABS, VSC-OFF,<br>SLIP and CRAWL light control (turn on/off, blink, DTC output). | 1. Master cylinder solenoid (skid control ECU)<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. Master cylinder | | |

| | | | | | |
|---|---|---|---|---|---|
| Brake (VSC) | ABS control | ABS control according to the G sensor signal. | solenoid (skid control ECU)<br>2. Yaw rate sensor assembly<br>3. Master cylinder solenoid (skid control ECU) | The ABS does not operate. | VSC warning light illuminates. |
| | TRC control<br>CRAWL control | Brake control and engine torque control during acceleration slip. | 1. Master cylinder solenoid (skid control ECU)<br>2. ECM, 4WD control ECU<br>3. Master cylinder solenoid (skid control ECU) | TRC does not operate. | VSC warning light illuminates |
| | VSC control | VSC control according to the yaw rate and steering angle sensor signal. | 1. Master cylinder solenoid (skid control ECU)<br>2. ECM, 4WD control ECU, Steering angle sensor, Yaw rate sensor assembly, Steering control ECU<br>3. Master cylinder solenoid (skid control ECU) | VSC does not operate. | ABS and VSC warning light illuminates. |
| | ACC control | The brake control according to the request from the distance control ECU via the ECM. | 1. Master cylinder solenoid (skid control ECU)<br>2. ECM<br>3. Master cylinder solenoid (skid control ECU) | ACC does not operate. | ABS and VSC warning light illuminates. |
| Dynamic Radar Cruise Control (ACC) | ACC | Acceleration/deceleration control when following the vehicle in front. | 1. -<br>2. ECM<br>3. ECM | ACC control is canceled. | • "Check Cruise System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | | |
| | | | 1. -<br>2. Yaw rate sensor assembly<br>3. - | | |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. Master cylinder solenoid (skid control ECU) | - | - |
| | | | 1. Distance control ECU assembly<br>2. - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| | | | 3. - | | |
| | | | 1. -<br>2. Steering control ECU<br>3. - | - | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | - | - |
| Pre-crash Safety System (PCS) | PCS | Seat belt and brake control immediately before a crash. | 1. -<br>2. ECM<br>3. - | PCS control stops. | • "Check Cruise System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | | |
| | | | 1. -<br>2. Yaw rate sensor assembly<br>3. - | | |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. Master cylinder solenoid (skid control ECU) | | |
| | | | 1. Distance control ECU assembly<br>2. -<br>3. - | | |
| | | | 1. -<br>2. Steering control ECU<br>3. - | | |
| | | | 1. -<br>2. -<br>3. Seat belt control ECU | PCS control stops. | - |
| Tilt and Telescopic (TAT) | Auto Away/ Return Control | Controls the auto away/ return operation and prohibits auto control using the IG signal, driver seat buckle switch signal, etc. | 1. Multiplex tilt and telescopic ECU<br>2. Position control ECU and switch, Accessory bus buffer, Main body ECU (cowl side junction block LH), Combination meter assembly<br>3. - | Auto away/return control does not operate. | - |
| | | | | Auto away/return control does not operate and memorization and recall control does not operate. | - |
| | Memorization/ Recall Control | Controls the steering wheel position memorization and recall for the seat position memory. | 1. Multiplex tilt and telescopic ECU<br>2. Position control ECU and switch<br>3. - | Memorization and recall control does not operate. | - |
| | | | 1. 4WD control | | |

| | | | | | |
|---|---|---|---|---|---|
| Mechanical 4WD (FWM) | Switching control between High and Low | Switching between High and Low is prohibited during the following conditions: 1) When there is a vehicle speed violation, engine speed violation, or large difference in wheel speeds, 2) when the shift lever is not in N, or 3) when the clutch is not on. | 1. ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM, Master cylinder solenoid (skid control ECU)<br>3. - | Switching between High and Low is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if switching between High and Low can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or 4LO indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | Neutral switching control | Switching to neutral is prohibited during the following conditions: 1) When there is a vehicle speed violation or engine speed violation, or 2) when the shift lever is not in N or the clutch is not on. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM, Master cylinder solenoid (skid control ECU)<br>3. - | Switching to neutral is prohibited. | 4LO indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | Center differential lock switching control (between Free and Lock) | Center differential lock switching is prohibited when there is a vehicle speed violation or large difference in wheel speeds. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Center differential lock switching is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if center differential lock switching can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| Mechanical 4WD (FWM) | Rear differential lock switching control (between Rr Free and Rr Lock) | Rear differential lock switching is prohibited when there is a vehicle speed violation. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Rear differential lock switching is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if rear differential lock switching can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | L4F switching control | Switching to L4F is prohibited and the operation is performed with L4L when VSC is malfunctioning. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | L4F switching is prohibited and the operation is performed with L4L. | No user notification. |
| | Specialized control when temperature is low | Changes the ACT conductive current value according to the temperature (low temperature use or normal temperature use). | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Air conditioning amplifier assembly, ECM<br>3. - | Changes the temperature used for the calculation of ACT temperature adjustment control. | No user notification. |
| | | When there is a wheel speed failure, switching is permitted only when | 1. 4WD control ECU<br>2. -<br>3. - | - | - |

| | | | | | |
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| | Specialized control during wheel speed failure | specified conditions are met (the wheel speed malfunction is 1 wheel or more and 3 wheels or less, the brake is applied, the engine speed is low, and all normal wheel speeds are low). | 1. -<br>2. ECM, Master cylinder solenoid (skid control ECU)<br>3. - | If the wheel speed malfunction is 1 wheel or more and 3 wheels or less, only when the wheel speed failure specified conditions are met, switching is permitted. When 4 wheels are malfunctioning, switching is prohibited (the wheel speed failure specialized control does not operate). | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| Mechanical 4WD (FWM) | Indicator and buzzer signal output | Signal output of the indicator and buzzer condition that indicates the actuator position and switching status. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | High-Low actuator failure signal output | When the High-Low actuator limit switch is malfunctioning, a signal is output. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | C/C cancel signal output | Outputs a cruise control cancel signal when center differential switching is not completed even though 5 sec. or more have elapsed from the start of switching. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | L4 status signal condition output | A signal is output when switching between the L4F and L4L position is completed. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | C/D lock condition signal output | CDL switch condition is output. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | R/D lock condition signal output | R switch condition is output. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | T/F N condition signal output | NP switch condition is output. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| Gasoline Engine | Engine control system | Adjusts the fuel injection volume according to each sensor value and controls the engine. | 1. ECM<br>2. -<br>3. - | - | - |
| | ECT control system | Changes the ECT shift position based on the vehicle speed and torque. | 1. ECM<br>2. -<br>3. - | - | - |
| | Cruise control system | Maintains a constant vehicle speed and drives the vehicle. | 1. ECM<br>2. -<br>3. - | - | - |
| | Power back door operation conditions | Prohibits the power back door operation according to the vehicle state (the engine switch, shift position, vehicle speed, and lock position). | 1. Power back door unit assembly (power back door ECU)<br>2. -<br>3. Power back door unit assembly (power back door ECU) | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH), Combination meter assembly, ECM<br>3. - | The power back door system does not operate (when the start signal is received, the buzzer sounds a warning that the conditions are not met). | - |
| | | Receives the power back | 1. Power back door unit assembly (power back door ECU)<br>2. -<br>3. Power back door unit assembly | - | - |

| | | | | | |
|---|---|---|---|---|---|
| Power Back Door (BKD) | Power back door operation requests | door close/open operation trigger from the operation switch or wireless switch and begins the power back door operation. | (power back door ECU) | | |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH), Certification ECU (smart key ECU assembly)<br>3. - | The power back door system does not operate. | |
| | Power back door operation status output | Sends the hazard illumination request when the power back door operation begins and back door unlock request. | 1. Power back door unit assembly (power back door ECU)<br>2. Main body ECU (cowl side junction block LH)<br>3. Power back door unit assembly (power back door ECU) | When the back door operation begins, the hazard warning lights may not illuminate. | - |
| | | | 1. -<br>2. -<br>3. Main body ECU (cowl side junction block LH) | - | - |
| | DTC transmission/reception | Performs the power back door customization, malfunction detection, Active Test, etc. | 1. Power back door unit assembly (power back door ECU)<br>2. -<br>3. Power back door unit assembly (power back door ECU) | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | DTC function does not operate. | - |
| Active Height Control | Damping force control | Detects the driving conditions, road conditions, etc. based on information from the ECM, master cylinder solenoid (skid control ECU), steering angle sensor, yaw rate sensor assembly and steering control ECU and changes the damping force of the shock absorbers. | 1. Suspension control ECU<br>2. -<br>3. Suspension control ECU | - | - |
| | | | 1. -<br>2. ECM<br>3. - | Uses the fail-safe constant and continues damping force control. Damping force control is prohibited. | A warning is displayed. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Damping force control is prohibited. | |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | | |
| | | | 1. -<br>2. Yaw rate sensor assembly<br>3. - | | |
| | | | 1. -<br>2. Steering control ECU<br>3. - | | |
| | | | 1. Suspension control ECU | | |

| | | | | | |
|---|---|---|---|---|---|
| Suspension (4-WHEEL AHC) | | | 2. -<br>3. Suspension control ECU | - | - |
| | Spring switching control is prohibited | Based on the information from the master cylinder solenoid (skid control ECU), steering control ECU, yaw rate sensor assembly and steering angle sensor, detects the driving conditions, road surface conditions, etc. and changes front spring constant value (ON/ OFF). | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Spring rate switching control is prohibited. | "Check 4-WHEEL AHC System" illuminates. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • Anti-roll spring rate switching control is prohibited.<br>• Anti-dive spring rate switching control continues. | A warning is displayed. |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | | |
| | | | 1. -<br>2. Steering control ECU<br>3. - | | |
| | | | 1. -<br>2. Yaw rate sensor assembly<br>3. - | | |
| Active Height Control Suspension (4-WHEEL AHC) | Vehicle height control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, 4WD control ECU, main body ECU (cowl side junction block LH), yaw rate sensor assembly, steering angle sensor, detects the driving conditions, road surface conditions, etc. and restricts vehicle height changes. | 1. Suspension control ECU<br>2. -<br>3. Suspension control ECU | - | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | - | A warning is displayed. |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The vehicle returns to vehicle height "N" and vehicle height control is prohibited. | |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | | |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | | |
| | | | 1. -<br>2. Steering control ECU<br>3. - | | |
| | | | 1. -<br>2. Yaw rate sensor assembly<br>3. - | | |
| | | • Air conditioning vent temperature control according to the engine coolant temperature information.<br>• Air | | | |

| | | | | | |
|---|---|---|---|---|---|
| Air Conditioner (ACN) | Air conditioning system | conditioning vent switching control according to the engine coolant temperature information.<br>• Air conditioning vent airflow amount control according to the engine coolant temperature information.<br>• Compensation of the engine coolant temperature information according to the engine type.<br>• Compressor lock judgment value switching according to the engine type. | 1. Air conditioning amplifier assembly<br>2. ECM<br>3. - | Coolant information: Control is performed by using the default value (80°C [176°F]).<br>Engine type: The condition is maintained (when unconfirmed, control is performed by using the default [507°F]). | - |
| | | Compressor lock judgment by NE. | 1. Air conditioning amplifier assembly<br>2. ECM<br>3. - | NE: Control is performed by using the default value (0 km/h [0 mph]) | - |
| Air Conditioner (ACN) | Air conditioning system | The electric load control condition is limited according to the load control level. | 1. Air conditioning amplifier assembly<br>2. ECM<br>3. - | Load control: No load control (normal control). | - |
| | | • Activation control according to the viscous heater activation permission information.<br>• Activation control according to the PTC heater activation permission information. | 1. Air conditioning amplifier assembly<br>2. ECM<br>3. - | Permission information: Control is performed according to the operation prohibition state. | - |
| | | • Air conditioning system operation status control and panel switch IND output control according to panel switch operation information.<br>• Exhaust gas automatic air presence judgment and circulation control switching according to exhaust gas | 1. Air conditioning amplifier assembly<br>2. Multi-media module receiver assembly<br>3. - | None (Air conditioning system operation condition switching is not possible). | - |

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| | | automatic air presence information. | | | |
| | | Dimmer information output to the LIN panel according to the display dimmer information. | 1. Air conditioning amplifier assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Condition is maintained (after the reset, the dimmer condition is fixed). | - |
| | | PTC control switching based on the headlight illumination information. | 1. Air conditioning amplifier assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | PTC control (the headlight flickering countermeasure) is not performed. | - |
| | | A/C control pattern switching based on the country specific information. | 1. Air conditioning amplifier assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Condition is maintained (when unconfirmed, control is performed according to the default value). | - |
| | | Air conditioning system operation condition switching and the outside temperature display output adjustment according to the vehicle speed information. | 1. Air conditioning amplifier assembly<br>2. Combination meter assembly<br>3. - | • Decrease in reliability and consistency of the exterior temperature value of the outside temperature display.<br>• Decrease in the optimum level of A/C vent airflow amount adjustment. | - |
| Steering Sensor (STR) | Steering angle detection function | The steering angle change information is output to the CAN according to the steering wheel operation. | 1. Steering angle sensor<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • Initialization condition: Data output response request (STS=0).<br>• When the trigger frame VSC 1S01 is not received from the master cylinder solenoid (skid control ECU), the data output response of the output response request changes from STS=0 to STS=1. | - |
| | | | | • Communication is stopped after transmission is sent 4 times at 12 msec. intervals as the data output response non-request STS=0.<br>• When the above conditions are met, the sensor internal zero point memory invalid SAZS=1 and SFRZ=previous value + 1 during the next transmission. | - |
| | | | | - | Depends on the partner ECU specification. |
| | Memorization and recall function | Memorizes and recalls the seat position. | 1. Position control ECU and switch<br>2. -<br>3. Position control ECU and switch | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The memorization and recall functions do not operate | - |
| | | | 1. -<br>2. ECM<br>3. - | | |
| | | | 1. -<br>2. Main body ECU (cowl | | |

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| | | | side junction block LH)<br>3. - | do not operate. | |
| | | | 1. -<br>2. Outer mirror control ECU assembly<br>3. - | | |
| Seat (DST) | Memory Call Function | Acquires card key information from the certification ECU and performs automatic recall. | 1. Position control ECU and switch<br>2. -<br>3. Position control ECU and switch | - | - |
| | | | 1. -<br>2. Certification ECU (smart key ECU assembly)<br>3. - | The memory call function does not operate. | - |
| | Tilt and Telescopic Operation Permission Function | Receives the recall execution signal from the tilt and telescopic system and sends a recall permission signal to the tilt and telescopic system. | 1. Position control ECU and switch<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Multiplex tilt and telescopic ECU<br>3. Multiplex tilt and telescopic ECU | The tilt and telescopic system does not operate. | - |
| | Away/Return Function | Moves the seat to the proper position for entering and exiting the vehicle. | 1. Position control ECU and switch<br>2. -<br>3. Position control ECU and switch | - | - |
| | | | 1. -<br>2. ECM<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The away function does not operate. | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | The away and return functions do not operate. | - |
| | Mirror surface manual control | Function that adjusts the mirror surface with the manual switch. | 1. Outer mirror control ECU assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The mirror surface manual adjustment function does not operate (stops if there is a disruption during the operation). | - |
| | Mirror surface memory control | Function that records the mirror surface position. | 1. Outer mirror control ECU assembly<br>2. Position control ECU and switch, Main body ECU (cowl side junction block LH)<br>3. - | The mirror surface recording function does not operate | - |
| | Mirror surface recovery control | Function that moves the mirror surface to the recorded mirror surface | 1. Outer mirror control ECU assembly<br>2. Position | The mirror surface recovery function does not operate (if disrupted during the operation, the function does not | - |

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| | | position. | control ECU and switch<br>3. - | operate from the next trigger condition). | |
| Mirror (DRD) | Mirror surface reverse control | Function that tilts the mirror surface downward when the vehicle is moving in reverse. | 1. Outer mirror control ECU assembly<br>2. Main body ECU (cowl side junction block LH), ECM<br>3. - | The reverse shift-linked function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Electric retract/return control | Function that retracts/returns the mirror housing. | 1. Outer mirror control ECU assembly<br>2. Main body ECU (cowl side junction block LH), ECM<br>3. - | The mirror housing retract/return function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Foot light illumination control | Function that turns on/off the foot light illumination that is on the bottom of the mirror housing. | 1. Outer mirror control ECU assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The foot light illumination turns off (if illuminated, turns off). | - |
| Wiper (FRN) | Front wiper control | System that operates the wiper HI and LO operation, vehicle speed sensing intermittent wiper function, vehicle speed switching function, washer linked function, and auto wiper. | 1. Windshield wiper ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | With the engine switch on (IG) and the wipers operating with the LO switch on, the intermittent wiper function does not operate while the vehicle is stopped due to the vehicle speed switching control not operating. | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | | |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | • With the engine switch on (IG) and the wipers operating with the LO switch on, the intermittent wiper function does not operate while the vehicle is stopped due to the vehicle speed switching control not operating.<br>• With the engine switch on (IG), the washer fluid delay timing becomes fixed.<br>• With the engine switch on (IG), the intervals do not change according to the vehicle speed while the intermittent wiper function is operating. | - |
| | LIN communication control | System that assists the outer wiper function by communication with the windshield wiper ECU. | 1. Windshield wiper ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | With the engine switch on (IG), the disruption value data is routed to the rain sensor. Otherwise, the rain sensor operation depends on the specifications. | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | | |
| | | Controls the selecting of the registers, temperature | 1. Multi-media module receiver assembly<br>2. Air | • Turns off any indicators related to the air conditioning system.<br>• If the set air temperature is displayed on an external | The "Climate control |

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| | Air Conditioning Control | adjustment, etc. according to the operation of the touch panel switches on the display. | conditioning amplifier assembly<br>3. Air conditioning amplifier assembly | display device, the system clears the set air temperature display.<br>• Disables the functions used to operate the air conditioning system. | system error. Please contact your dealer." screen appears. |
| Navigation (EMVN) | Clearance Sonar Settings/ Notification | Controls the settings for the clearance sonar screen notifications which are set by operating the touch switches of the multi-display, displays the sonar status and plays voice warnings. | 1. Multi-media module receiver assembly<br>2. ECM, Parking assist ECU or Clearance warning ECU assembly<br>3. Parking assist ECU or Clearance warning ECU assembly | • If communication stop occurs while clearance sonar settings screen is displayed, settings screen is cleared.<br>• If a communication stop occurs while the clearance sonar sensor screen is displayed, the sensor screen is cleared. | The "LEXUS Park Assist" icon which is displayed on the vehicle settings screen is cleared. |
| Navigation (EMVN) | Eco Navigation Display | Displays the average fuel consumption history and a graph indicating the fuel consumption in 1 minute intervals. | 1. Multi-media module receiver assembly<br>2. Combination meter assembly, ECM, Master cylinder solenoid (skid control ECU)<br>3. - | The fuel consumption per minute display update on the eco navigation screen (fuel consumption per minute screen) stops. | • The 1 minute fuel consumption graph on the eco navigation (eco drive) screen is not updated for 1 minute or more.<br>• The most recent value for the fuel consumption graph on the eco navigation (eco drive) screen is cleared.<br>• The numbers of the distance to empty displayed on the fuel consumption screen of the eco navigation (eco drive) display are cleared. |
| | | | | • Stops updating the average fuel consumption history on the eco navigation (eco drive display).<br>• If the distance to empty is displayed on the eco navigation (eco drive display), the numbers of the display indicating the distance to empty are cleared because the distance to empty data is lost. | - |
| | | | 1. Multi-media | | • If a communicatio n stop occurs when the expected course lines are being displayed, the expected |

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| Navigation (EMVN) | Rear View Monitor Control | Displays the rear view monitor based on information from the steering sensor, the vehicle speed, and the vehicle information (2WD/4WD determination information and VGRS information). | module receiver assembly<br>2. Main body ECU (cowl side junction block LH), ECM, Steering angle sensor, Steering control ECU<br>3. - | - | course lines are cleared and "Guidance unavailable" is displayed on the bottom of the screen.<br>• If a communication stop occurs when the display is in parallel parking guide mode, "Guidance unavailable" is displayed on the bottom of the screen. |
| | Destination Determination | Determines the destination based on the destination signal and destination package information and selects the display language, time zone, etc. | 1. Multi-media module receiver assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Determines the destination by maintaining the state before the communication stop. | The time zone and language selection screens do not match the destination. |
| | Vehicle Event Recorder | Continuously records the status information from the control ECUs and sensor information to the HDD in the EMV (AVN). | 1. Multi-media module receiver assembly<br>2. Combination meter assembly, ECM, Master cylinder solenoid (skid control ECU), Steering control ECU, Suspension control ECU<br>3. - | Records the last received value to the HDD every 5000 milliseconds. | - |
| | Remote Service Function Remote Diagnosis Function | Using the DCM, vehicle warning information, diagnosis information and information indicating when an operation, such as locking the vehicle, is forgotten is sent to the service center and is notified to the user. | 1. Multi-media module receiver assembly<br>2. Windshield wiper ECU, Certification ECU (smart key ECU assembly), Main body ECU (cowl side junction block LH), Combination meter assembly, Center airbag sensor assembly, Air conditioning amplifier assembly, ECM, Parking assist ECU, Master cylinder solenoid (skid control ECU), 4WD | An invalid flag is set. | User is notified of the invalid flag information. |

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| Navigation (EMVN) | | | control ECU, Distance control ECU assembly, Steering control ECU, Seat belt control ECU<br>3. - | | |
| | Remote Security Function | Using the DCM, warning state notifications (alarm notifications) are sent to the service center and prohibition and permission of engine start (remote immobiliser) according to the request received from the user is performed. | 1. Multi-media module receiver assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | - | - |
| | Vehicle Customize Function | Changes the behavior and control parameters of various functions (illumination lighting time, etc.) according to the user operation via the screen. | 1. Multi-media module receiver assembly<br>2. Position control ECU and switch, Certification ECU (smart key ECU assembly), Main body ECU (cowl side junction block LH), Air conditioning amplifier assembly<br>3. - | • When a phase 4 remote communication usage application is performed (customize or remote diagnosis), the information is processed regardless of whether the BDB ECU has permitted or prohibited remote communication.<br>• 3 retries (including the first time) are performed. | The related customization items for each ECU are not displayed or the set values cannot be changed. |
| No. 2 main body ECU (RRJ) | Rear wiper control | System that performs the rear wiper LO speed operation, washer linked function, intermittent wiper function, vehicle speed switching control, and reverse linked control. | 1. No. 2 main body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | With the engine switch on (IG), the rear wiper does not stop due to the rear upper door opening during the rear wiper operation. | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | With the engine switch on (IG), the intermittent wiper function does not operate while the wipers are stopped due to the vehicle speed switching control not operating during the rear wiper operation.<br>With the engine switch on (IG), the rear wiper does not activate due to the reverse operation control not operating when the front wiper is operating. | - |
| | | | 1. -<br>2. ECM<br>3. - | | - |
| | | | 1. -<br>2. Windshield wiper ECU<br>3. - | | |
| | Lower door closer control | System that independently controls the internal closer motors (RH, LH) of the rear lower door at the same time. | 1. No. 2 main body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Does not activate release, and does not release the lower door latch. | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | With the engine switch on (IG), does not activate release, and does not release the lower door latch. | - |
| | | | 1. No. 2 main body ECU | - | - |

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| | | | 2. -<br>3. - | | |
| | Illumination control | System that fades the inside handle illumination, and step illumination in and out. | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Does not turn on the inside handle illumination or step illumination. | - |
| No. 2 main body ECU (RRJ) | LIN communication control | System that routes the CAN data to the overhead module using LIN communication. | 1. No. 2 main body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Routes the disrupted value data to the overhead module. | - |
| | | | 1. -<br>2. Certification ECU (smart key ECU assembly)<br>3. - | | |
| Variable Gear Ratio Steering (VGR) | VGRS system | System that changes the steering gear ratio based on the vehicle speed information and steering angle. | 1. Steering control ECU<br>2. -<br>3. Steering control ECU | - | - |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | VGRS system does not operate. | Master warning light illuminates and display is shown on multi-information display (meter display). |
| | | | 1. -<br>2. ECM<br>3. - | | |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | | |
| Clearance Sonar (CSR) | LEXUS parking assist-sensor system | System that activates the ultrasonic sensor, measures the distance from obstacles, and notifies the user by using the display and buzzer. | 1. Parking assist ECU or Clearance warning ECU assembly<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Air conditioning amplifier assembly<br>3. - | The sonar system functions normally. Maintains distance by maintaining the outside temperature at 25°C (77°F). | - |
| | | | 1. -<br>2. Windshield wiper ECU<br>3. - | The sonar system function normally. Operates the obstacle judgments with the wiper off (except in rain). | - |
| | | | 1. -<br>2. ECU<br>3. - | If data received from the ECM is lost, the system is inoperable as control is performed with the shift position data set to P. | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The clearance sonar main switch indicator is maintained with the brightness as the previous value. | - |
| | | | | The sonar system functions normally. Control is maintained with the country specification information as the previous value (with or without a warning sound). | - |
| | | | 1. -<br>2. Combination meter assembly | If data received from the meter ECU is lost, the system is inoperable as the clearance sonar is controlled at 20 km/h (12.5 mph) or more. | - |

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| | | | 3. - | km/h (12.5 mph) or more. | |
| Clearance Sonar (CSR) | LEXUS parking assist-sensor system | System that activates the ultrasonic sensor, measures the distance from obstacles, and notifies the user by using the display and buzzer. | 1. -<br>2. Multi-media module receiver assembly<br>3. - | The sonar system functions normally. The clearance sonar customize information is maintained. | - |
| | | | | The sonar system functions normally. Information on the camera presence is maintained. | - |
| | | | | The sonar system functions normally. Notification on the screen that the clearance sonar is off is disabled. | - |
| AFS | Leveling | System that adjusts the beam axis direction of the headlights vertically according to the pitch angle requested by the wheel speed sensor and vehicle height sensor. | 1. Headlight swivel ECU assembly (AFS ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | AFS OFF indicator blinks. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • Leveling control continues with the vehicle speed set to 0 km/h (0 mph).<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering control ECU<br>3. - | - | - |
| AFS | Swivel | System that measures the turning diameter based on the wheel speed and steering angle, and then moves the headlights left and right according to the turning diameter. | 1. Headlight swivel ECU assembly (AFS ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | AFS OFF indicator blinks. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • Leveling control continues with the vehicle speed set to 0.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering angle sensor, Steering control ECU<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Black LH) (V Bus).<br>3. - | • Level control continues.<br>• Swivel control centers the headlights. | |
| | | Monitors for AFS system malfunctions and blinks | 1. Headlight swivel ECU assembly (AFS ECU)<br>2. -<br>3. Headlight swivel ECU | - | - |

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| | AFS indicator | the indicator of the meter when a malfunction is detected. | assembly (AFS ECU) | | |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | - | - |
| Back Guide Monitor | BGM (Rear View Monitor) | Automatically displays the rear view camera image and guidelines when conditions to display the rear view monitor are met, such as having the shift lever in R, etc. | 1. Parking assist ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The guidelines cannot be adjusted. | - |
| | | | 1. -<br>2. ECM<br>3. - | The screen does not change to the camera screen even when the shift lever is moved to R. | - |
| | | | 1. -<br>2. Steering angle sensor, Steering control ECU<br>3. - | - | On the bottom of the screen, "Guidance unavailable" is displayed, and the change display mode switch is not displayed. |
| | WAS (Front and Side Monitor) | Automatically or manually displays the front camera image, passenger side camera image and guidelines when conditions to display the front and side monitor are met, such as having a certain vehicle speed and shift position, and according to switch operation, etc. | 1. Parking assist ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | • The automatic display function does not operate.<br>• The screen does not change to the camera screen even when the main switch is pushed. | - |
| | | | 1. -<br>2. Steering angle sensor, Steering control ECU<br>3. - | - | On the bottom of the screen, "Guidance unavailable" is displayed, and the change display mode switch is not displayed. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • Automatic display mode does not operate.<br>• The screen does not change to the camera screen even when the main switch is pushed. | - |
| Back Guide Monitor | MTM (Multi-terrain Monitor) | Automatically or manually displays the front camera image, passenger and driver side camera image and guidelines when conditions to display the multi-terrain monitor, such as having a certain vehicle speed and shift position, and according to switch operation, etc. | 1. Parking assist ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | • The automatic display function does not operate.<br>• The screen does not change to the camera screen even when the main switch is pushed. | - |
| | | | 1. -<br>2. Steering angle sensor, Steering control ECU<br>3. - | - | On the bottom of the screen, "Guidance unavailable" is displayed, and the change display mode switch is not displayed. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • Automatic display mode does not operate.<br>• The screen does not change to the camera screen even when the main switch is pushed. | - |
| | | | 1. -<br>2. 4WD control ECU | • The front single screen cannot be displayed when the transfer is in L4.<br>• When the fail-safe is | - |

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| | | | 3. - | operating, the screen is fixed at the screen for H4. | |
| Pre-crash Seat Belt (PSB) | PCS (Operation Conditions 1) | When the VSC system suddenly brakes and/or the vehicle is unable to be controlled (while spinning or drifting), the seat belt control ECU operates the pre-crash seat belts (PSB) that are fastened (receives the buckle switch information from the Center airbag sensor assembly) by tightening the seat belts to increase the occupant restraint. | 1. Seat belt control ECU<br>2. -<br>3. Seat belt control ECU | - | • "Check PCS System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | The PSB ECU detects a communication failure. Control stops. However, control continues until the end if the communication failure occurs during control. | |
| | | | 1. -<br>2. Center airbag sensor assembly<br>3. - | The PSB ECU detects a communication failure. Control stops. However, control continues until the end if the communication failure occurs during control. | |
| | PCS (Operation Conditions 2) | When ACC determines that a crash is unavoidable based on the information from the millimeter wave radar sensor, the seat belt control ECU operates the pre-crash seat belts (PSB) that are fastened by tightening the seat belts to increase the occupant restraint. | 1. Seat belt control ECU<br>2. -<br>3. Seat belt control ECU | - | |
| | | | 1. -<br>2. Distance control ECU assembly<br>3. - | The PCS system does not operate. However, seat belt operation during sudden braking is an exception. | |
| | | | 1. -<br>2. Center airbag sensor assembly<br>3. - | The PSB ECU detects a communication failure. Control is prohibited. | |
| Meter (MET) | Speedometer | Indicates the vehicle speed according to the vehicle speed signal. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | The speedometer indicates 0 km/h (0 mph). | - |
| | Tachometer | Indicates the engine speed according to the engine speed signal. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The tachometer indicates 0 rpm. | - |
| | ODO/TRIP meter | Calculates and displays the driven distance according to the vehicle speed pulse signal calculated value. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • The ODO/TRIP meter stops calculating and the last displayed value continues to be displayed.<br>• Optitron meter: In multi-display.<br>• Regular analog meter: Independent LCD. | - |
| | | Indicates the coolant | 1. Combination meter assembly<br>2. - | - | - |

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| | Engine coolant temperature gauge | temperature according to the engine coolant temperature signal. | 3. Combination meter assembly | | |
| | | | 1. -<br>2. ECM<br>3. - | The coolant temperature gauge displays less than the C mark. | - |
| Meter (MET) | Fuel gauge | Indicates the remaining fuel according to the fuel sender (direct line) input (uses the CAN communication (the vehicle speed signal) to determine if the vehicle is being driven or not). | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Control is performed with the speed input as 0 km/h (0 mph). | - |
| | Oil pressure gauge | Indicates the engine oil pressure according to the oil pressure sender (direct line) input (uses the CAN communication to determine if the engine is on or off by the engine speed signal). | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The oil pressure gauge displays less than the L mark. | - |
| | Shift lever indicator | The shift information is displayed according to the shift position signal. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The shift lever indicator and shift position in the multi-information display turns off. | - |
| Meter (MET) | Buzzer | Controls the buzzer to sound and not sound according to the various signals that are input. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU) | Conditions for the seat belt buzzer not sounding:<br>Conditions for the seat belt buzzer not sounding:<br>• When VSC1S03 is lost: Does not sound.<br>• When BDB1S01 is lost: Does not sound.<br>• When ECT1S90 is lost: Control is performed with B_R=0b.<br>• When ECT1S95 is lost: Control is performed with B_CPKB=0b. | - |
| | | | | Conditions for the seat belt buzzer sounding:<br>• When VSC1S03 is | |

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| | | | 3. - | lost: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>• When VSC1S95 is lost: Control is performed with B_CPKB=0b.<br>• When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | | The door ajar driving warning buzzer does not sound. | - |
| Meter (MET) | Buzzer | Controls the buzzer to sound and not sound according to the various signals that are input. | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The light reminder buzzer does not sound. | - |
| | | | | The sliding roof buzzer condition is maintained (until bus sleep). | - |
| | | | 1. -<br>2. ECM<br>3. - | The A/T reverse buzzer does not sound. | - |
| | | | | • The sports shift reject buzzer condition is maintained.<br>• The radar cruise low speed cancel buzzer does not sound.<br>• The radar cruise warning buzzer does not sound. | - |
| | | | 1. -<br>2. 4WD control ECU<br>3. - | The last state of the 4WD buzzer is maintained. | - |
| | | | 1. -<br>2. Certification ECU (smart key ECU assembly)<br>3. - | The door control transmitter buzzer (single push, continuous push, and intermittent push) does not sound. The immobiliser verification completion notification buzzer does not sound. | - |
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | ABS warning indicator turns on. | ABS warning indicator turns on. |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU)<br>3. - | Brake warning light<br>• When VSC1S95 is lost: Illuminates.<br>• When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | 1. -<br>2. Master cylinder | • SLIP indicator light condition is maintained.<br>• VSC OFF indicator light condition is maintained.<br>• The downhill assist control indicator condition is maintained.<br>• The slight low speed TRC indicator condition is maintained.<br>• The condition of the multi-terrain select indicator is | - |

| | | | | | |
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| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | maintained.<br>• The condition of the turn assist indicator is maintained. | |
| | | | | 120 km/h (75 mph) speed warning turns off (for Middle East). | - |
| | | | | Control is performed with the speed condition as 0 km/h (0 mph) for the following display: FUEL FILTER clog indicator.<br>ODO calculation stops for the following display conditions: Oil maintenance display. | - |
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. Headlight swivel ECU assembly (AFS ECU)<br>3. - | • Maintains the AFS OFF indicator light condition.<br>• Maintains the Headlight beam level control system warning light condition. | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | When there is determined to be a disruption, the following indicators operate as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off.<br>• DOOR indicator light<br>• Driver side seat belt warning light | - |
| | | | | When there is determined to be a disruption, the following indicators operate as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off.<br>• FRONT FOG indicator light<br>• REAR FOG indicator light<br>• TAIL indicator light<br>• HEAD indicator light<br>• BEAM indicator light | - |
| | | | | Automatic high beam. | - |
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. Parking assist ECU<br>3. - | The clearance sonar indicator turns off. | - |
| | | | 1. -<br>2. ECM<br>3. - | • The A/T P warning light condition is maintained.<br>• The ECT PW indicator light condition is maintained.<br>• The 2nd START indicator light condition is maintained.<br>• The cruise control indicator condition is maintained.<br>• The SET indicator condition is maintained.<br>• The radar cruise control indicator condition is maintained. | - |
| | | | 1. -<br>2. ECM, 4WD control ECU<br>3. - | The A/T P warning light conditions are maintained. | - |
| | | | 1. -<br>2. ECM, Master cylinder solenoid (skid control ECU)<br>3. - | The eco drive indicator light is turned off. | - |
| | | | 1. -<br>2. 4WD control ECU<br>3. - | • The center differential lock indicator light turns off.<br>• The 4LO indicator light turns off. | - |
| | | | 1. -<br>2. Seat belt | The PCS indicator light condition is | |

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| | | | 2. Seat belt control ECU<br>3. - | The PCS indicator light condition is maintained. | - |
| | | | 1. -<br>2. Suspension control ECU<br>3. - | ACCESS MODE indicator light<br>• When the engine switch is on (IG): The condition is maintained.<br>• When the engine switch is off: Turns off. | - |
| | | | 1. -<br>2. Center airbag sensor assembly<br>3. - | The SRS warning light turns on. | The SRS warning light turns on. |
| Meter (MET) | Multi-display | Displays information about the drive monitor, tire pressure, warning, radar cruise, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. ECM, Master cylinder solenoid (skid control ECU)<br>3. - | • Drive monitor calculations stop and the display is blank.<br>• The current fuel consumption, average fuel consumption after refilling, distance to empty and average vehicle speed. | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | The digital speedometer displays 0 km/h (0 mph). | - |
| | | | 1. -<br>2. ECM, Master cylinder solenoid (skid control ECU)<br>3. - | The eco drive indicator zone display is turned off. | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Parking brake drag warning display conditions:<br>• When VSC1S03 is lost: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>• When VSC1S95 is lost: Control is performed with B_CPKB=0b.<br>• When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU)<br>3. - | • The CRAWL system display is maintained.<br>• The VSC display is maintained. | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • The condition of the multi-terrain select indicator is maintained.<br>• The condition of the turn assist indicator is maintained. | - |

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| Meter (MET) | Multi-display | Displays information about the drive monitor, tire pressure, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Control is performed with the speed condition as 0 km/h (0 mph) for the following displays: Door open while driving display, FUEL FILTER clog display.<br>ODO calculation stops for the following display conditions: Oil maintenance display, T-BELT display. | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU)<br>3. - | Conditions for the door open display and door open while driving display:<br>• VSC1S03: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>• BSB1S01: Display state is maintained.<br>• BDB1S08: No display. | - |
| | | | 1. -<br>2. Air conditioning amplifier assembly<br>3. - | The outside temperature display is "E". | The outside temperature display is "E" (in the meter). |
| Meter (MET) | Multi-display | Displays information about the drive monitor, tire pressure, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The shift position display turns off. | - |
| | | | | The door control transmitter display condition is as follows:<br>• While the engine switch is on (IG): Condition is maintained.<br>• The door control transmitter display condition is as follows: | - |
| | | | | The sliding roof open display condition is as follows:<br>• While the engine switch is on (IG): Condition is maintained.<br>• When the engine switch is off: Turns off. | |
| | | | | The condition of the automatic high beam display is maintained. | - |
| | | | 1. -<br>2. Parking assist ECU<br>3. - | The clearance warning sonar display condition is maintained. | - |
| | | | 1. -<br>2. ECM<br>3. - | ~~The A/T shift position display turns off.~~ | - |
| | | | | The A/T OIL TEMP display state is maintained.<br>• When ECT1S92 is lost: Condition is maintained.<br>• When ENG1S03 is lost: Controlled as ENG-OFF. | - |
| | | | 1. -<br>2. Seat belt control ECU<br>3. - | The PCS display condition is maintained. | - |
| | | | 1. - | • The door control transmitter display condition is maintained | |

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| Meter (MET) | Multi-display | Displays information about the drive monitor, tire pressure, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 2. Certification ECU (smart key ECU assembly)<br>3. - | condition is maintained.<br>• The security display condition is maintained.<br>• The door control transmitter unlock mode display condition is maintained. | - |
| | | | 1. -<br>2. Suspension control ECU<br>3. - | 4-WHEEL AHC vehicle height display turns off.<br>"Check 4-WHEEL AHC System" is displayed. | 4-WHEEL AHC vehicle height display turns off.<br>"Check 4-WHEEL AHC System" is displayed. |
| | | | 1. -<br>2. Multi-media module receiver assembly<br>3. - | Arrow navigation is displayed. | - |
| | | | 1. -<br>2. Steering angle sensor, Steering control ECU<br>3. - | The steering angle display is turned off. | - |
| | | | 1. -<br>2. Tire pressure warning ECU<br>3. - | "Check Tire Pressure System" is displayed. | "Check Tire Pressure System" is displayed (in the meter). |
| | | | 1. -<br>2. Steering control ECU<br>3. - | "Check VGRS System" is displayed. | "Check VGRS System" is displayed. |
| Meter (MET) | Illumination function | Controls dimming and meter illumination on/off according to the CAN signals. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Daytime brightness. | - |
| | | | 1. -<br>2. ECM<br>3. - | - | - |
| | Passenger seat belt warning indicator | Blinks the passenger seat belt warning indicator according to the CAN signals. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Center airbag sensor assembly<br>3. - | The passenger seat belt warning indicator condition is maintained. | - |
| | | | 1. -<br>2. -<br>3. Multi-media module receiver assembly | - | - |
| Body (BDB) | Power supply switching control | The system that switches the power supply between +B, ACC, and IG. | 1. Main body ECU (cowl side junction block LH)<br>2. Combination meter assembly, ECM<br>3. - | The forced engine switch off function does not operate. | - |
| | | | | When the power supply switching conditions are met, power supply switching control is permitted.<br>When the power supply condition IG2 start/stop switch turns from off to on, the power supply condition is changed to IG1, and the IG relay output stops. | - |
| | | | | The security control does not operate (The headlight/taillight warning light | |

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| Body (BDB) | Security | The system that operates the warning when a theft is detected. | 1. Main body ECU (cowl side junction block LH)<br>2. Certification ECU (smart key ECU assembly)<br>3. Main body ECU (cowl side junction block LH) | output, horn warning output, and hazard warning light output do not operate).<br>The forced door lock function lock output does not operate.<br>The dome light warning control does not operate.<br>The lighting system answer back control does not operate.<br>(The taillight warning output and hazard warning light output do not operate). | - |
| | | | | When the security warning is operating, warning output stops during hazard warning light output. | - |
| | | | | When the security warning is operating, the dome light turns off during dome light illumination. | - |
| | Entry and Start/Wireless | The system that operates the lock/unlock, engine switch, back door opener, warning, etc. by pressing the switch when the door control transmitter is within the vehicle detection area.<br>The system that operates the vehicle lock/unlock, panic, back door opener, etc. by remote control. | 1. Main body ECU (cowl side junction block LH)<br>2. Certification ECU (smart key ECU assembly)<br>3. Main body ECU (cowl side junction block LH) | Entry and start/wireless control does not operate.<br>The door lock/unlock control and entry back door opener control do not operate. | - |
| Body (BDB) | Vehicle speed linked auto lock | The system that locks the doors when the vehicle speed is 26 km/h (16 mph) or more. | 1. Main body ECU (cowl side junction block LH)<br>2. Combination meter assembly, ECM<br>3. Main body ECU (cowl side junction block LH) | When the vehicle speed linked auto lock signal is lost, operation is permitted. | - |
| | | | | The vehicle speed linked auto lock does not operate. | - |
| | Shift linked auto lock/unlock | The system that unlocks all the doors when the shift lever is moved to P, and locks all doors when the shift lever is moved from P to another position while the engine is running. | 1. Main body ECU (cowl side junction block LH)<br>2. Combination meter assembly, ECM<br>3. Main body ECU (cowl side junction block LH) | The shift linked auto lock/unlock function does not operate. | - |
| | | | | When the shift linked auto lock/unlock signal is lost, operation is permitted. | - |
| | DRL | The system that illuminates lights when driving the vehicle to improve the visibility of pedestrians and other vehicles in the daytime. | 1. Main body ECU (cowl side junction block LH)<br>2. ECM<br>3. Main body ECU (cowl side junction block LH) | DRL control does not operate.<br>**HINT:**<br>If operated once, the operation continues until the engine switch is turned off, even if the signal is lost. | - |
| | Boarding | System that controls the front (rear) dome light, door mirror foot light, center console spot light, and interior foot light. | 1. Main body ECU (cowl side junction block LH)<br>2. Certification ECU (smart key ECU assembly), Combination meter assembly, ECM, Parking assist ECU<br>3. Outer mirror control ECU assembly, No. 2 main | Front (rear) dome light, door mirror foot light, center console spot light, and interior foot light control does not operate. | - |
| | | | | While the interior foot light is illuminated, the center console does not turn off. | - |
| | | | | When the interior foot light is illuminated, the dimmer operates.<br>When the engine switch is on (IG), the door mirror foot light does not operate by the manual unlock. | - |
| | | | | When the side monitor is operating, the | - |

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| | | | body ECU, Main body ECU (cowl side junction block LH) | door mirror foot light can illuminate. | |
| Body (BDB) | Back door | System that operates the hazard warning lights as an answer back when the power back door begins to operate. | 1. Power back door unit assembly (power back door ECU)<br>2. Power back door unit assembly (power back door ECU)<br>3. Main body ECU (cowl side junction block LH) | The hazard warning light answer back does not operate when the back door begins to operate. | .- |
| | Back door opener | The system that releases the door latch (turns opener motor on) by turning on the switch built into the outside door handle. | 1. Main body ECU (cowl side junction block LH)<br>2. Combination meter assembly<br>3. Main body ECU (cowl side junction block LH) | Prohibits the back door opener control. | - |
| | One motion power back door opener | System that unlocks and opens the back door in one motion when the wireless back door opening operation is performed. | 1. Main body ECU (cowl side junction block LH)<br>2. Power back door unit assembly (power back door ECU)<br>3. Power back door unit assembly (power back door ECU) | Back door opener control does not operate. | - |
| | Display automatic dimmer control | System that controls the brightness of the interior display/indicators, etc. only during twilight and nighttime by determining the time of day and using the light sensor signal. | 1. Main body ECU (cowl side junction block LH)<br>2. Combination meter assembly<br>3. Windshield wiper ECU, No. 2 main body ECU, Combination meter assembly, Multi-media module receiver assembly, Air conditioning amplifier assembly, Parking assist ECU | Operates the display automatic dimmer control when the tail cancel switch is on.<br>When the value of the light sensor illumination intensity signal is less than the display dimmer value, the brightness of the vehicle interior display/indicator is dimmed. | - |
| | Access mode warning (for China) | System that controls hazard illumination and notifies about access mode operation. | 1. Main body ECU (cowl side junction block LH)<br>2. Suspension control ECU<br>3. Main body ECU (cowl side junction block LH) | Hazard lights do not blink | - |
| | | | | Hazard lights do not illuminate during hazard light blink request output | - |
| | Power window | The system that operates power window control based on the request from | 1. Main body ECU (cowl side junction block LH)<br>2. Certification | Power window control does not operate.<br>Power window control stops during | - |

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| | Power window | based on the request from wireless/smart access control. | 2. Certification ECU (smart key ECU assembly)<br>3. - | Power window control stops during wireless/smart power window control operation. | - |
| Verification (IDT) | Entry function | Entry and start/lock/back door/warning, etc. | 1. Certification ECU (smart key ECU assembly)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | • The entry lock/ unlock does not operate.<br>• The entry back door does not operate.<br>• The entry and start warning message does not operate.<br>• The key lock-in prevention function does not operate.<br>• The entry illumination does not operate. | - |
| | | | | Package default setting. | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | The vehicle speed is determined to be 0 km/h (0 mph). | - |
| | | | | - | - |
| | Wireless buzzer function | The wireless buzzer sounding control. | 1. Certification ECU (smart key ECU assembly)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. Main body ECU (cowl side junction block LH) | Does not sound even though there is a wireless buzzer request. | - |
| | | | | Package default settings. | - |
| | | | 1. -<br>2. Suspension control ECU<br>3. - | Does not sound even though there is an access mode warning buzzer request. | - |
| | Immobiliser function | The immobiliser control by the warning and remote engine start. | 1. Certification ECU (smart key ECU assembly)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The engine switch is forcibly turned off. | - |
| Verification (IDT) | Wireless function | Wireless electric wave information transmission. | 1. Certification ECU (smart key ECU assembly)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | - | - |
| | Security function | Security alarm control. | 1. Certification ECU (smart key ECU assembly)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The alarm is not unset.<br>The alarm is not set. | - |

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| | | | 3. | | |
| | | | 1. -<br>2. ECM<br>3. - | The alarm is not unset by the engine start. | - |
| Gateway (CGW) | Gateway function | Transmits frames between the V bus and motion control system bus. | 1. Network gateway ECU<br>2. Seat belt control ECU<br>3. - | • Transmission interval counter (the selected RAM and CAN controller initialization).<br>• Extremely late frame rejection function (the RAM of the gateway application and the selected RAM initialization).<br>• Reception interval counter (the selected RAM and CAN controller initialization). | - |
| | | | 1. Network gateway ECU<br>2. Distance control ECU assembly<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. Parking assist ECU<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. Steering angle sensor<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. Suspension control ECU<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. Yaw rate sensor assembly<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. Steering control ECU<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. 4WD control ECU<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. -<br>3. - | | |

**for Preparation** Click here

**HINT:**

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

**CAN Communication System**

| DTC Code | Detection Item | Trouble Area | DTC Output from | See page |
|---|---|---|---|---|
| U0114/38 | Lost Communication with 4WD Control ECU | - Power source circuit of 4WD control ECU<br>- 4WD control ECU<br>- 4WD control ECU branch wire or connector | Network gateway ECU | Click here |
| U0122 | Lost Communication with Vehicle Dynamics Control Module | - Power source circuit of master cylinder solenoid (skid control ECU)<br>- One side of CAN branch wire of other systems<br>- Master cylinder solenoid (skid control ECU)<br>- Master cylinder solenoid (skid control ECU) branch wire or connector | Network gateway ECU | Click here |
| U0123 | Lost Communication with Yaw Rate Sensor Module | - Power source circuit of yaw rate sensor assembly<br>- Yaw rate sensor assembly<br>- Yaw rate sensor branch wire or connector | Network gateway ECU | Click here |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module | - Power source circuit of yaw rate sensor assembly<br>- Yaw rate sensor assembly<br>- Yaw rate sensor branch wire or connector | Network gateway ECU | Click here |
| U0126 | Lost Communication with Steering Angle Sensor Module | - Power source circuit of steering angle sensor<br>- One side of CAN branch wire of other systems<br>- Steering angle sensor<br>- Steering angle sensor branch wire or connector | Network gateway ECU | Click here |
| U0129 | Lost Communication with Brake System Control Module | - Power source circuit of master cylinder solenoid (skid control ECU)<br>- One side of CAN branch wire of other systems<br>- Master cylinder solenoid (skid control ECU)<br>- Master cylinder solenoid (skid control ECU) branch wire or connector | Network gateway ECU | Click here |
| U0130 | Lost Communication with Steering Effort Control Module | - Power source circuit of steering control ECU<br>- One side of CAN branch wire of other systems<br>- Steering control ECU<br>- Steering control ECU branch wire or connector | Network gateway ECU | Click here |
| U0132 | Lost Communication with Suspension Control ECU | - Power source circuit of suspension control ECU<br>- One side of CAN branch wire of other systems<br>- Suspension control ECU<br>- Suspension control ECU branch wire or connector | Network gateway ECU | Click here |
| U0141 | Lost Communication with Body Control Module "A" | - Power source circuit of No. 2 main body ECU<br>- No. 2 main body ECU<br>- No. 2 main body ECU branch wire or connector | Main body ECU (cowl side junction block LH) | Click here |
| U0199 | Lost Communication with "Door Control Module A" | - Power source circuit of outer mirror control ECU<br>- Outer mirror control ECU<br>- Outer mirror control ECU branch wire or connector | Main body ECU (cowl side junction block LH) | Click here |
| U0208 | Lost Communication with "Seat Control Module A" | - Power source circuit of position control ECU and switch<br>- Position control ECU and switch<br>- Position control ECU and switch branch wire or connector | Main body ECU (cowl side junction block LH) | Click here |
| | Lost Communication with Rear Gate | - Power source circuit of power back door unit (power back door ECU) | Main body ECU (cowl side | Click |

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|---|---|---|---|---|
| U0230 | Module | - Power back door unit (power back door ECU)<br>- Power back door unit (power back door ECU) branch wire or connector | junction block LH) | here |
| U0327 | Software Incompatibility with Vehicle Security Control Module | - Power source circuit of certification ECU (smart key ECU assembly)<br>- Certification ECU (smart key ECU assembly)<br>- Certification ECU (smart key ECU assembly) branch wire or connector | Main body ECU (cowl side junction block LH) | Click here |
| U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main body ECU) | - MS bus circuit<br>- Certification ECU (smart key ECU assembly) branch wire or connector<br>- Position control ECU and switch branch wire or connector<br>- Outer mirror control ECU branch wire or connector<br>- Multiplex tilt and telescopic ECU branch wire or connector<br>- Power back door unit (power back door ECU) branch wire or connector<br>- Windshield wiper ECU branch wire or connector<br>- No. 2 main body ECU branch wire or connector<br>- Main body ECU (cowl side junction block LH) main wire or connector<br>- Combination meter main wire or connector<br>- Certification ECU (smart key ECU assembly)<br>- Position control ECU and switch assembly<br>- Outer mirror control ECU assembly<br>- Multiplex tilt and telescopic ECU<br>- Power back door unit (power back door ECU)<br>- No. 2 main body ECU<br>- Main body ECU (cowl side junction block LH)<br>- Combination meter assembly<br>- No. 8 junction connector<br>- No. 9 junction connector<br>- No. 10 junction connector<br>- No. 2 CAN junction connector | Main body ECU (cowl side junction block LH) | Click here |
| U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module (Network Gateway ECU) | - Movement control bus circuit<br>- 4WD control ECU branch wire or connector<br>- Yaw rate sensor branch wire or connector<br>- Seat belt control ECU branch wire or connector<br>- Distance control ECU branch wire or connector<br>- Parking assist ECU branch wire or connector<br>- Clearance warning ECU branch wire or connector<br>- Master cylinder solenoid (skid control ECU) branch wire or connector<br>- Steering angle sensor branch wire or connector<br>- Network gateway ECU main wire or connector<br>- Suspension control ECU branch wire or connector<br>- Steering control ECU branch wire or connector<br>- 4WD control ECU<br>- Yaw rate sensor<br>- Seat belt control ECU<br>- Distance control ECU<br>- Parking assist ECU<br>- Clearance warning ECU<br>- Master cylinder solenoid (skid control ECU)<br>- Steering angle sensor<br>- Suspension control ECU<br>- Steering control ECU<br>- Network gateway ECU<br>- No. 4 junction connector<br>- No. 5 junction connector<br>- No. 6 junction connector<br>- No. 7 junction connector<br>- No. 1 CAN junction connector | Network gateway ECU | Click here |
| | Lost Communication with Seat Belt Control | - Power source circuit of seat belt control ECU<br>- Seat belt control ECU | | Click |

| | | | | |
|---|---|---|---|---|
| U1100 | ECU | - Seat belt control ECU branch wire or connector | Network gateway ECU | here |
| U1101 | Lost Communication with Distance Control ECU | - Power source circuit of distance control ECU<br>- Distance control ECU<br>- Distance control ECU branch wire or connector | Network gateway ECU | Click here |
| U1110 | Lost Communication with Clearance Sonar Module | - Power source circuit of clearance warning ECU assembly<br>- Clearance warning ECU assembly<br>- Clearance warning ECU branch wire or connector | Network gateway ECU | Click here |
| U1111 | Lost Communication with Body No. 5 Module | - Power source circuit of windshield wiper ECU<br>- Windshield wiper ECU<br>- Windshield wiper ECU branch wire or connector | Main body ECU (cowl side junction block LH) | Click here |
| U1115 | Lost Communication with Tilt and Telescopic Module | - Power source circuit of multiplex tilt and telescopic ECU<br>- Multiplex tilt and telescopic ECU<br>- Multiplex tilt and telescopic ECU branch wire or connector | Main body ECU (cowl side junction block LH) | Click here |
| U1126 | Lost Communication with Parking Assist ECU | - Power source circuit of parking assist ECU<br>- Parking assist ECU<br>- Parking assist ECU branch wire or connector | Network gateway ECU | Click here |

**for Preparation** Click here

**HINT:**

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

**CAN Communication System**

| DTC Code | Detection Item | DTC Output from | See page |
|---|---|---|---|
| U0104 | Lost Communication with Driving Support ECU | Network gateway ECU | Click here |
| U0114/38 | Lost Communication with 4WD Control ECU | Network gateway ECU | Click here |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module | Network gateway ECU | Click here |
| U0125 | Lost Communication with Yaw Rate Sensor Module | Network gateway ECU | Click here |
| U0126 | Lost Communication with Steering Angle Sensor Module | Network gateway ECU | Click here |
| U0129 | Lost Communication with Brake System Control Module | Network gateway ECU | Click here |
| U0130 | Lost Communication with Steering Effort Control Module | Network gateway ECU | Click here |
| U0132 | Lost Communication with Suspension Control ECU | Network gateway ECU | Click here |
| U0141 | Lost Communication with Body Control Module "A" | Main body ECU (cowl side junction block LH) | Click here |
| U0199 | Lost Communication with "Door Control Module A" | Main body ECU (cowl side junction block LH) | Click here |
| U0208 | Lost Communication with "Seat Control Module A" | Main body ECU (cowl side junction block LH) | Click here |
| U0230 | Lost Communication with Rear Gate Module | Main body ECU (cowl side junction block LH) | Click here |
| U0327 | Software Incompatibility with Vehicle Security Control Module | Main body ECU (cowl side junction block LH) | Click here |
| U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main body ECU) | Main body ECU (cowl side junction block LH) | Click here |
| U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module (Network Gateway ECU) | Network gateway ECU | Click here |
| U1100 | Lost Communication with Seat Belt Control ECU | Network gateway ECU | Click here |
| U110B | Lost Communication with Parking Assist Control Module "B" | Network gateway ECU | Click here |
| U1110 | Lost Communication with Clearance Sonar Module | Network gateway ECU | Click here |
| U1111 | Lost Communication with Body No. 5 Module | Main body ECU (cowl side junction block LH) | Click here |
| U1115 | Lost Communication with Tilt and Telescopic Module | Main body ECU (cowl side junction block LH) | Click here |

## DTC U0104 Lost Communication with Driving Support ECU

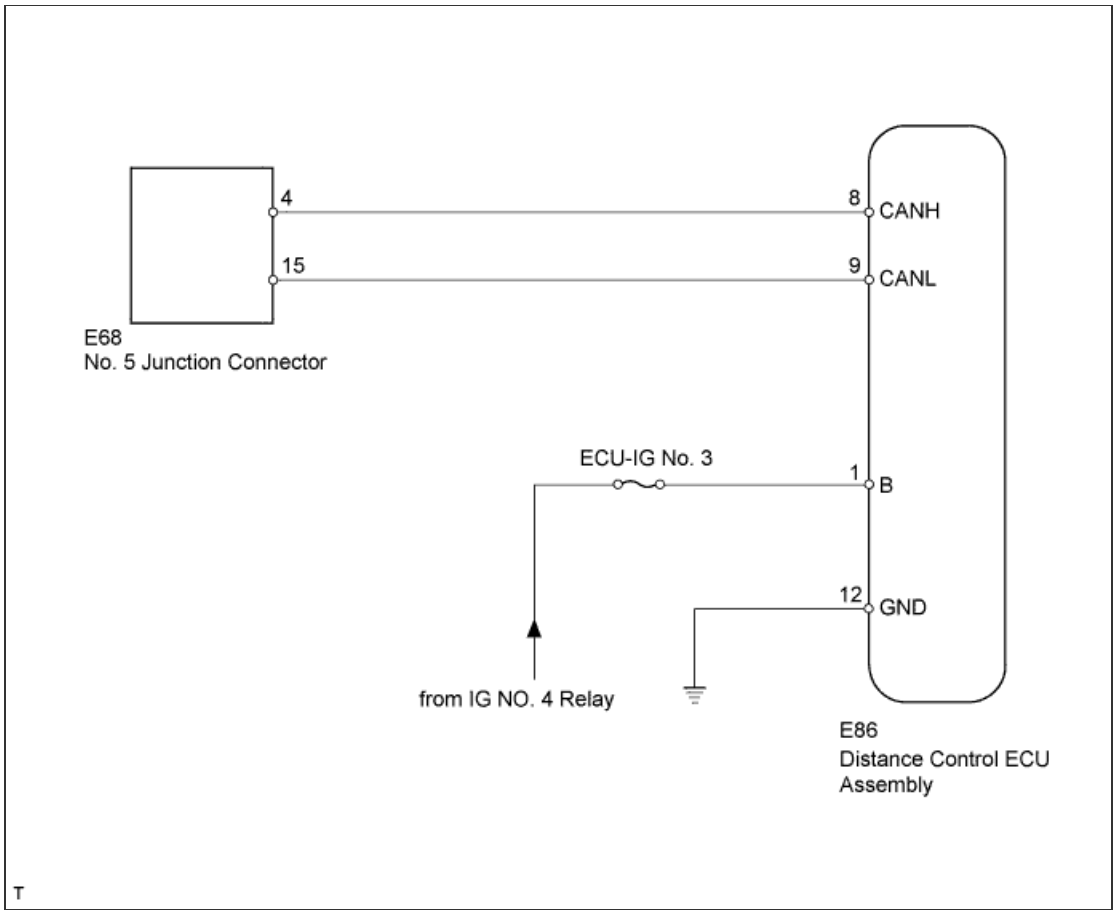
**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0104 | There is no communication from the distance control ECU assembly. | • Power source circuit of distance control ECU assembly<br>• Distance control ECU assembly CAN branch wire or connector<br>• Distance control ECU assembly |

For vehicles with an dynamic radar cruise control system.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (DISTANCE CONTROL ECU ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the E86 distance control ECU assembly connector.

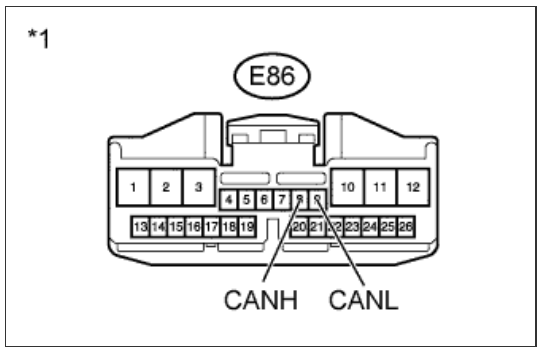
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Distance Control ECU Assembly) |




NG → REPAIR OR REPLACE DISTANCE CONTROL ECU ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (DISTANCE CONTROL ECU ASSEMBLY - BATTERY AND BODY GROUND)

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

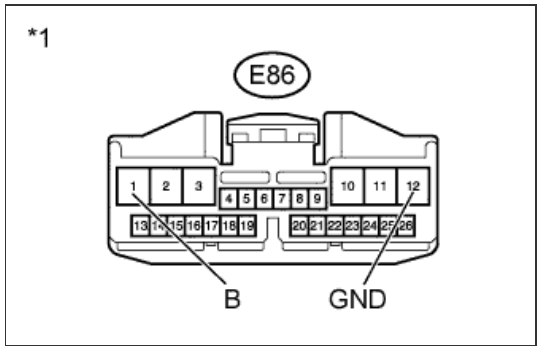
**NOTICE:**

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

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E86-1 (B) - 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 |
|---|---|---|
| E86-12 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Distance Control ECU Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

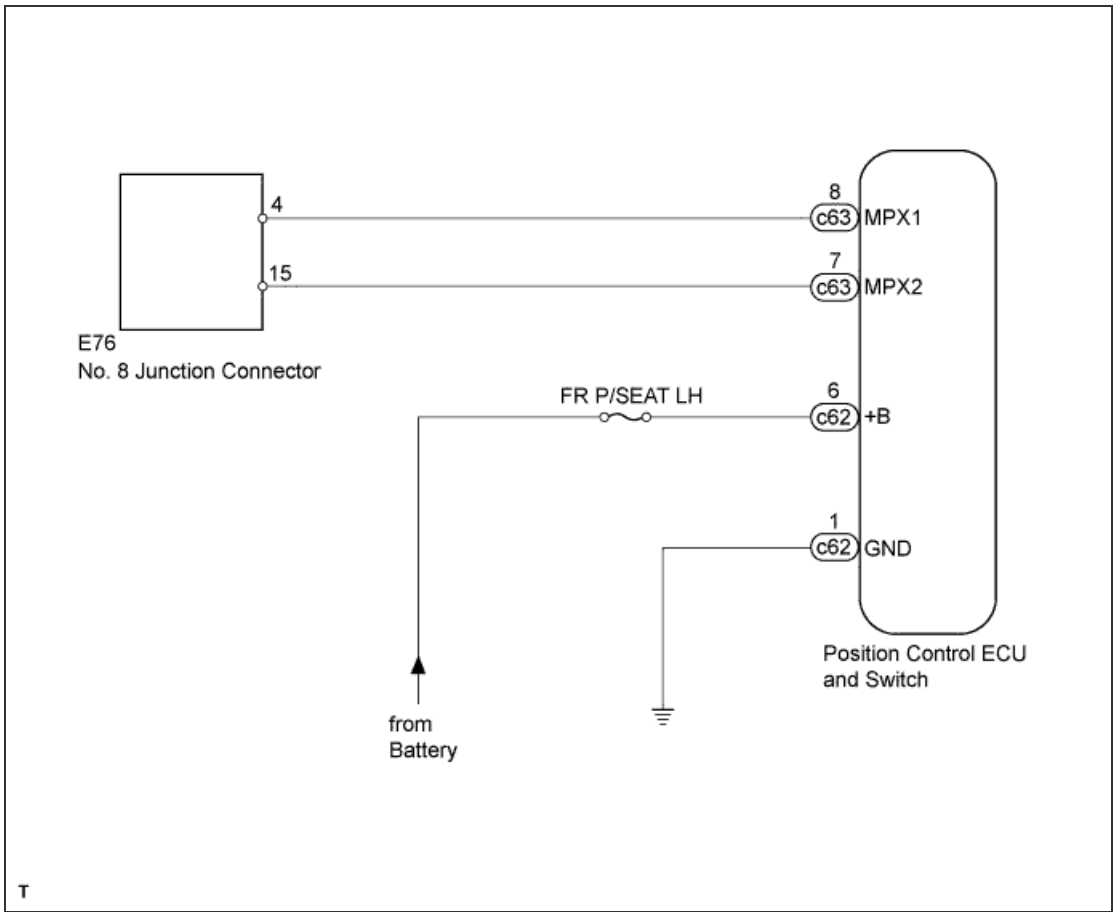
## DTC U0208 Lost Communication with "Seat Control Module A"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0208 | There is no communication from the position control ECU and switch. | • Power source circuit of position control ECU and switch<br>• Position control ECU and switch<br>• Position control ECU and switch CAN branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (POSITION CONTROL ECU AND SWITCH CAN BRANCH WIRE)

a. Disconnect the c63 position control ECU and switch connector.

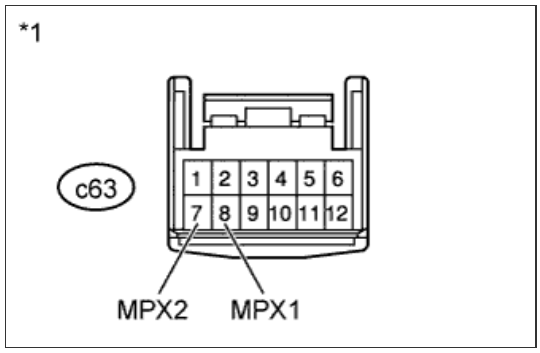
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| c63-8 (MPX1) - c63-7 (MPX2) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Position Control ECU and Switch) |




NG → REPAIR OR REPLACE POSITION CONTROL ECU AND SWITCH CAN BRANCH WIRE OR CONNECTOR (MPX1, MPX2)

OK

## 4.CHECK HARNESS AND CONNECTOR (POSITION CONTROL ECU AND SWITCH - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the c62 position control ECU and switch connector.

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

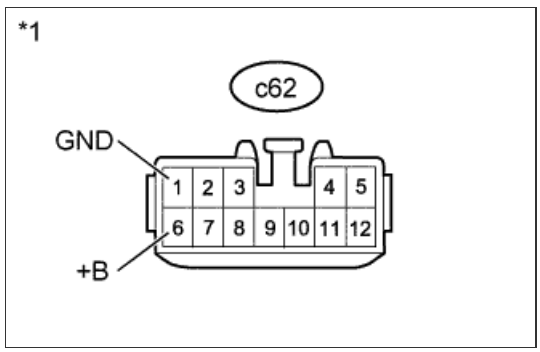
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c62-6 (+B) - 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 |
|---|---|---|
| c62-1 (GND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Position Control ECU and Switch) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

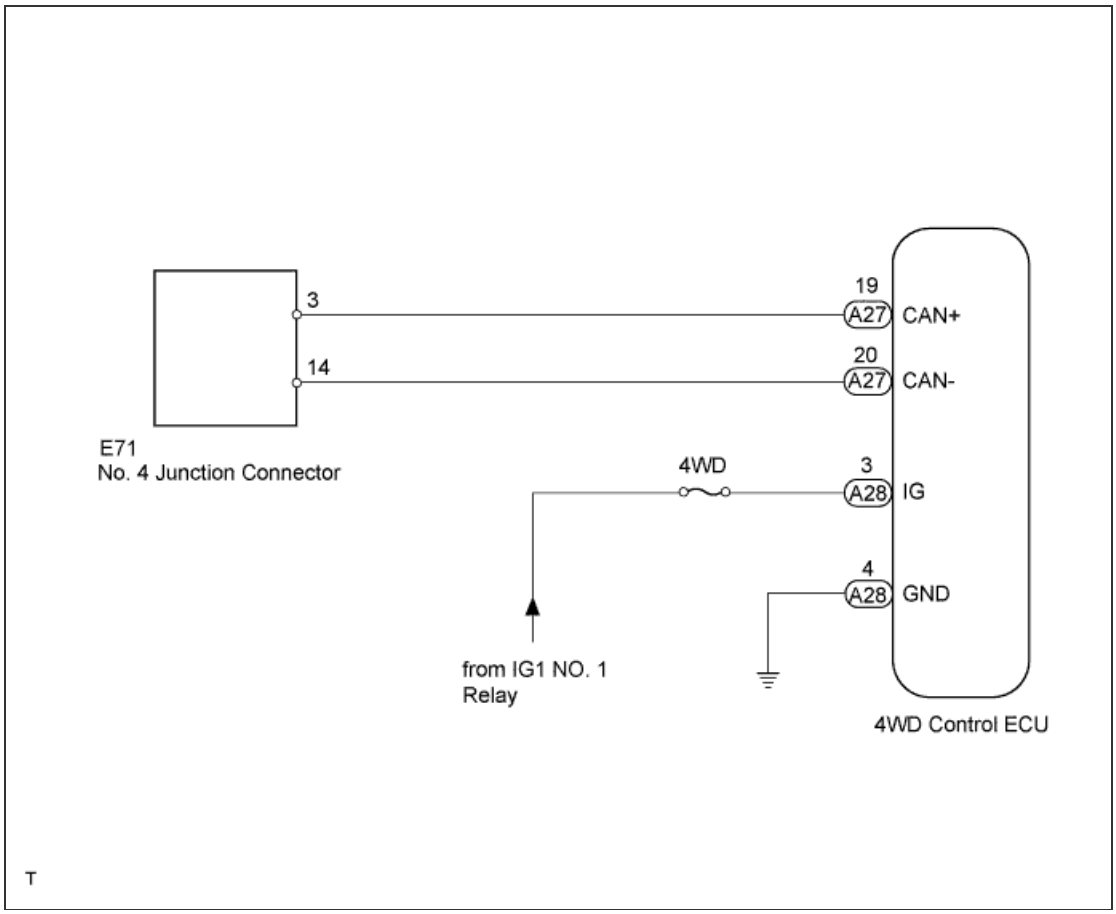
## DTC U0114/38 Lost Communication with 4WD Control ECU

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0114/38 | There is no communication from the 4WD control ECU. | • Power source circuit of 4WD control ECU<br>• 4WD control ECU<br>• 4WD control ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistance of the main wire and the branch wire.

**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).

NEXT

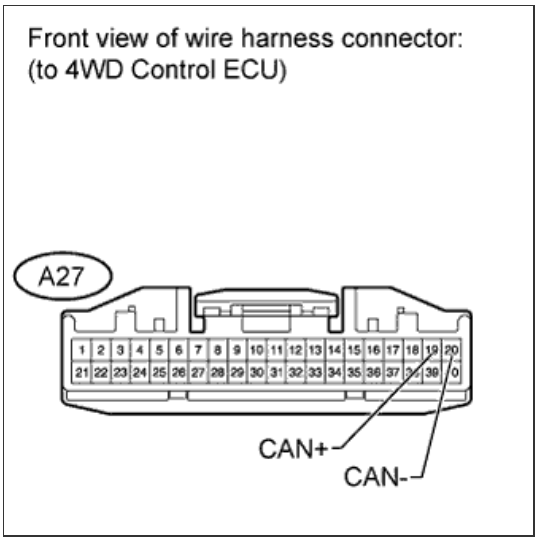
#### 2.CHECK FOR OPEN IN CAN BUS WIRE (4WD CONTROL ECU BRANCH WIRE)

a. Disconnect the A27 4WD control ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A27-19 (CAN+) - A27-20 (CAN-) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE 4WD CONTROL ECU BRANCH WIRE OR CONNECTOR (CAN+, CAN-)

OK

## 3.CHECK HARNESS AND CONNECTOR (4WD CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the A28 4WD control ECU connector.

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

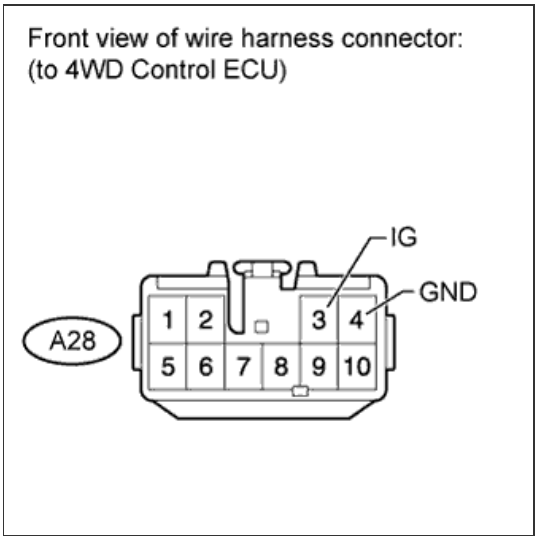
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A28-4 (GND) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A28-3 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE 4WD CONTROL ECU (Click here)

## DTC U0230 Lost Communication with Rear Gate Module

**for Preparation** Click here

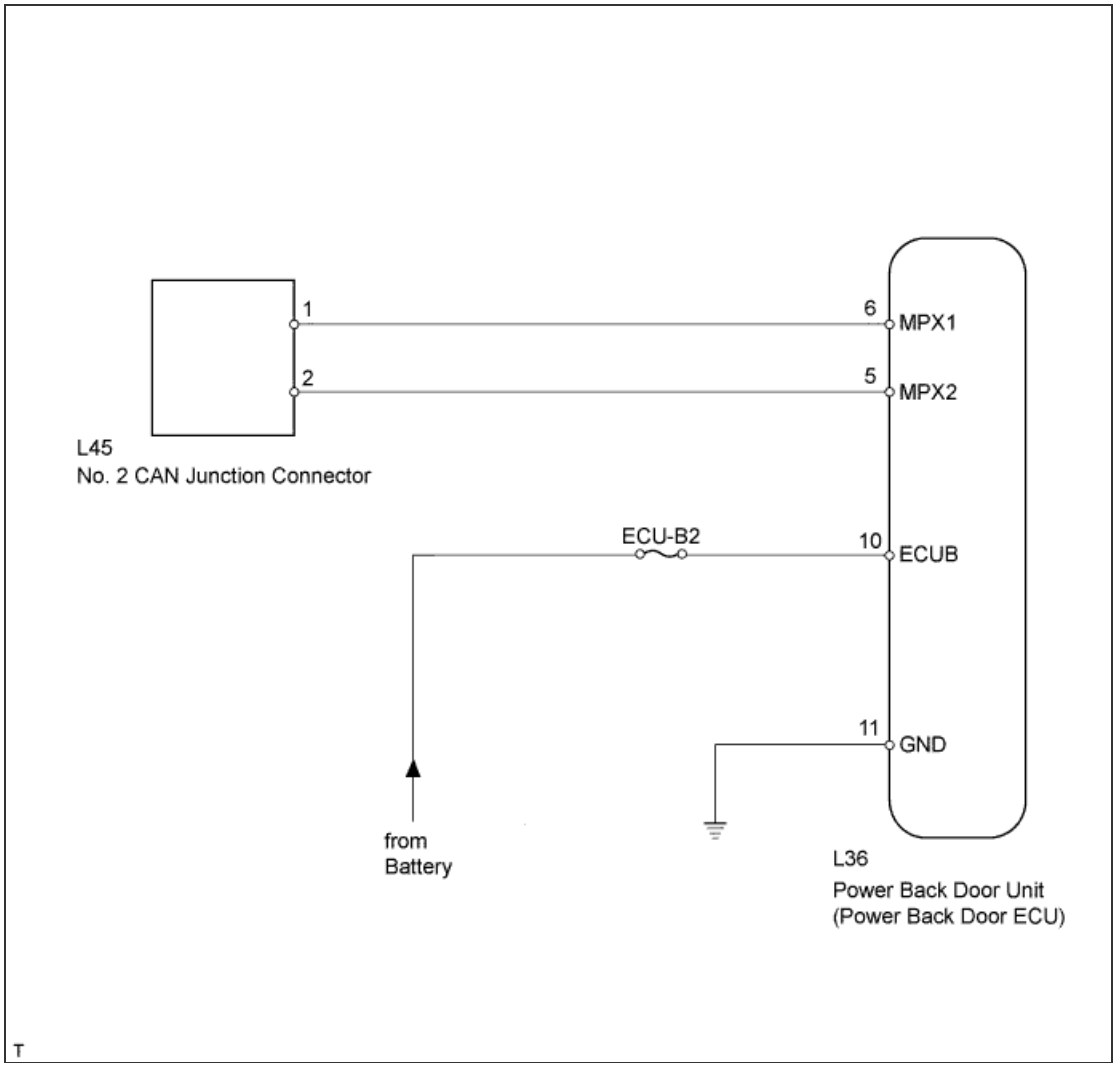
### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0230 | There is no communication from the power back door unit assembly (power back door ECU). | • Power source circuit of power back door unit assembly (power back door ECU)<br>• Power back door unit assembly (power back door ECU)<br>• Power back door unit assembly (power back door ECU) branch wire or connector |

**HINT:**

For vehicles with the power back door system only.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

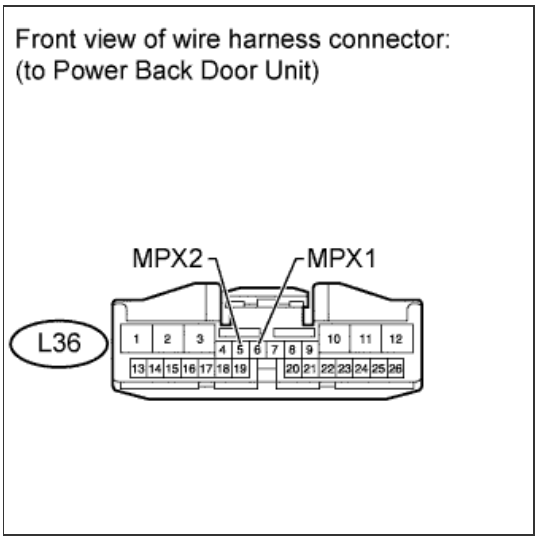
**2.CHECK FOR OPEN IN CAN BUS WIRE (POWER BACK DOOR UNIT BRANCH WIRE)**

a. Disconnect the L36 power back door unit (power back door ECU) connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | Engine switch off | 54 to 69 Ω |




**NG** → REPAIR OR REPLACE POWER BACK DOOR UNIT (POWER BACK DOOR ECU) BRANCH WIRE OR CONNECTOR (MPX1, MPX2)

**OK**

**3.CHECK HARNESS AND CONNECTOR (POWER BACK DOOR UNIT - BATTERY AND BODY GROUND)**

a. 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).

b. Disconnect the L36 power back door unit (power back door ECU) connector.

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

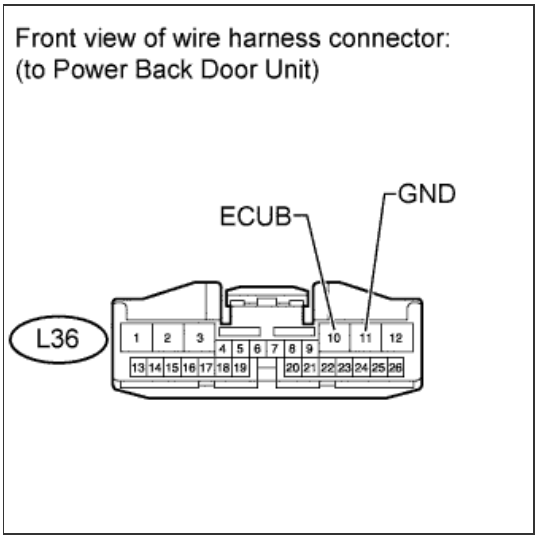
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L36-11 (GND) - Body ground | Always | Below 1 Ω |

d. 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 |




**NG** → REPAIR OR REPLACE HARNESS OR CONNECTOR

**OK**

REPLACE POWER BACK DOOR UNIT ASSEMBLY (POWER BACK DOOR ECU) ( Click here)

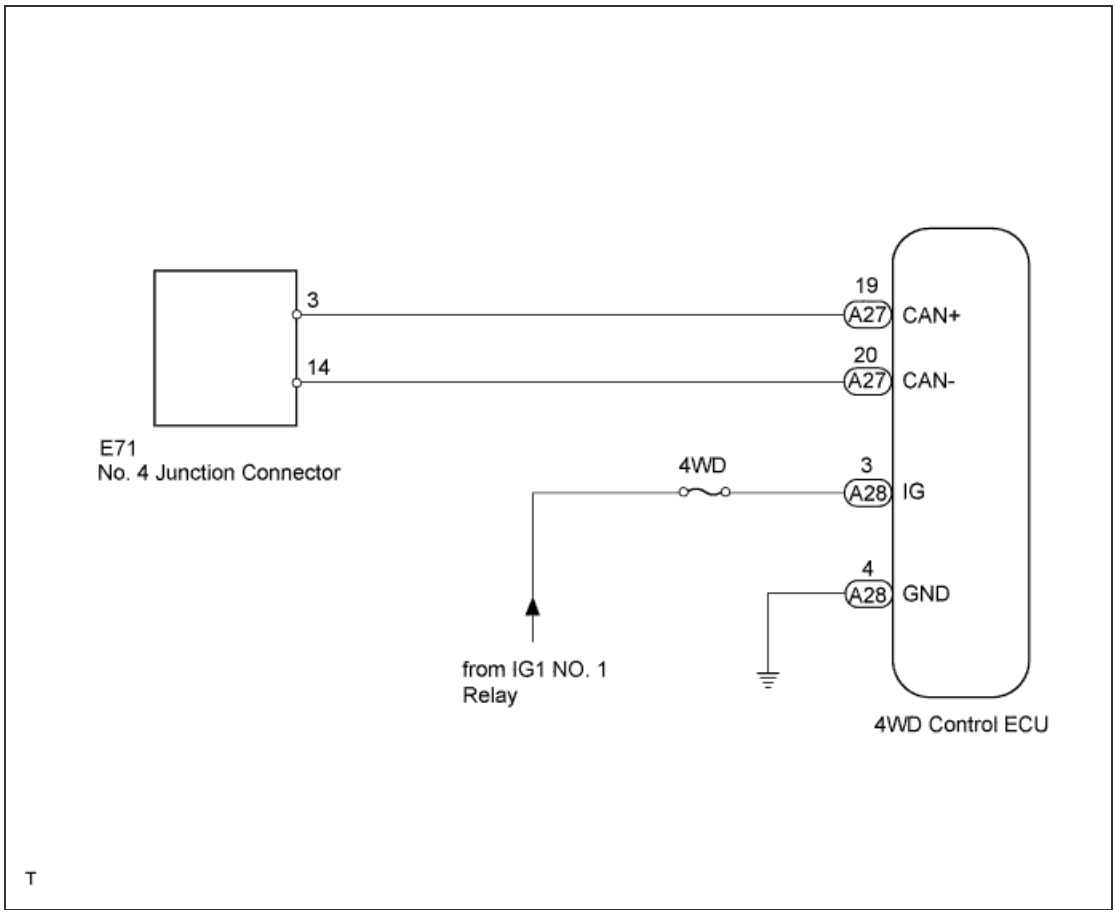
## DTC U0114/38 Lost Communication with 4WD Control ECU

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0114/38 | There is no communication from the 4WD control ECU. | • Power source circuit of 4WD control ECU<br>• 4WD control ECU<br>• 4WD control ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (4WD CONTROL ECU CAN BRANCH WIRE)

a. Disconnect the A27 4WD control ECU connector.

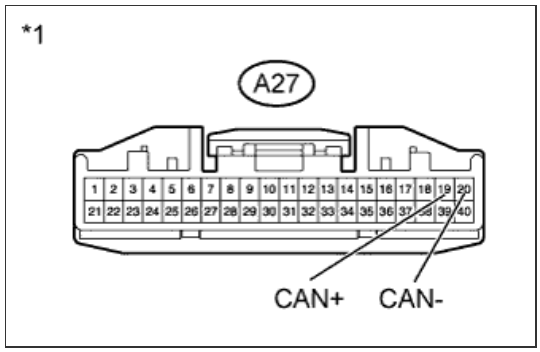
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A27-19 (CAN+) - A27-20 (CAN-) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to 4WD Control ECU) |




NG → REPAIR OR REPLACE 4WD CONTROL ECU CAN BRANCH WIRE OR CONNECTOR (CAN+, CAN-)

**OK**

## 4.CHECK HARNESS AND CONNECTOR (4WD CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the A28 4WD control ECU connector.

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

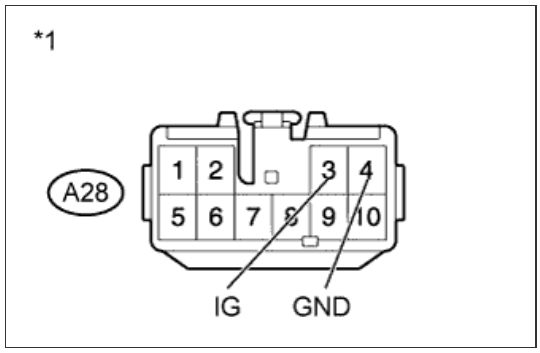
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A28-3 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A28-4 (GND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to 4WD Control ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE 4WD CONTROL ECU (Click here)

## DTC U0230 Lost Communication with Rear Gate Module

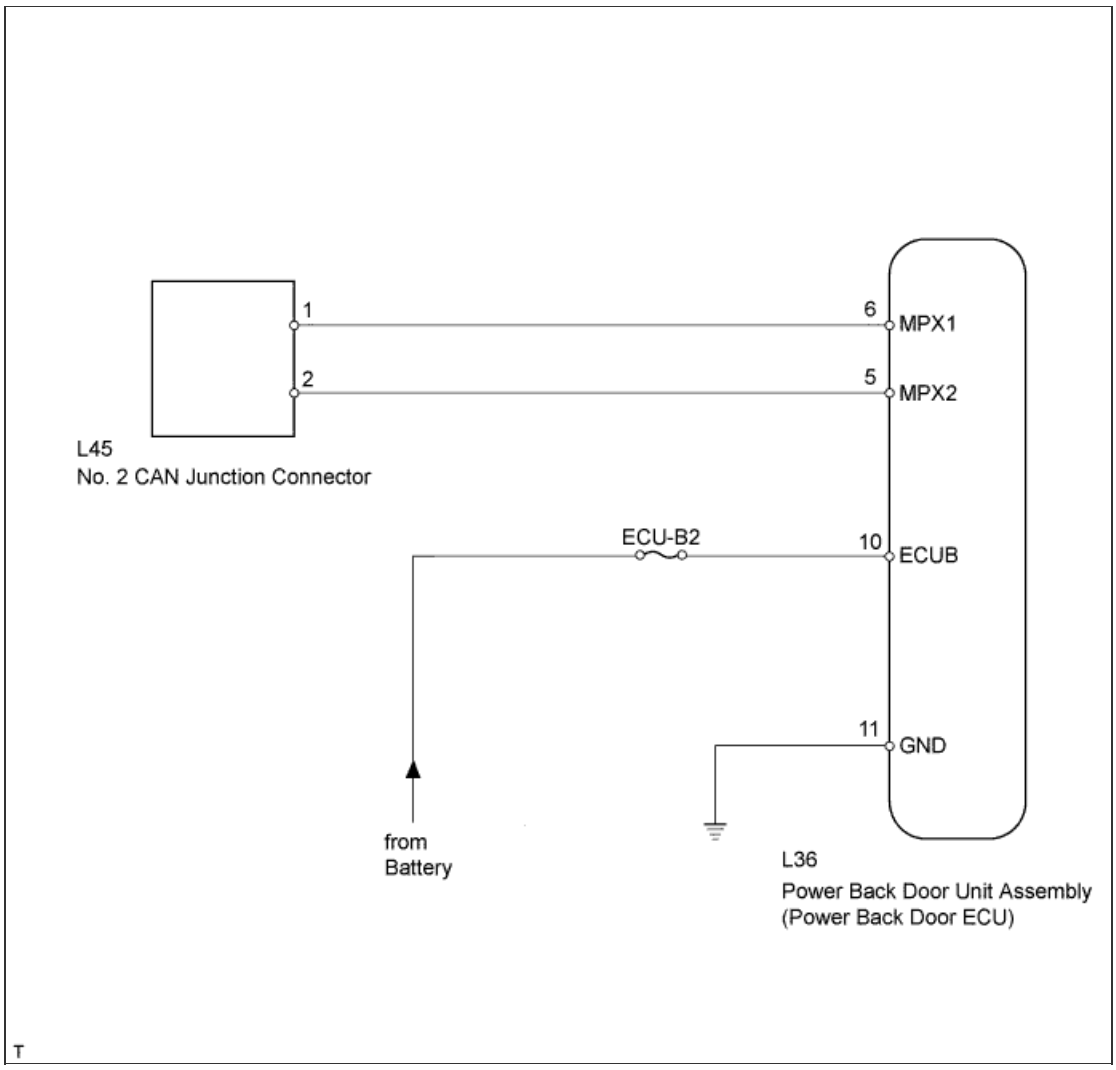
**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0230 | There is no communication from the power back door unit assembly (power back door ECU). | • Power source circuit of power back door assembly (power back door ECU)<br>• Power back door unit assembly (power back door ECU) CAN branch wire or connector<br>• Power back door unit assembly (power back door ECU) |

For vehicles with the power back door system.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

## 1.PRECAUTION

**NOTICE:**

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

**NEXT**

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (POWER BACK DOOR ECU CAN BRANCH WIRE)

a. Disconnect the L36 power back door unit assembly (power back door ECU) connector.

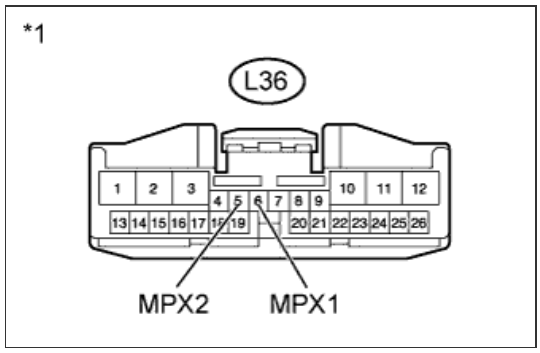
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Power Back Door Unit Assembly [Power Back Door ECU]) |




**NG** → **REPAIR OR REPLACE POWER BACK DOOR ECU CAN BRANCH WIRE OR CONNECTOR (MPX1, MPX2)**

**OK**

## 4.CHECK HARNESS AND CONNECTOR (POWER BACK DOOR ECU - BATTERY AND BODY GROUND)

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

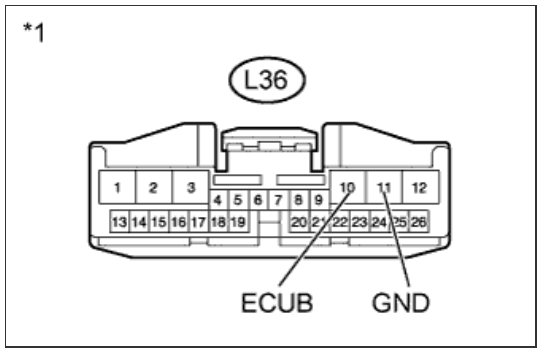
**NOTICE:**

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

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 |



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 |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Power Back Door Unit Assembly [Power Back Door ECU]) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POWER BACK DOOR UNIT ASSEMBLY (POWER BACK DOOR ECU) ( Click here)

## DTC U0122 Lost Communication with Vehicle Dynamics Control Module

## DTC U0129 Lost Communication with Brake System Control Module

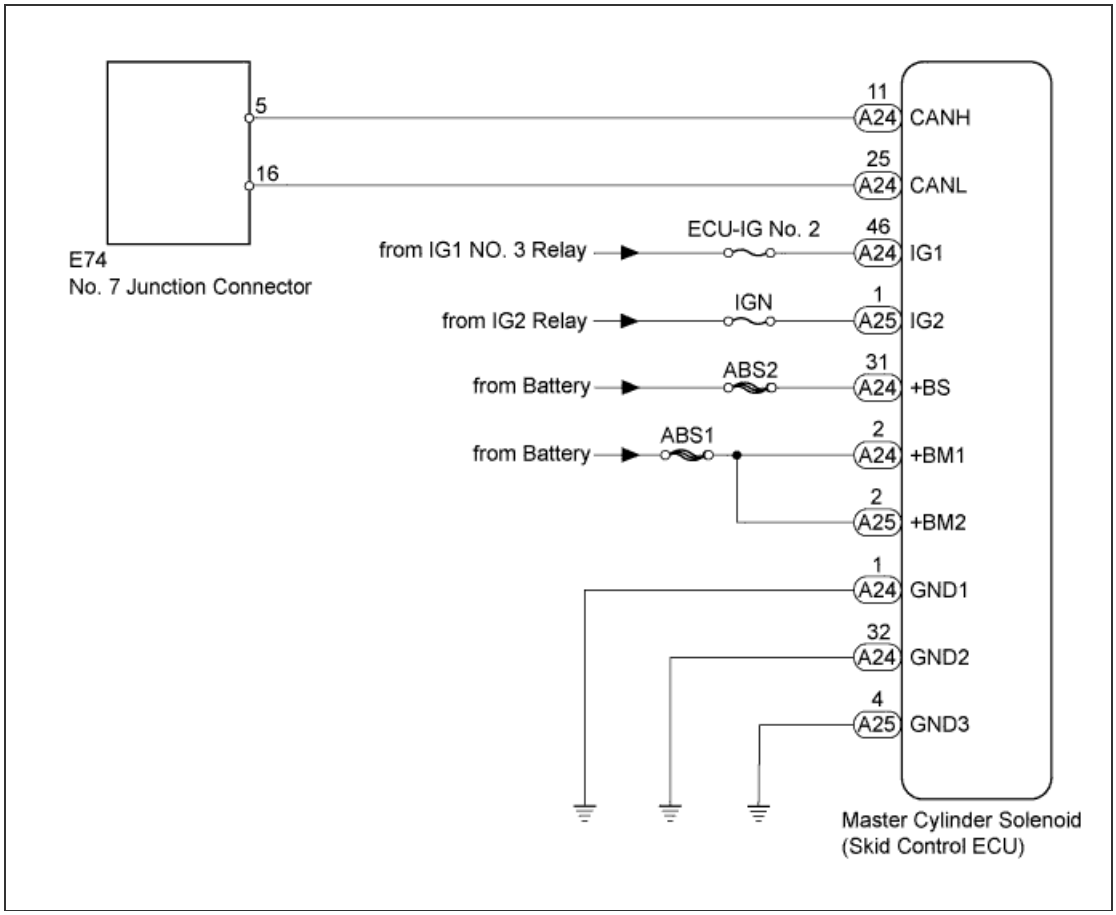
**for Preparation** Click here

### DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0122 | There is no communication from the master cylinder solenoid (skid control ECU). | • Power source circuit of master cylinder solenoid (skid control ECU)<br>• One side of CAN branch wire of other systems<br>• Master cylinder solenoid (skid control ECU)<br>• Master cylinder solenoid (skid control ECU) branch wire or connector |
| U0129 | There is no communication from the master cylinder solenoid (skid control ECU). | • Power source circuit of master cylinder solenoid (skid control ECU)<br>• One side of CAN branch wire of other systems<br>• Master cylinder solenoid (skid control ECU)<br>• Master cylinder solenoid (skid control ECU) branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

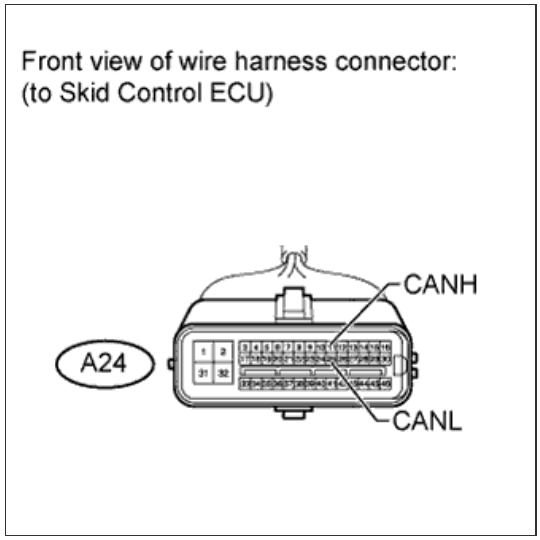
## 2.CHECK FOR OPEN IN CAN BUS WIRE (SKID CONTROL ECU BRANCH WIRE)

a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE SKID CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (SKID CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the A24 and A25 master cylinder solenoid (skid control ECU) connectors.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A24-1 (GND1) - Body ground | Always | Below 1 Ω |
| A24-32 (GND2) - Body ground | | |
| A25-4 (GND3) - Body ground | | |

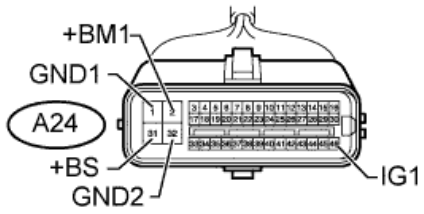
d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

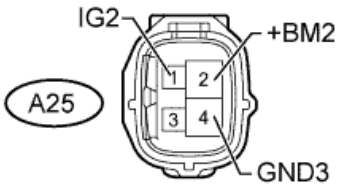
| | | Specified |
|---|---|---|

| Tester Connection | Switch Condition | Condition |
|---|---|---|
| A24-2 (+BM1) - Body ground | Always | 11 to 14 V |
| A24-31 (+BS) - Body ground | | |
| A25-2 (+BM2) - Body ground | | |
| A24-46 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |
| A25-1 (IG2) - Body ground | | |

Front view of wire harness connector:
(to Skid Control ECU)




Front view of wire harness connector:
(to Skid Control ECU)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MASTER CYLINDER SOLENOID (SKID CONTROL ECU) ( Click here )

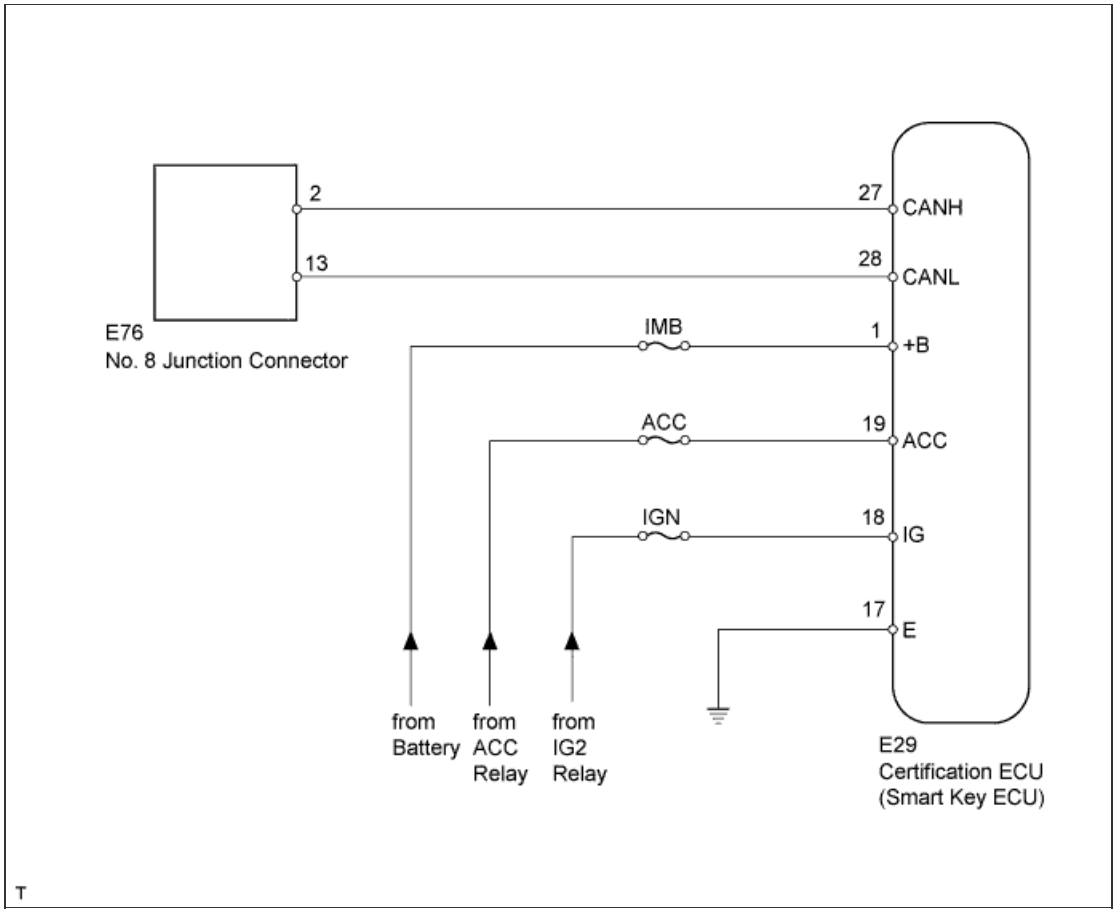
## DTC U0327 Software Incompatibility with Vehicle Security Control Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0327 | There is no communication from the certification ECU. | • Power source circuit of certification ECU (smart key ECU assembly)<br>• Certification ECU (smart key ECU assembly)<br>• Certification ECU (smart key ECU assembly) branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

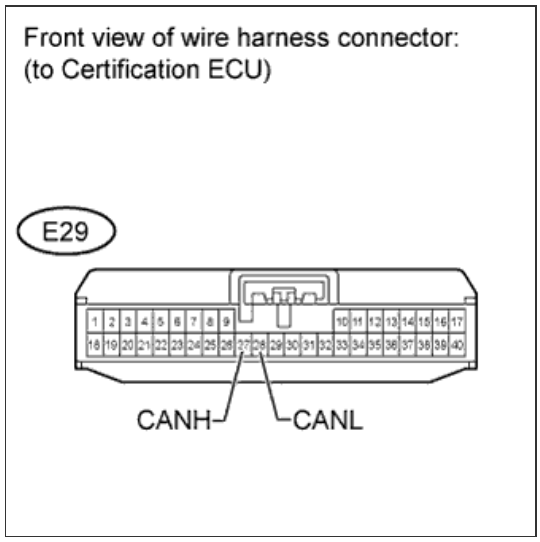
**2.CHECK FOR OPEN IN CAN BUS WIRE (CERTIFICATION ECU BRANCH WIRE)**

a. Disconnect the E29 certification ECU (smart key ECU) connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE CERTIFICATION ECU (SMART KEY ECU) BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

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

a. 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).

b. Disconnect the E29 certification ECU (smart key ECU) connector.

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

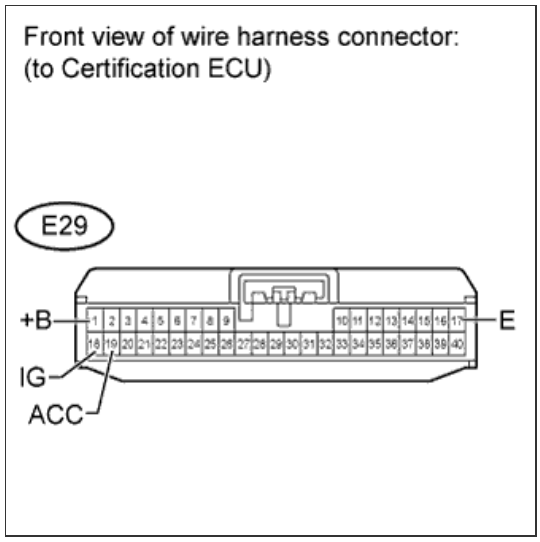
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-17 (E) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E29-1 (+B) - Body ground | Always | 11 to 14 V |
| E29-19 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| E29-18 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CERTIFICATION ECU ASSEMBLY (SMART KEY ECU)

## DTC U0122 Lost Communication with Vehicle Dynamics Control Module

## DTC U0129 Lost Communication with Brake System Control Module

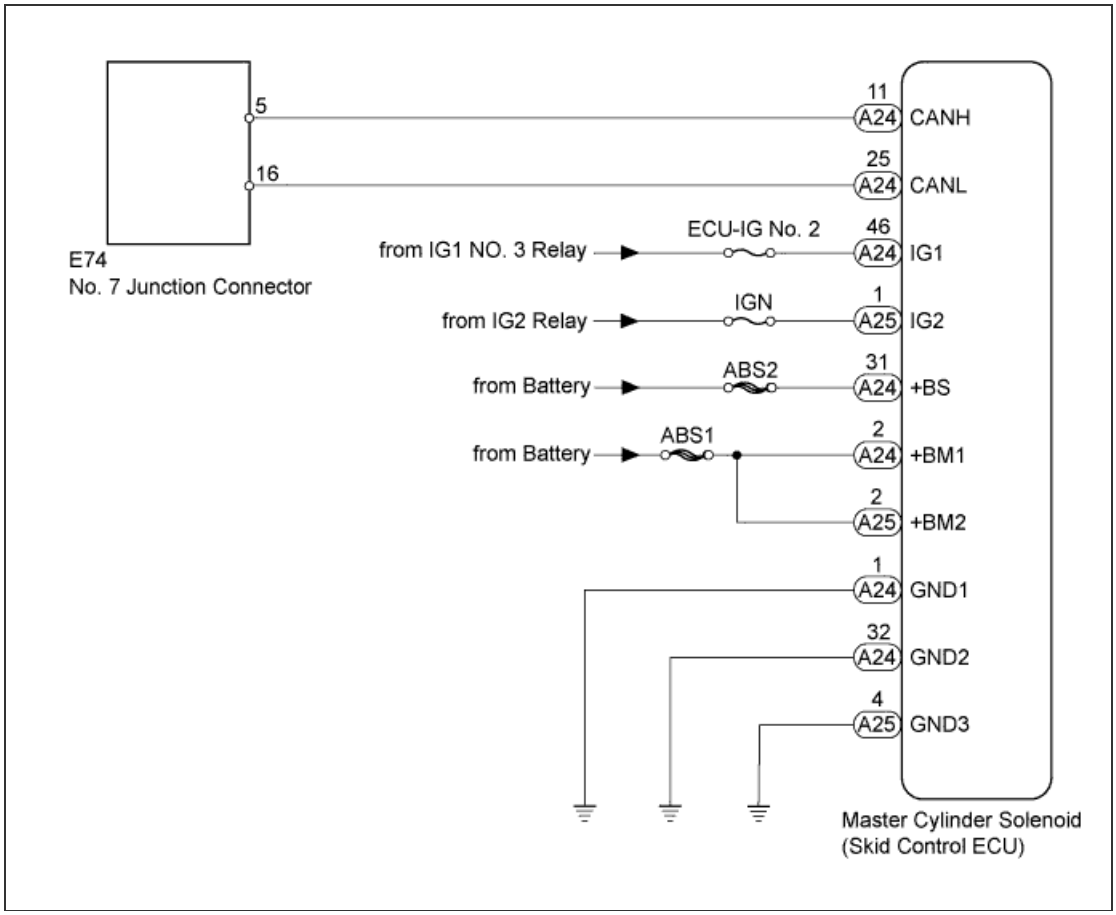
**for Preparation** Click here

### DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0122 | There is no communication from the master cylinder solenoid (skid control ECU). | • Power source circuit of master cylinder solenoid (skid control ECU)<br>• One side of CAN branch wire of other systems<br>• Master cylinder solenoid (skid control ECU)<br>• Master cylinder solenoid (skid control ECU) branch wire or connector |
| U0129 | There is no communication from the master cylinder solenoid (skid control ECU). | • Power source circuit of master cylinder solenoid (skid control ECU)<br>• One side of CAN branch wire of other systems<br>• Master cylinder solenoid (skid control ECU)<br>• Master cylinder solenoid (skid control ECU) branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

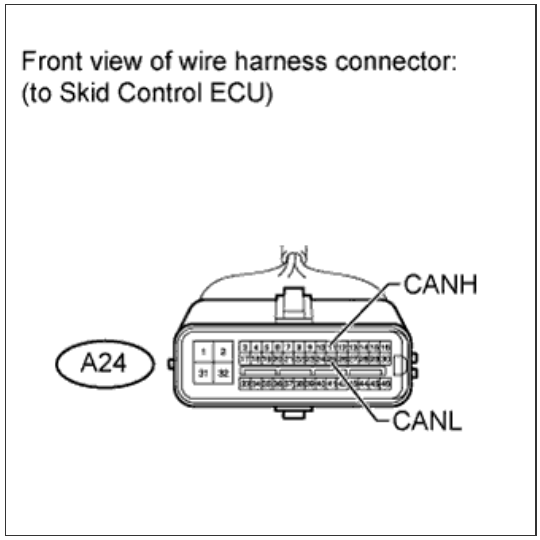
## 2.CHECK FOR OPEN IN CAN BUS WIRE (SKID CONTROL ECU BRANCH WIRE)

a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE SKID CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (SKID CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the A24 and A25 master cylinder solenoid (skid control ECU) connectors.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A24-1 (GND1) - Body ground | Always | Below 1 Ω |
| A24-32 (GND2) - Body ground | | |
| A25-4 (GND3) - Body ground | | |

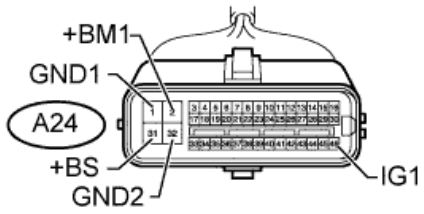
d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

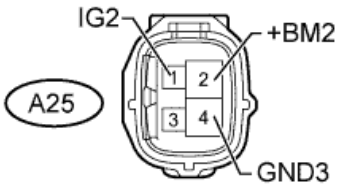
| | | Specified |
|---|---|---|

| Tester Connection | Switch Condition | Condition |
|---|---|---|
| A24-2 (+BM1) - Body ground | Always | 11 to 14 V |
| A24-31 (+BS) - Body ground | | |
| A25-2 (+BM2) - Body ground | | |
| A24-46 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |
| A25-1 (IG2) - Body ground | | |

Front view of wire harness connector:
(to Skid Control ECU)




Front view of wire harness connector:
(to Skid Control ECU)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MASTER CYLINDER SOLENOID (SKID CONTROL ECU) ( Click here )

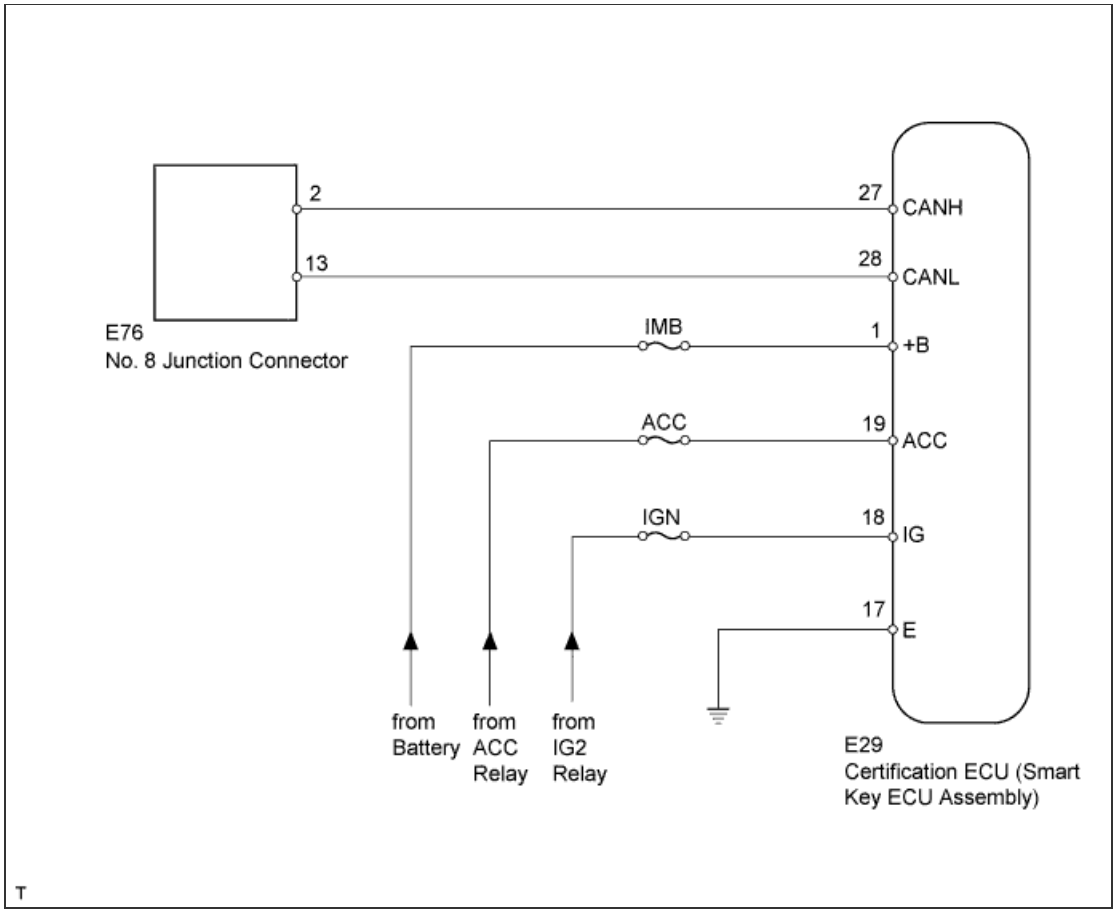
## DTC U0327 Software Incompatibility with Vehicle Security Control Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0327 | There is no communication from the certification ECU (smart key ECU assembly). | • Power source circuit of certification ECU (smart key ECU assembly)<br>• Certification ECU (smart key ECU assembly) CAN branch wire or connector<br>• Certification ECU (smart key ECU assembly) |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

- **Before replacing the certification ECU (smart key ECU assembly), refer to the entry and start system (for Entry Function) ( Click here).**
- **Inspect the fuses for circuits related to this system before performing the following inspection procedure.**

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (CERTIFICATION ECU CAN BRANCH WIRE)

a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

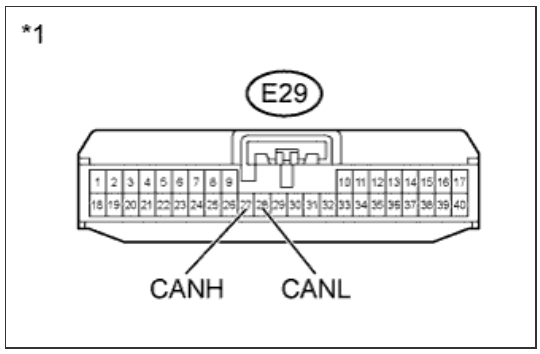
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Certification ECU [Smart Key ECU Assembly]) |




NG → REPAIR OR REPLACE CERTIFICATION ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - BATTERY AND BODY GROUND)

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

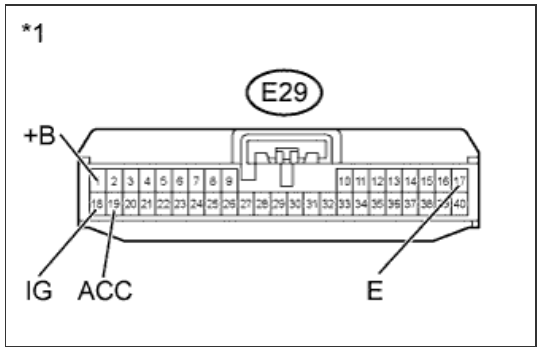
**NOTICE:**

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

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-1 (+B) - Body ground | Always | 11 to 14 V |
| E29-19 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| E29-18 (IG) - 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 |
|---|---|---|
| E29-17 (E) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Certification ECU [Smart Key ECU Assembly]) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CERTIFICATION ECU ASSEMBLY (SMART KEY ECU)

## DTC U0123 Lost Communication with Yaw Rate Sensor Module

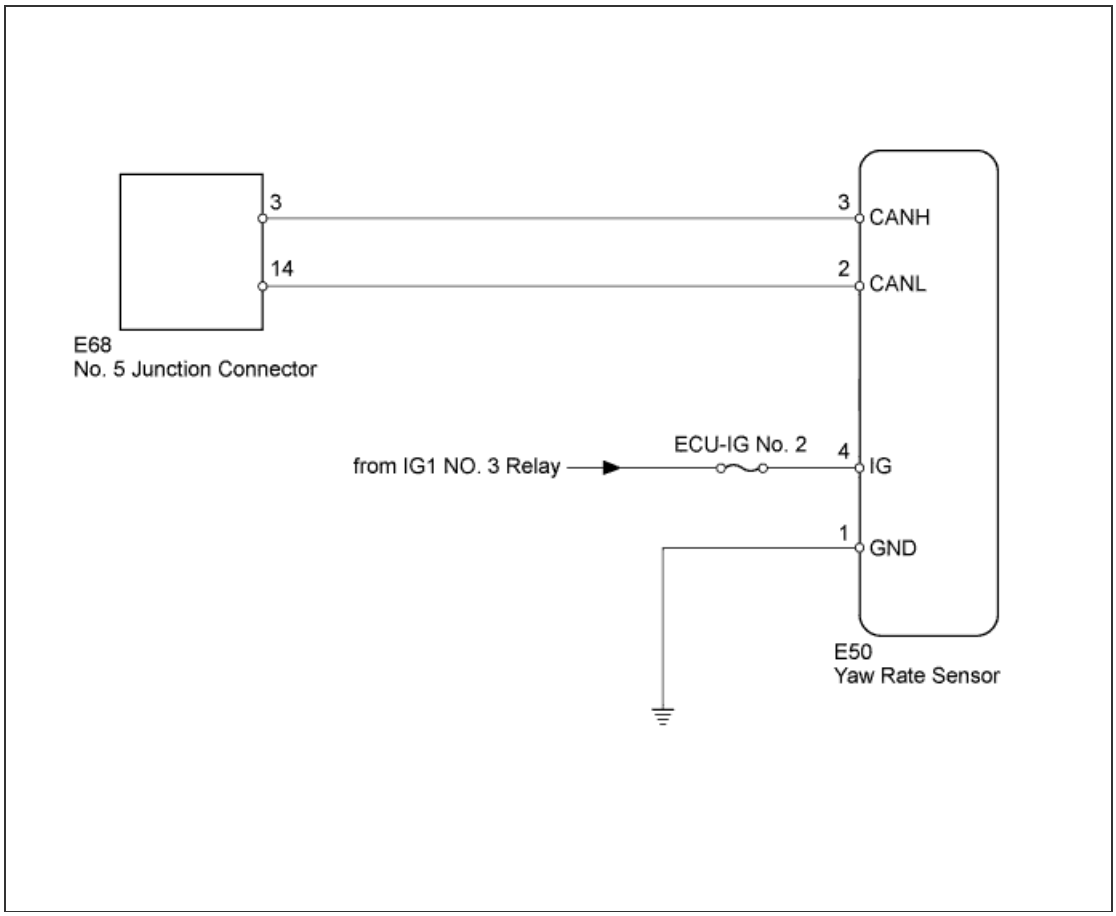
## DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0123 | There is no communication from the yaw rate sensor. | • Power source circuit of yaw rate sensor assembly<br>• Yaw rate sensor assembly<br>• Yaw rate sensor branch wire or connector |
| U0124 | There is no communication from the yaw rate sensor (lateral acceleration sensor). | • Power source circuit of yaw rate sensor assembly<br>• Yaw rate sensor assembly<br>• Yaw rate sensor branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

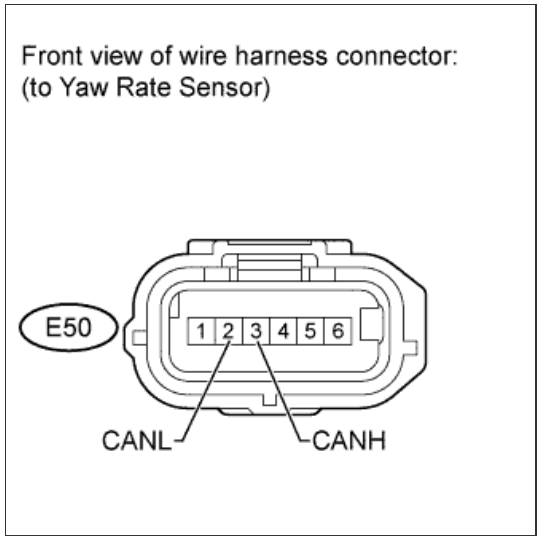
## 2.CHECK FOR OPEN IN CAN BUS WIRE (YAW RATE SENSOR BRANCH WIRE)

a. Disconnect the E50 yaw rate sensor connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE YAW RATE SENSOR BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (YAW RATE SENSOR - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E50 yaw rate sensor connector.

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

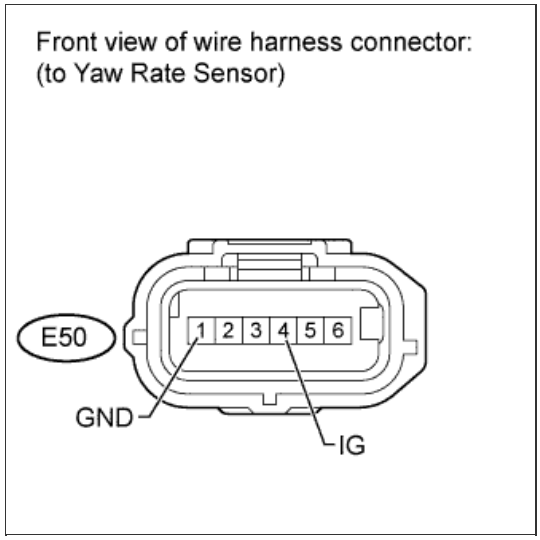
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E50-1 (GND) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-4 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE YAW RATE SENSOR ASSEMBLY (Click here)

## DTC U1002 (CAN MS BUS) Lost Communication with Gateway Module (Main body ECU)

**for Preparation** Click here

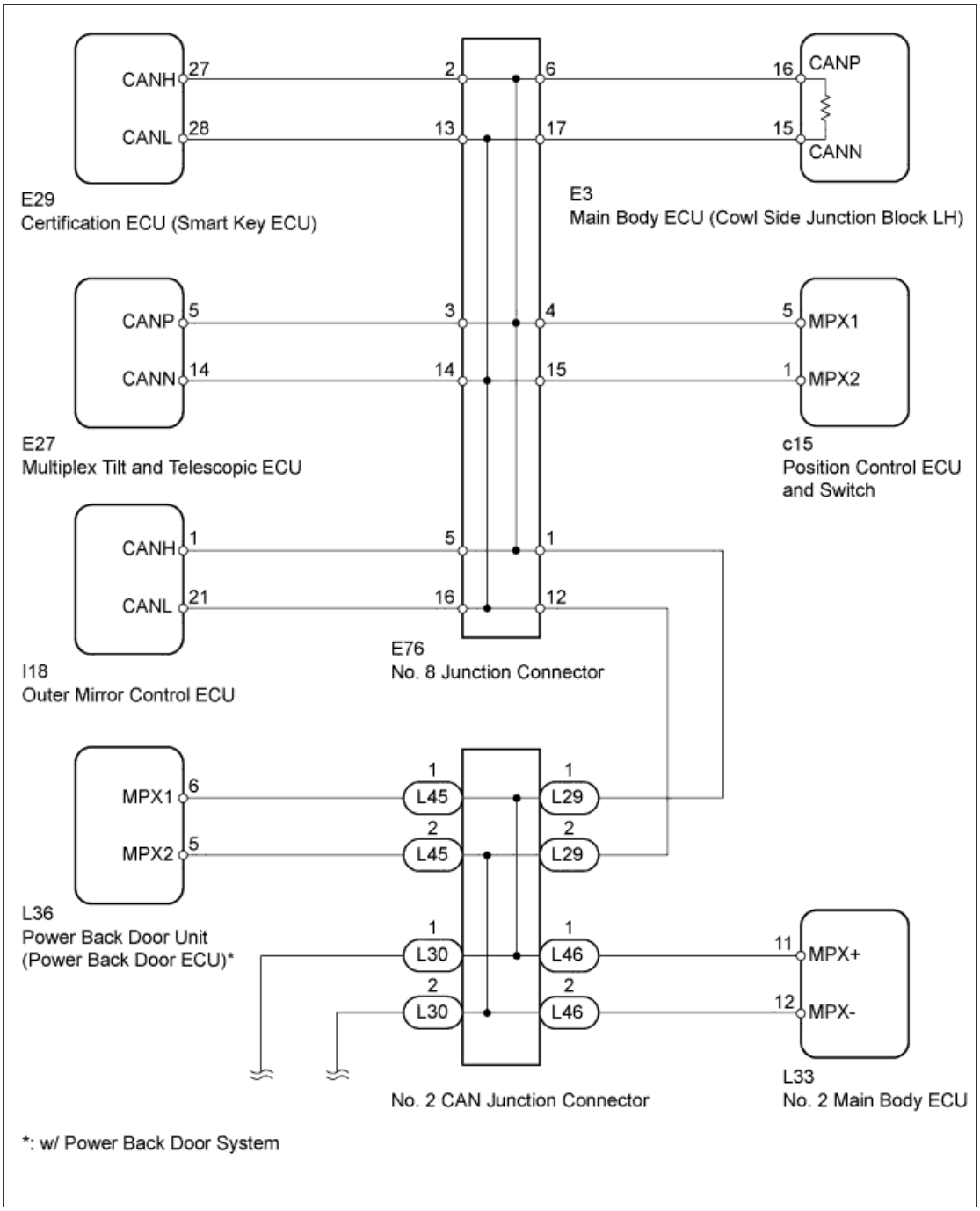
### DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (one side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

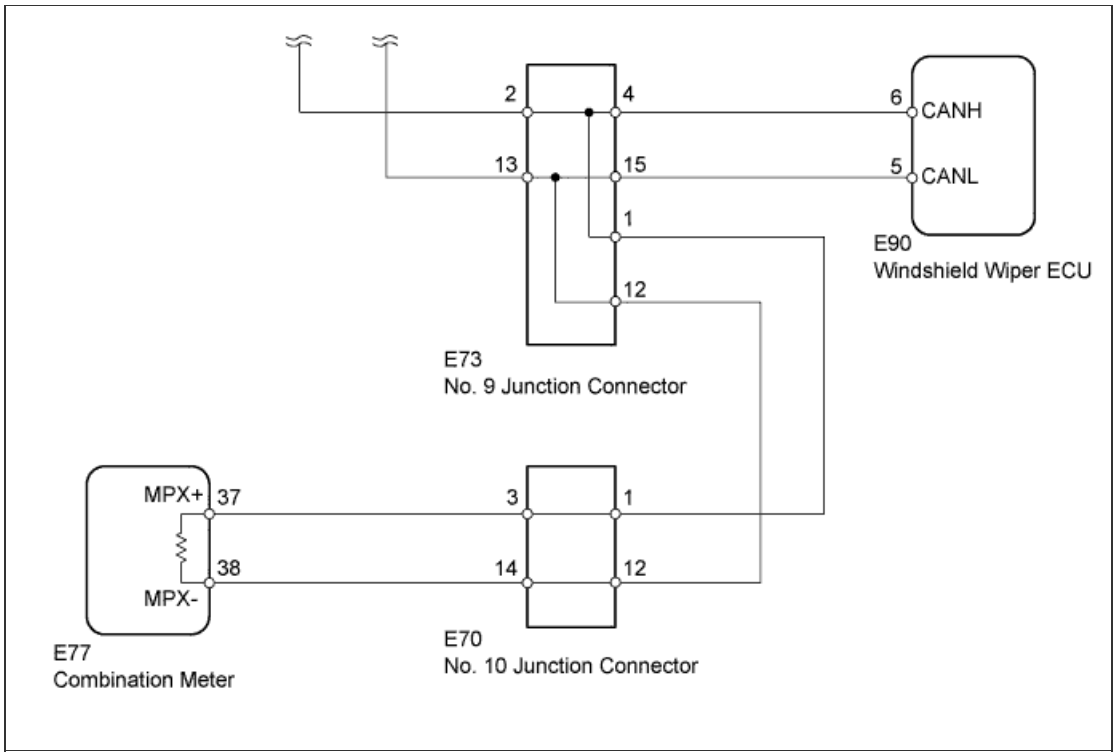
| DTC Code | Symptom | Trouble Area |
|---|---|---|
| U1002 (CAN MS BUS) | Lost communication with the gateway module (main body ECU). | • MS bus circuit<br>• Certification ECU (smart key ECU assembly) branch wire or connector<br>• Position control ECU and switch branch wire or connector<br>• Outer mirror control ECU branch wire or connector<br>• Multiplex tilt and telescopic ECU branch wire or connector<br>• Power back door unit (power back door ECU) branch wire or connector*<br>• Windshield wiper ECU branch wire or connector<br>• No. 2 main body ECU branch wire or connector<br>• Main body ECU (cowl side junction block LH) main wire or connector<br>• Combination meter main wire or connector<br>• Certification ECU (smart key ECU assembly)<br>• Position control ECU and switch assembly<br>• Outer mirror control ECU assembly<br>• Multiplex tilt and telescopic ECU<br>• Power back door unit assembly (power back door ECU)*<br>• No. 2 main body ECU<br>• Main body ECU (cowl side junction block LH)<br>• Combination meter assembly<br>• No. 8 junction connector<br>• No. 9 junction connector<br>• No. 10 junction connector<br>• No. 2 CAN junction connector |

*: w/ Power Back Door System

### WIRING DIAGRAM




*: w/ Power Back Door System




## INSPECTION PROCEDURE

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

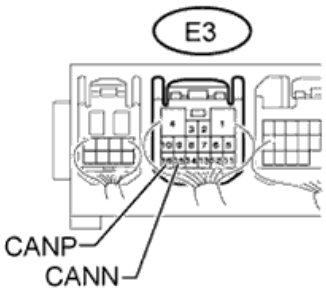
### 2.CHECK CAN BUS WIRE (MAIN WIRE FOR DISCONNECTION, BUS LINE FOR SHORT CIRCUIT)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Resistance Malfunction |
|---|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 54 to 69 Ω | Below 53 Ω: Short in line |
| | | | 70 Ω or higher: Open in CAN main bus line |
| E3-16 (CANP) - 2A-1 (ALTB) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E3-15 (CANN) - 2A-1 (ALTB) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E3-16 (CANP) - 2D-62 (GND2) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |
| E3-15 (CANN) - 2D-62 (GND2) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |

Component with harness connected:
(Main Body ECU)




T

**Result**

| Result | Proceed to |
|---|---|
| NG<br>- Open in CAN main bus line | A |
| NG<br>- Short in line<br>- +B short<br>- Ground short | B |
| OK | C |

B → Go to step 18

C → Go to step 55

A

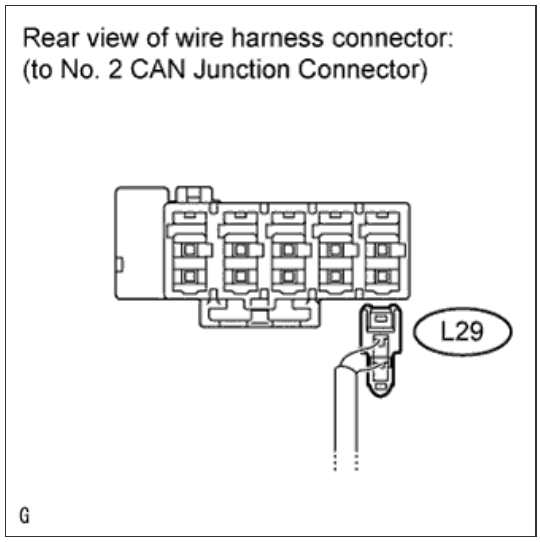
## 3.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 CAN JUNCTION CONNECTOR - MAIN BODY ECU)

a. Disconnect the L29 No. 2 CAN junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L29-1 (CANH) - L29-2 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 5

OK

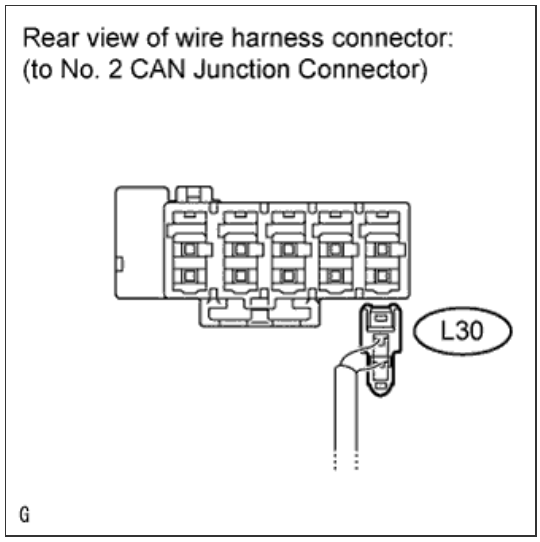
## 4.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 CAN JUNCTION CONNECTOR - COMBINATION METER)

a. Disconnect the L30 No. 2 CAN junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L30-1 (CANH) - L30-2 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 10

OK

REPAIR OR REPLACE NO. 2 CAN JUNCTION CONNECTOR

5.CONNECT CONNECTOR

a. Reconnect the L29 No. 2 CAN junction connector connector.

NEXT

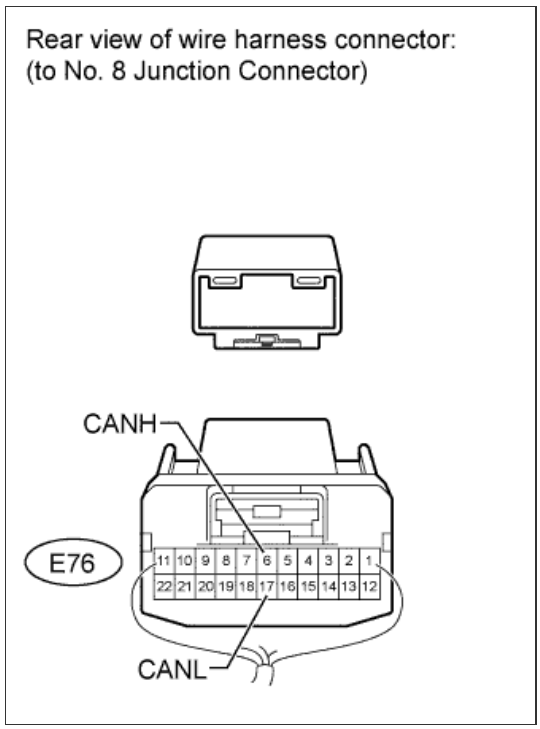
6.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 8 JUNCTION CONNECTOR - MAIN BODY ECU)

a. Disconnect the E76 No. 8 junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-6 (CANH) - E76-17 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 8

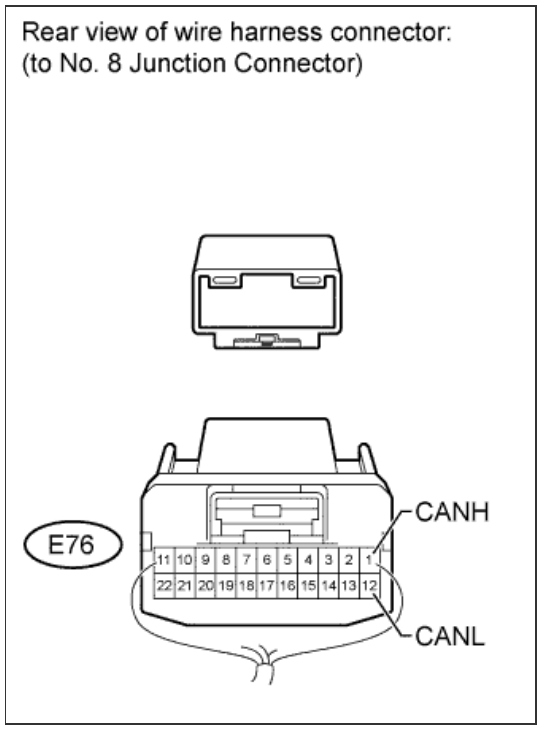
OK

7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-1 (CANH) - E76-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

OK

REPAIR OR REPLACE NO. 8 JUNCTION CONNECTOR

8.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector connector.

NEXT

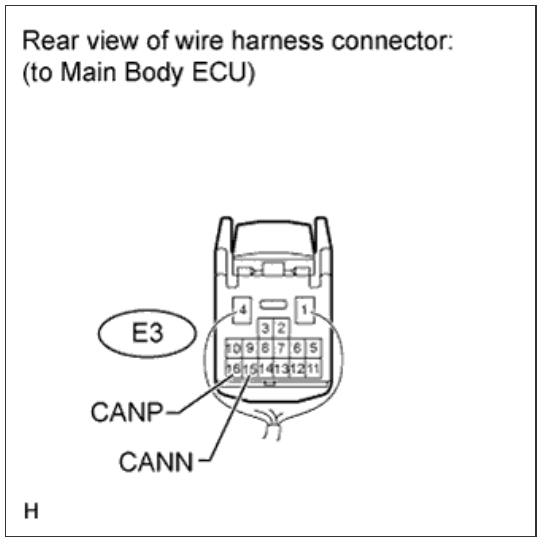
9.CHECK FOR OPEN IN CAN BUS MAIN WIRE (MAIN BODY ECU - NO. 8 JUNCTION CONNECTOR)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (MAIN BODY ECU - NO. 8 JUNCTION CONNECTOR)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

10.CONNECT CONNECTOR

a. Reconnect the L29 and L30 No. 2 CAN junction connector connectors.

NEXT

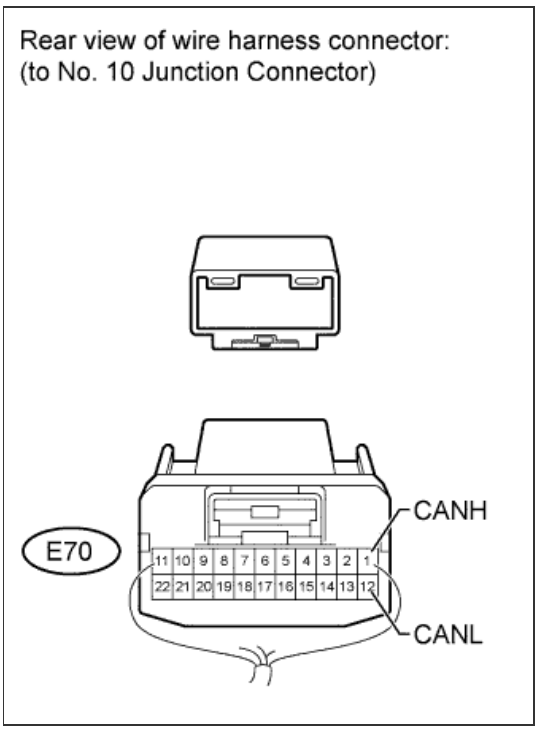
11.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

a. Disconnect the E70 No. 10 junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E70-1 (CANH) - E70-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 15

OK

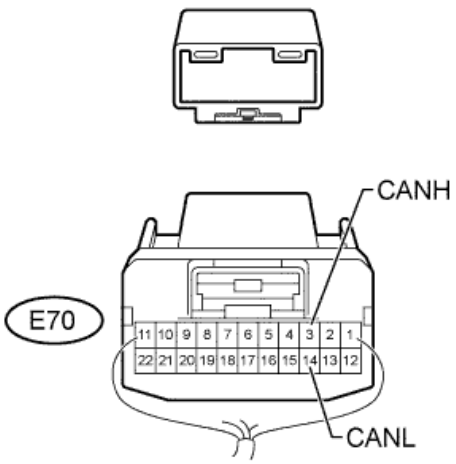
12.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 10 JUNCTION CONNECTOR - COMBINATION METER)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E70-3 (CANH) - E70-14 (CANL) | Engine switch off | 108 to 132 Ω |

Rear view of wire harness connector:
(to No. 10 Junction Connector)




NG → Go to step 13

OK

REPAIR OR REPLACE NO. 10 CAN JUNCTION CONNECTOR

13.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector connector.

NEXT

14.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER - NO. 10 JUNCTION CONNECTOR)

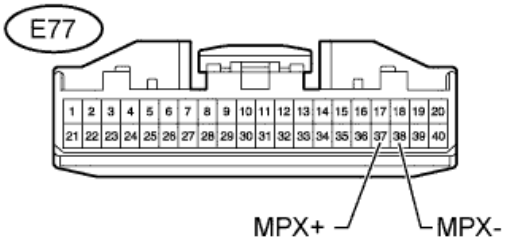
a. Disconnect the E77 combination meter connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-37 (MPX+) - E77-38 (MPX-) | Engine switch off | 108 to 132 Ω |

Front view of wire harness connector:
(to Combination Meter)




T

NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (COMBINATION METER - NO. 10 JUNCTION BLOCK)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

## 15.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector connector.

NEXT

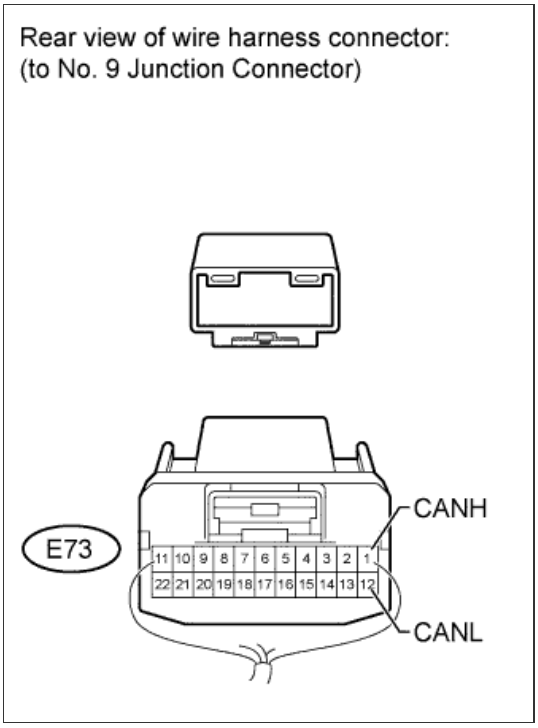
## 16.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

a. Disconnect the E73 No. 9 junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-1 (CANH) - E73-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

OK

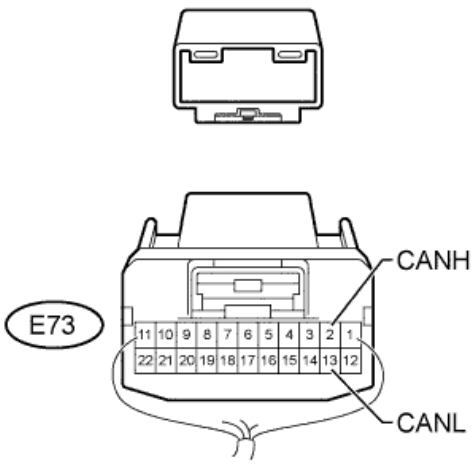
## 17.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-2 (CANH) - E73-13 (CANL) | Engine switch off | 108 to 132 Ω |

Rear view of wire harness connector:
(to No. 9 Junction Connector)




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

OK

REPAIR OR REPLACE NO. 9 JUNCTION CONNECTOR

18.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR SIDE)

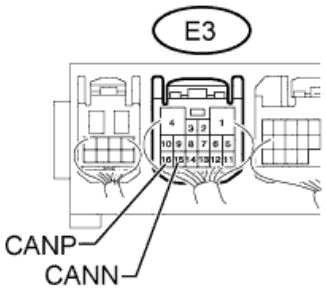
a. Disconnect the E70 No. 10 junction connector connector.

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

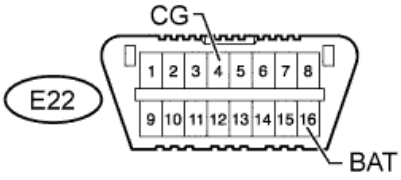
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Component with harness connected:
(Main Body ECU)




Front view of DLC3:




T

NG → Go to step 20

OK

19.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR - COMBINATION METER)

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

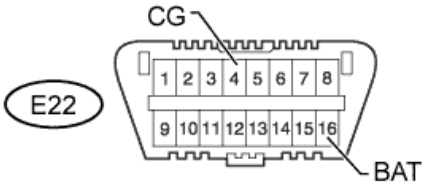
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E70-3 (CANH) - E70-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E70-3 (CANH) - E70-14 (CANL) | Engine switch off | Below 1 Ω | NG |
| E70-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E70-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E70-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E70-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E70-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E70-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E70-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E70-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 10 Junction Connector)




Front view of DLC3:




NG → Go to step 37

OK

REPAIR OR REPLACE NO. 10 JUNCTION CONNECTOR

## 20.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector connector.

NEXT

## 21.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

a. Disconnect the E73 No. 9 junction connector connector.

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

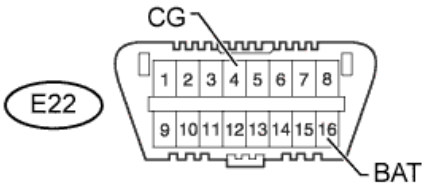
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-1 (CANH) - E73-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E73-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E73-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Rear view of wire harness connector:
(to No. 9 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 10 JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

OK

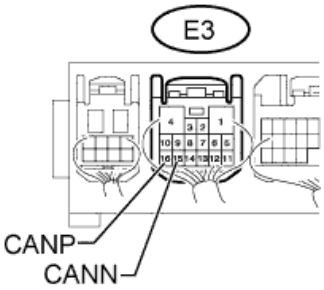
**22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR SIDE)**

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

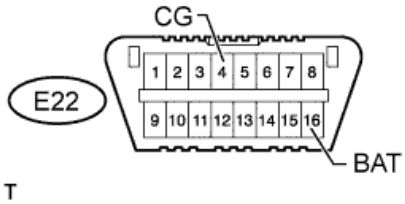
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Component with harness connected:
(Main Body ECU)




Front view of DLC3:




T

NG → Go to step 24

OK

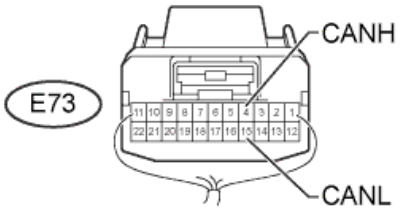
**23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - WINDSHIELD WIPER ECU)**

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

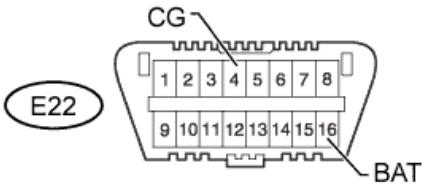
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E73-4 (CANH) - E73-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E73-4 (CANH) - E73-15 (CANL) | Engine switch off | Below 1 Ω | NG |
| E73-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E73-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E73-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E73-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E73-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E73-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E73-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E73-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 9 Junction Connector)




Front view of DLC3:




NG → Go to step 39

OK

**REPAIR OR REPLACE NO. 9 JUNCTION CONNECTOR**

**24.CONNECT CONNECTOR**

a. Reconnect the E73 No. 9 junction connector connector.

NEXT

**25.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)**

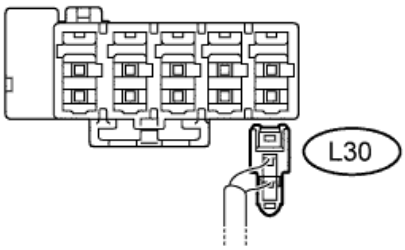
a. Disconnect the L30 No. 2 CAN junction connector connector.

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

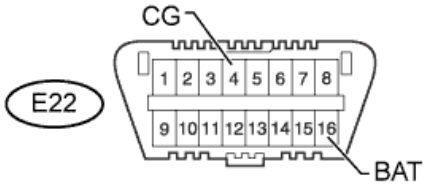
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L30-1 (CANH) - L30-2 (CANL) | Engine switch off | 108 to 132 Ω |
| L30-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L30-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L30-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| L30-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Rear view of wire harness connector:
(to No. 2 CAN Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

OK

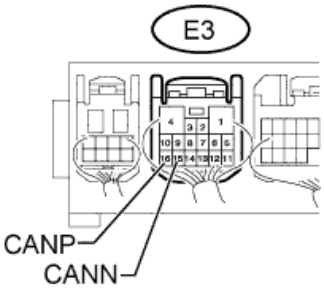
**26.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR SIDE)**

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

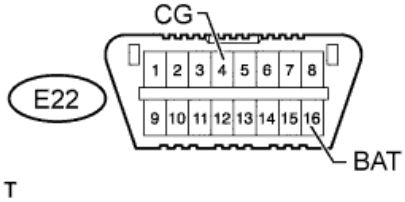
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Component with harness connected:
(Main Body ECU)




Front view of DLC3:




T

NG → Go to step 30

OK

Go to step 28

**27.CONNECT CONNECTOR**

a. Reconnect the E73 No. 9 junction connector connector.

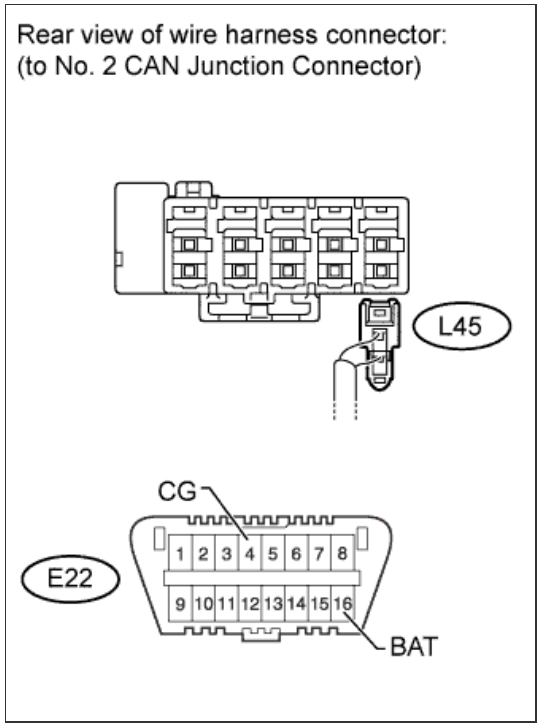
NEXT

## 28.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - POWER BACK DOOR UNIT)

**NOTICE:**

For vehicles without the power back door system, go to "Check for Short in CAN Bus Wires (No. 2 CAN Junction Connector - No. 2 Main Body ECU)".

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




**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| L45-1 (CANH) - L45-2 (CANL) | Engine switch off | 1 Ω or higher | OK |
| L45-1 (CANH) - L45-2 (CANL) | Engine switch off | Below 1 Ω | NG |
| L45-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L45-2 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L45-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L45-2 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L45-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L45-2 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L45-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| L45-2 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

NG → Go to step 41

OK

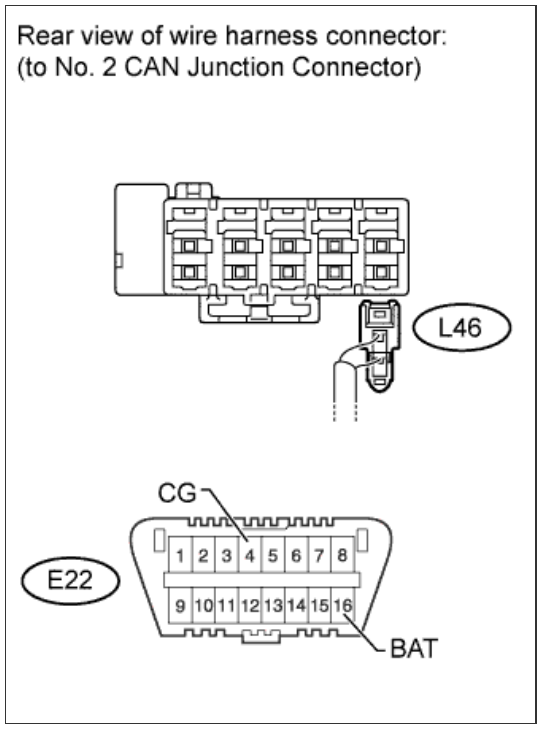
## 29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 2 MAIN BODY ECU)

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| L46-1 (CANH) - L46-2 (CANL) | Engine switch off | 1 Ω or higher | OK |
| L46-1 (CANH) - L46-2 (CANL) | Engine switch off | Below 1 Ω | NG |
| L46-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L46-2 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L46-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L46-2 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L46-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L46-2 (CANL) - E22-16 | Engine switch | | |

| | | | |
|---|---|---|---|
| (BAT) | off | 1 Ω or higher | OK |
| L46-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| L46-2 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 43

OK

REPLACE NO. 2 CAN JUNCTION CONNECTOR

30.CONNECT CONNECTOR

a. Reconnect the L29 and L30 No. 2 CAN junction connector connectors.

NEXT

Go to step 32

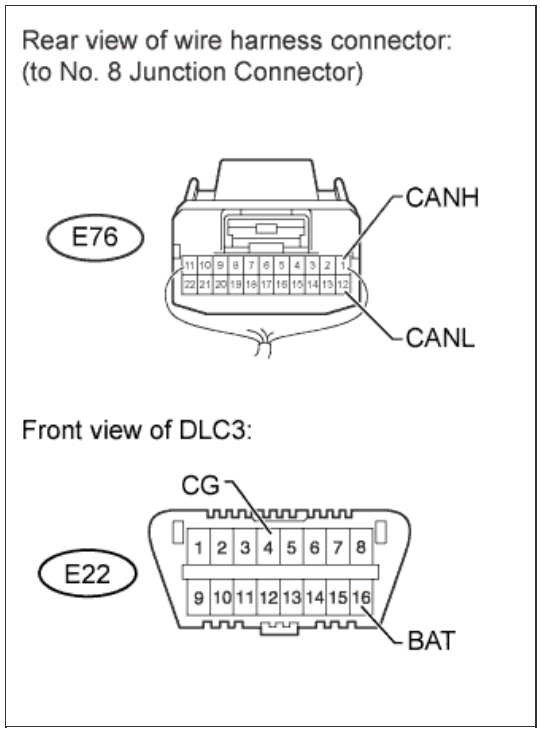
31.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 8 JUNCTION CONNECTOR)

a. Disconnect the E76 No. 8 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-1 (CANH) - E76-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E76-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

OK

Go to step 27

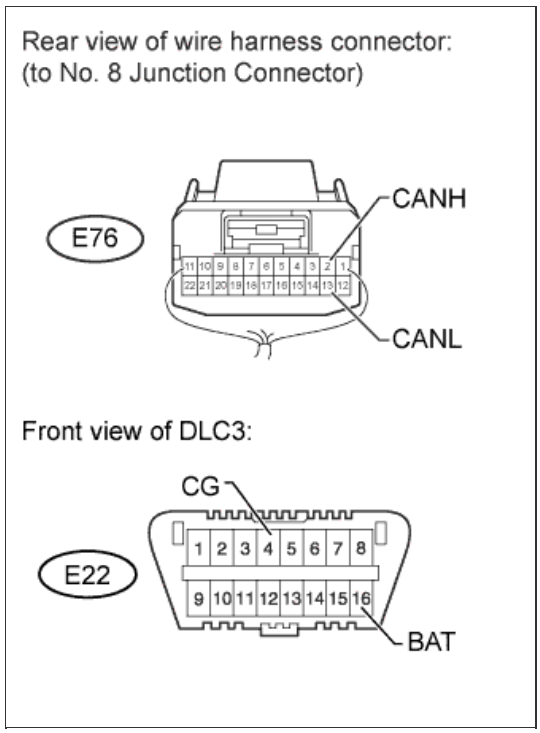
**32.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - CERTIFICATION ECU)**

a. Disconnect the E76 No. 8 junction connector connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E76-2 (CANH) - E76-13 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E76-2 (CANH) - E76-13 (CANL) | Engine switch off | Below 1 Ω | NG |
| E76-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E76-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 45

OK

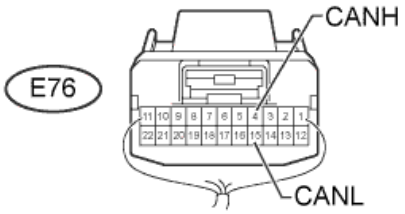
## 33.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - POSITION CONTROL ECU AND SWITCH)

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

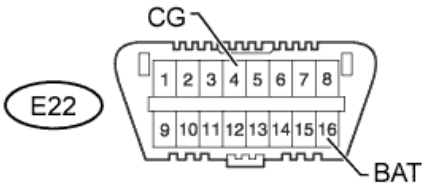
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E76-4 (CANH) - E76-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E76-4 (CANH) - E76-15 (CANL) | Engine switch off | Below 1 Ω | NG |
| E76-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E76-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 8 Junction Connector)




Front view of DLC3:




NG → Go to step 47

OK

## 34.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - MULTIPLEX TILT AND TELESCOPIC ECU)

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

**Result**

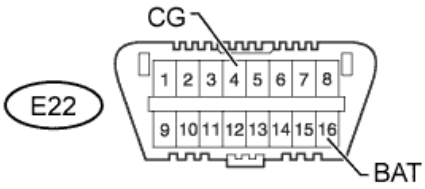
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E76-3 (CANH) - E76-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E76-3 (CANH) - E76-14 (CANL) | Engine switch off | Below 1 Ω | NG |
| E76-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

| | | | |
|---|---|---|---|
| E76-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 8 Junction Connector)




Front view of DLC3:




NG → Go to step 49

OK

## 35.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - OUTER MIRROR CONTROL ECU)

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

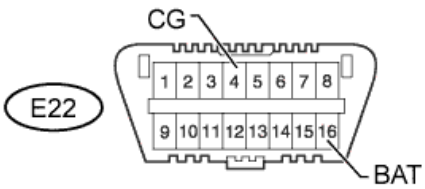
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E76-5 (CANH) - E76-16 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E76-5 (CANH) - E76-16 (CANL) | Engine switch off | Below 1 Ω | NG |
| E76-5 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-16 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-5 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-16 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-5 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-16 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-5 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E76-16 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 8 Junction Connector)




Front view of DLC3:




NG → Go to step 51

OK

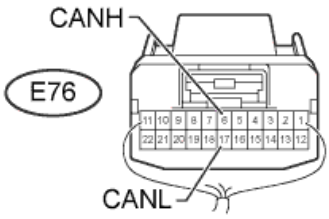
## 36.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - MAIN BODY ECU)

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

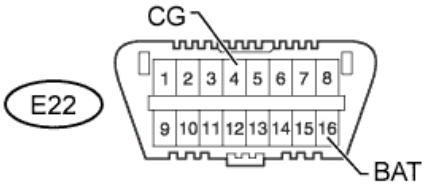
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E76-6 (CANH) - E76-17 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E76-6 (CANH) - E76-17 (CANL) | Engine switch off | Below 1 Ω | NG |
| E76-6 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-17 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-6 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-17 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-6 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-17 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-6 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E76-17 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 8 Junction Connector)




Front view of DLC3:




NG → Go to step 53

OK

REPAIR OR REPLACE NO. 8 JUNCTION CONNECTOR

## 37.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector connector.

NEXT

## 38.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER)

a. Disconnect the E77 combination meter connector.

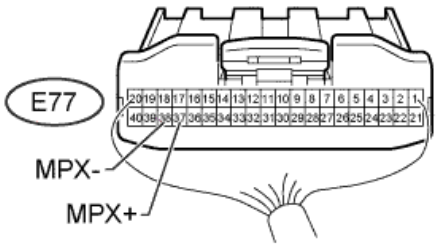
b. Measure the resistance according to the value(s) in the table below.

**Result**

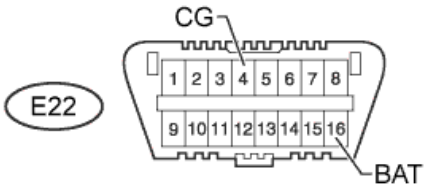
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E77-37 (MPX+) - E77-38 (MPX-) | Engine switch off | 1 Ω or higher | OK |
| E77-37 (MPX+) - E77-38 (MPX-) | Engine switch off | Below 1 Ω | NG |
| E77-37 (MPX+) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E77-38 (MPX-) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E77-37 (MPX+) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E77-38 (MPX-) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E77-37 (MPX+) - E22- | Engine | 1 Ω or higher | OK |

| | | | |
|---|---|---|---|
| 16 (BAT) | switch off | | |
| E77-38 (MPX-) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E77-37 (MPX+) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E77-38 (MPX-) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to Combination Meter)




Front view of DLC3




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (MPX+, MPX-)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

## 39.CONNECT CONNECTOR

a. Reconnect the E73 No. 9 junction connector connector.

NEXT

## 40.CHECK FOR SHORT IN CAN BUS WIRES (WINDSHIELD WIPER ECU)

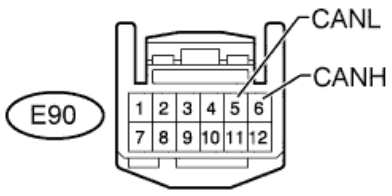
a. Disconnect the E90 windshield wiper ECU connector.

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

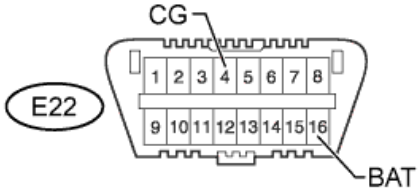
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E90-6 (CANH) - E90-5 (CANL) | Engine switch off | Below 1 Ω | NG |
| E90-6 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E90-5 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E90-6 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E90-5 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E90-6 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E90-5 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E90-6 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Windshield Wiper ECU)




Front view of DLC3:



| | | | |
|---|---|---|---|
| E90-5 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO WINDSHIELD WIPER ECU (CANH, CANL)

OK

REPLACE WINDSHIELD WIPER ECU (Click here)

41.CONNECT CONNECTOR

a. Reconnect the E73 No. 9 junction connector connector.

NEXT

42.CHECK FOR SHORT IN CAN BUS WIRES (POWER BACK DOOR UNIT)

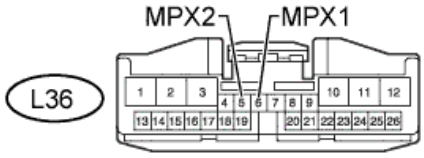
a. Disconnect the L36 power back door unit (power back door ECU) connector.

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

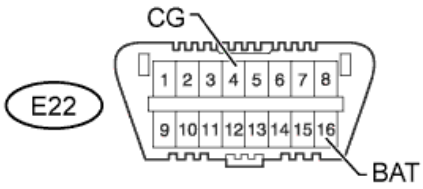
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | Engine switch off | 1 Ω or higher | OK |
| L36-6 (MPX1) - L36-5 (MPX2) | Engine switch off | Below 1 Ω | NG |
| L36-6 (MPX1) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L36-5 (MPX2) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L36-6 (MPX1) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L36-5 (MPX2) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L36-6 (MPX1) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L36-5 (MPX2) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L36-6 (MPX1) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| L36-5 (MPX2) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector: (to Power Back Door Unit)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO POWER BACK DOOR UNIT (POWER BACK DOOR ECU) (MPX1, MPX2)

OK

REPLACE POWER BACK DOOR UNIT ASSEMBLY (POWER BACK DOOR ECU) ( Click here)

43.CONNECT CONNECTOR

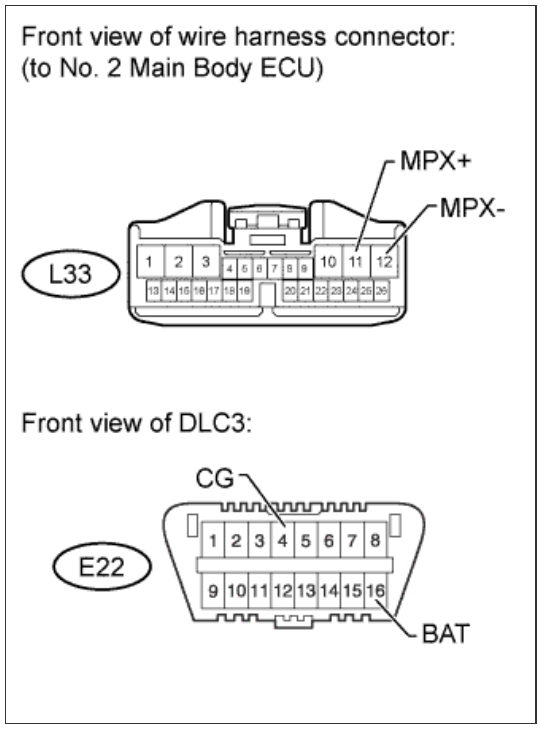
a. Reconnect the E73 No. 9 junction connector connector.

NEXT

44.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 MAIN BODY ECU)

a. Disconnect the L33 No. 2 main body ECU connector.

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




**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | Engine switch off | 1 Ω or higher | OK |
| L33-11 (MPX+) - L33-12 (MPX-) | Engine switch off | Below 1 Ω | NG |
| L33-11 (MPX+) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L33-12 (MPX-) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L33-11 (MPX+) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L33-12 (MPX-) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L33-11 (MPX+) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L33-12 (MPX-) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L33-11 (MPX+) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| L33-12 (MPX-) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NO. 2 MAIN BODY ECU (MPX+, MPX-)

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

## 45.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector connector.

NEXT

## 46.CHECK FOR SHORT IN CAN BUS WIRES (CERTIFICATION ECU (SMART KEY ECU ASSEMBLY))

a. Disconnect the E29 certification ECU (smart key ECU) connector.

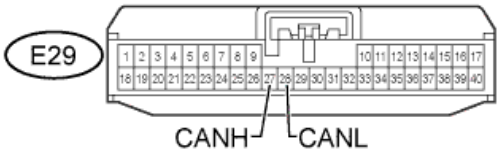
b. Measure the resistance according to the value(s) in the table below.

**Result**

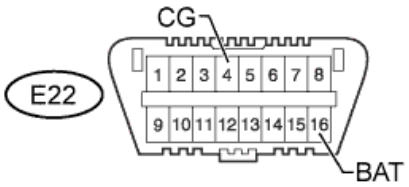
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E29-27 (CANH) - E29-28 (CANL) | Engine switch off | Below 1 Ω | NG |
| E29-27 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E29-28 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E29-27 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E29-28 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E29-27 (CANH) - E22- | Engine | | |

| | | | |
|---|---|---|---|
| 16 (BAT) | switch off | 1 Ω or higher | OK |
| E29-28 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E29-27 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E29-28 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

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




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CERTIFICATION ECU (SMART KEY ECU ASSEMBLY) (CANH, CANL)

OK → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

### 47.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector connector.

NEXT

### 48.CHECK FOR SHORT IN CAN BUS WIRES (POSITION CONTROL ECU AND SWITCH)

a. Disconnect the c15 position control ECU and switch connector.

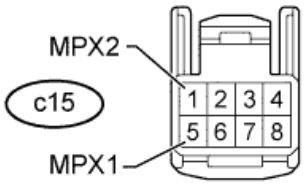
b. Measure the resistance according to the value(s) in the table below.

**Result**

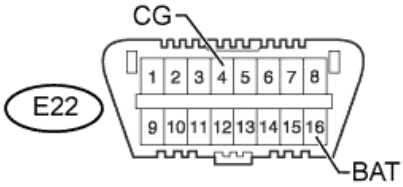
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| c15-5 (MPX1) - c15-1 (MPX2) | Engine switch off | 1 Ω or higher | OK |
| c15-5 (MPX1) - c15-1 (MPX2) | Engine switch off | Below 1 Ω | NG |
| c15-5 (MPX1) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| c15-1 (MPX2) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| c15-5 (MPX1) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| c15-1 (MPX2) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| c15-5 (MPX1) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| c15-1 (MPX2) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| c15-5 (MPX1) - E22- | Engine | | |

| | | | |
|---|---|---|---|
| 16 (BAT) | switch off | Below 1 Ω | NG |
| c15-1 (MPX2) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Position Control ECU and Switch)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO POSITION CONTROL ECU AND SWITCH (MPX1, MPX2)

OK

REPLACE POSITION CONTROL ECU AND SWITCH ASSEMBLY (Click here)

### 49.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector connector.

NEXT

### 50.CHECK FOR SHORT IN CAN BUS WIRES (MULTIPLEX TILT AND TELESCOPIC ECU)

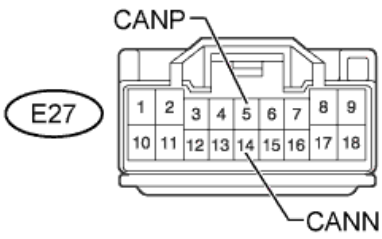
a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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

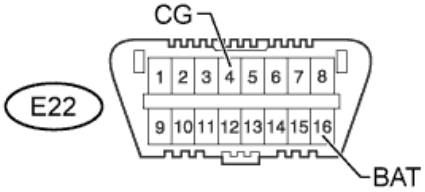
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | Engine switch off | 1 Ω or higher | OK |
| E27-5 (CANP) - E27-14 (CANN) | Engine switch off | Below 1 Ω | NG |
| E27-5 (CANP) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E27-14 (CANN) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E27-5 (CANP) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E27-14 (CANN) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E27-5 (CANP) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E27-14 (CANN) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E27-5 (CANP) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Multiplex Tilt and Telescopic ECU)




Front view of DLC3:



| | | | |
|---|---|---|---|
| E27-14 (CANN) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTIPLEX TILT AND TELESCOPIC ECU (CANP, CANN)

OK

REPLACE MULTIPLEX TILT AND TELESCOPIC ECU (Click here)

## 51.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector connector.

NEXT

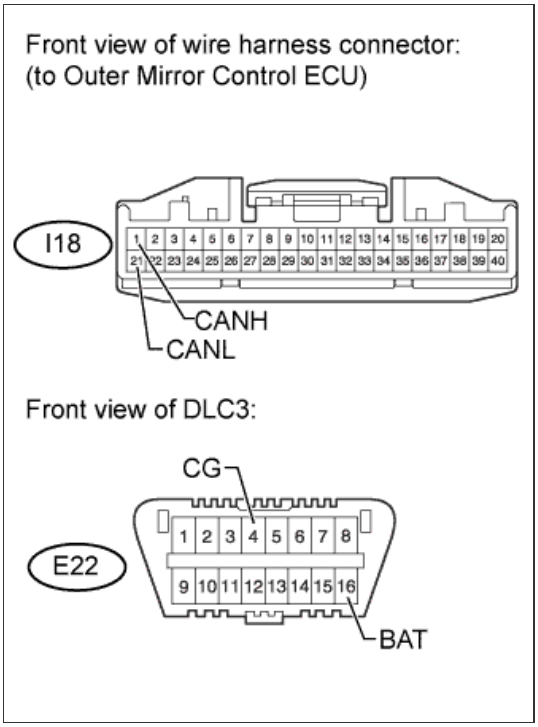
## 52.CHECK FOR SHORT IN CAN BUS WIRES (OUTER MIRROR CONTROL ECU)

a. Disconnect the I18 outer mirror control ECU connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| I18-1 (CANH) - I18-21 (CANL) | Engine switch off | 1 Ω or higher | OK |
| I18-1 (CANH) - I18-21 (CANL) | Engine switch off | Below 1 Ω | NG |
| I18-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| I18-21 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| I18-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| I18-21 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| I18-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| I18-21 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| I18-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| I18-21 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO OUTER MIRROR CONTROL ECU (CANH, CANL)

OK

REPLACE OUTER MIRROR CONTROL ECU ASSEMBLY (Click here)

## 53.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector connector.

NEXT

## 54.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

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

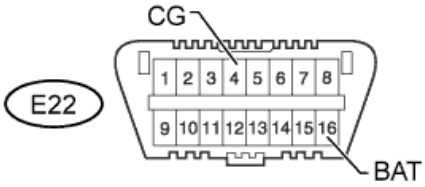
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 1 Ω or higher | OK |
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | Below 1 Ω | NG |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to Main Body ECU)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (CANP, CANN)

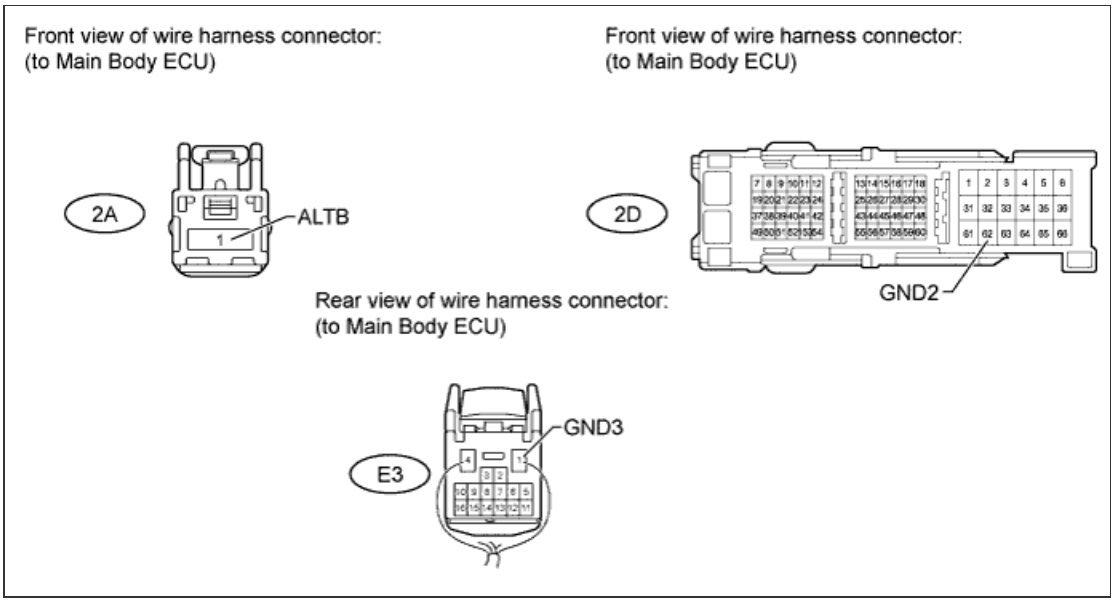
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

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

a. 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).




b. Disconnect the 2A, 2D and E3 main body ECU (cowl side junction block LH) connectors.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |
| E3-1 (GND3) - Body ground | | |

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

**Standard Voltage:**

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

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## DTC U0123 Lost Communication with Yaw Rate Sensor Module

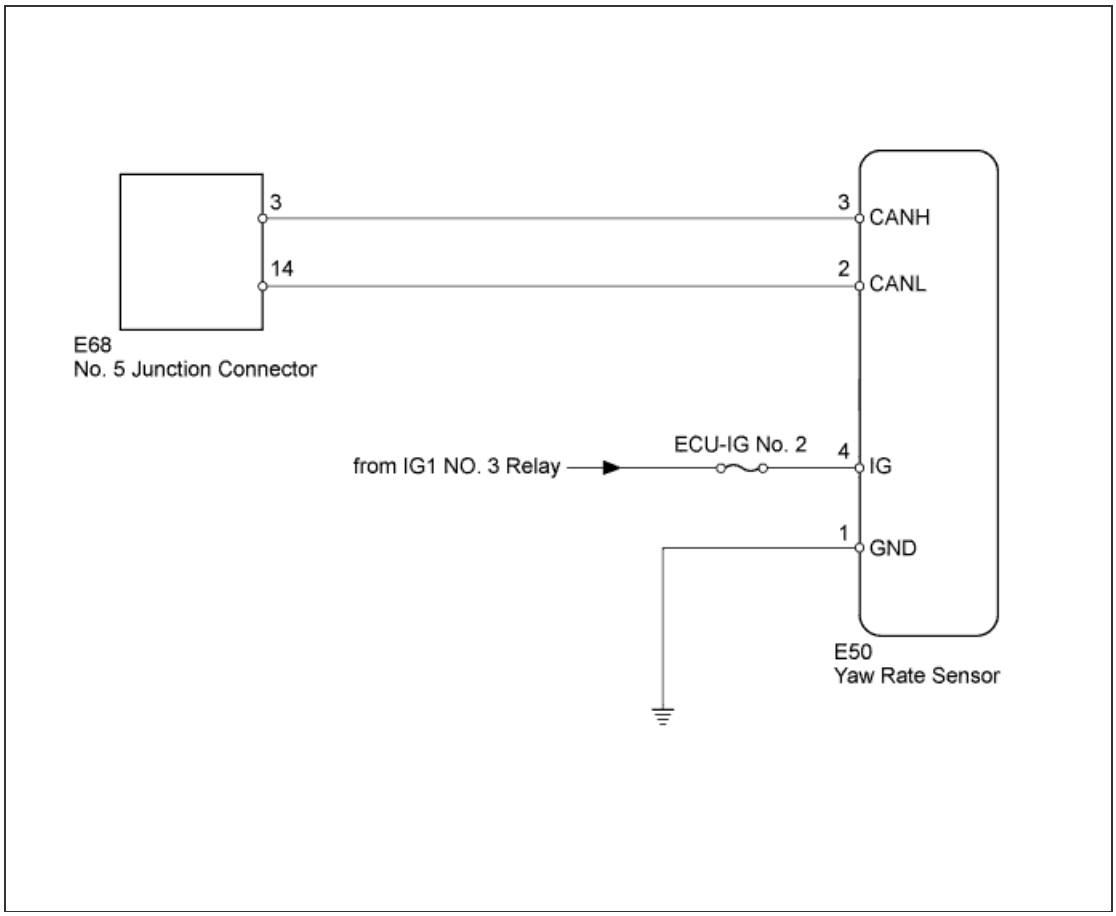
## DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0123 | There is no communication from the yaw rate sensor. | • Power source circuit of yaw rate sensor assembly<br>• Yaw rate sensor assembly<br>• Yaw rate sensor branch wire or connector |
| U0124 | There is no communication from the yaw rate sensor (lateral acceleration sensor). | • Power source circuit of yaw rate sensor assembly<br>• Yaw rate sensor assembly<br>• Yaw rate sensor branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

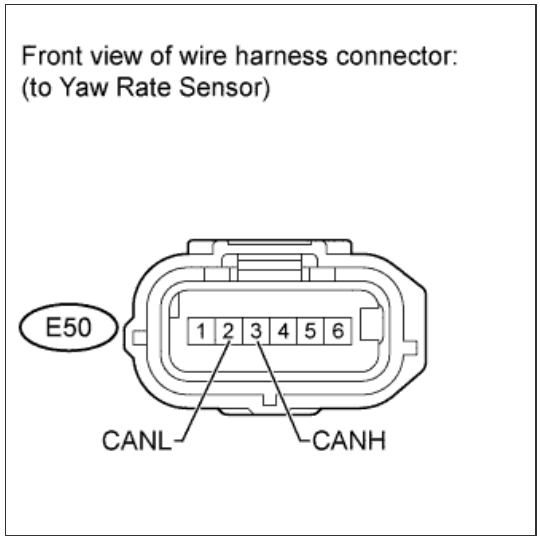
## 2.CHECK FOR OPEN IN CAN BUS WIRE (YAW RATE SENSOR BRANCH WIRE)

a. Disconnect the E50 yaw rate sensor connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE YAW RATE SENSOR BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (YAW RATE SENSOR - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E50 yaw rate sensor connector.

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

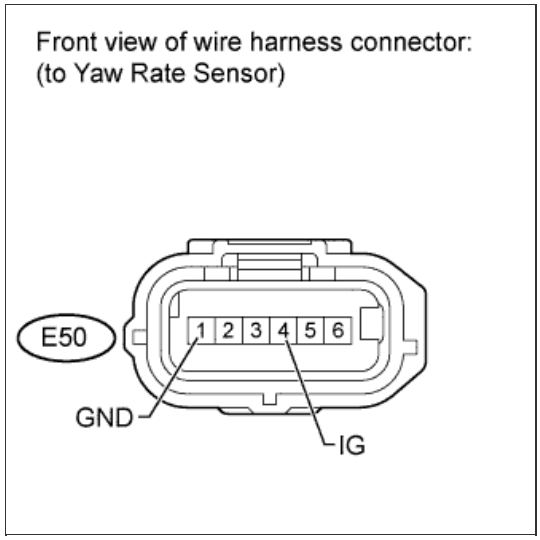
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E50-1 (GND) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-4 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE YAW RATE SENSOR ASSEMBLY (Click here)

## DTC U1002 (CAN MS BUS) Lost Communication with Gateway Module (Main body ECU)

**for Preparation** Click here

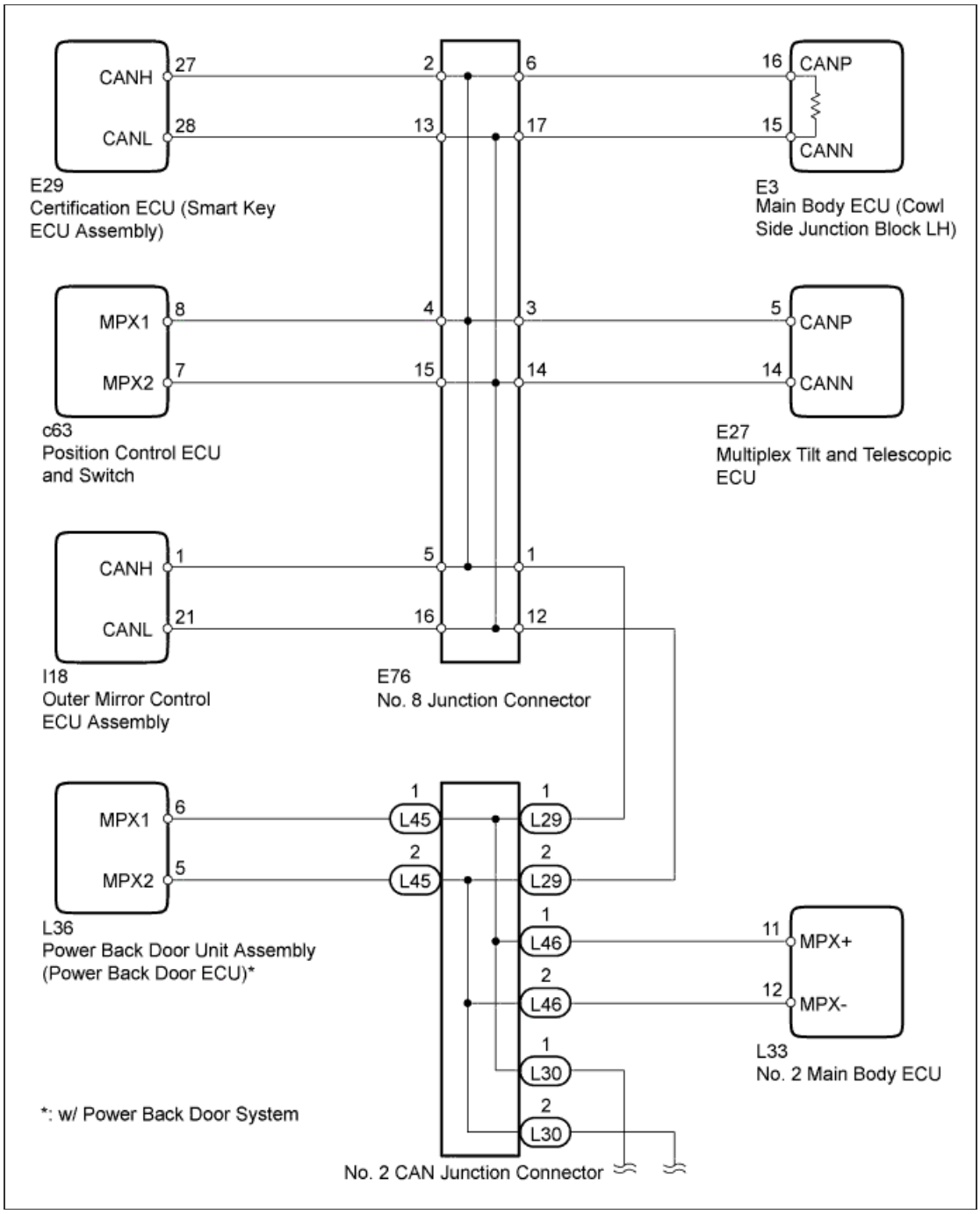
### DESCRIPTION

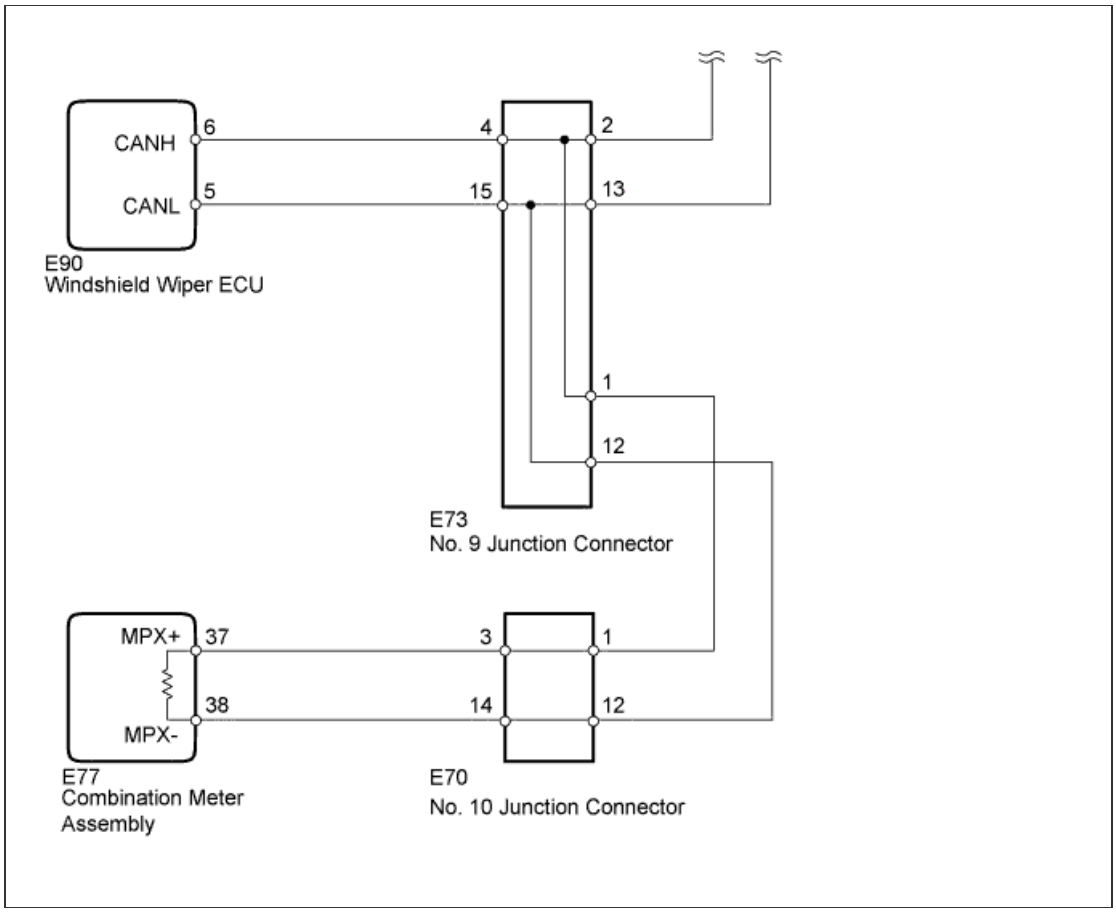
- The main body ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN MS bus.
- When the main body ECU receives a response signal from the ECUs connected to the CAN MS bus, the main body ECU recognizes and memorizes that the ECU is connected to the CAN MS bus. Based on this memorized data, the main body ECU monitors for malfunctions in the ECUs connected to the CAN MS bus when communicating with those ECUs. If the main body ECU cannot receive response signals from the ECUs that have been memorized as those connected to the CAN MS bus, the main body ECU determines that a malfunction exists.
- If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (one side of the CANH [CAN branch wire]/CANL [CAN branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1002 (CAN MS BUS) | Lost communication with the gateway module (main body ECU). | • MS bus circuit<br>• Windshield wiper ECU CAN branch wire or connector<br>• Position control ECU and switch CAN branch wire or connector<br>• Outer mirror control ECU assembly CAN branch wire or connector<br>• Multiplex tilt and telescopic ECU branch wire or connector<br>• Certification ECU (smart key ECU assembly) CAN branch wire or connector<br>• Power back door unit assembly (power back door ECU) CAN branch wire or connector*<br>• No. 2 main body ECU CAN branch wire or connector<br>• Main body ECU (cowl side junction block LH) CAN main wire or connector<br>• Combination meter assembly CAN main wire or connector<br>• Windshield wiper ECU<br>• Position control ECU and switch<br>• Outer mirror control ECU assembly<br>• Multiplex tilt and telescopic ECU<br>• Certification ECU (smart key ECU assembly)<br>• Power back door unit assembly (power back door ECU)*<br>• No. 2 main body ECU<br>• Main body ECU (cowl side junction block LH)<br>• Combination meter assembly<br>• No. 8 junction connector<br>• No. 9 junction connector<br>• No. 10 junction connector<br>• No. 2 CAN junction connector |

*: w/ Power Back Door System

### WIRING DIAGRAM


CANH
27
CANL
28
2
13
6
17
16
CANP
15
CANN
E29
Certification ECU (Smart Key ECU Assembly)
E3
Main Body ECU (Cowl Side Junction Block LH)
MPX1
8
MPX2
7
4
15
3
14
5
CANP
14
CANN
c63
Position Control ECU and Switch
E27
Multiplex Tilt and Telescopic ECU
CANH
1
CANL
21
5
16
1
12
I18
Outer Mirror Control ECU Assembly
E76
No. 8 Junction Connector
MPX1
6
MPX2
5
1
L45
2
L45
1
L29
2
L29
1
L46
2
L46
1
L30
2
L30
11
MPX+
12
MPX-
L36
Power Back Door Unit Assembly (Power Back Door ECU)*
L33
No. 2 Main Body ECU
*: w/ Power Back Door System
No. 2 CAN Junction Connector




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

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

**NEXT**

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**CAUTION:**

For vehicles with an SRS system:

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).

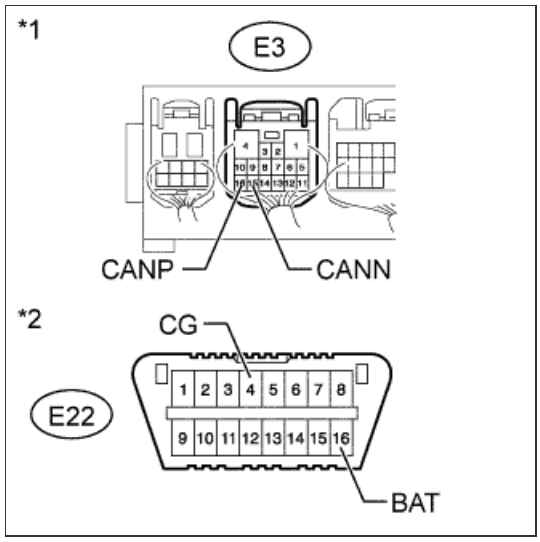
**NEXT**

### 3.CHECK CAN BUS WIRE (CAN MAIN WIRE FOR DISCONNECTION, CHECK BUS LINE FOR SHORT CIRCUIT)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Resistance Malfunction |
|---|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 54 to 69 Ω | Below 53 Ω: Short in line |
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 54 to 69 Ω | 70 Ω or higher: Open in CAN main bus line |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |




**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Main Body ECU [Cowl Side Junction Block LH]) |
| *2 | DLC3 |

**Result**

| Result | Proceed to |
|---|---|
| NG<br>• Open in CAN main wire | A |
| NG<br>• Short in line<br>• +B short<br>• Ground short | B |
| OK | C |

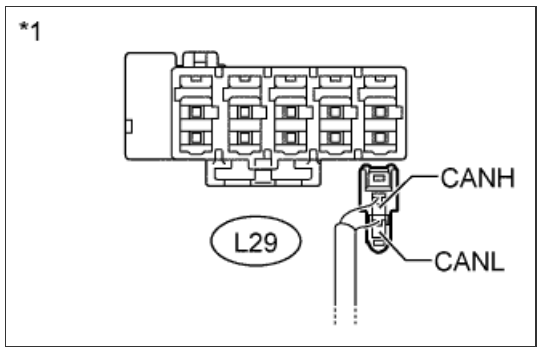
| | |
|---|---|
| B | Go to step 19 |
| C | Go to step 55 |

A

## 4.CHECK FOR OPEN IN MAIN BUS WIRE (NO. 2 CAN JUNCTION CONNECTOR - MAIN BODY ECU)

a. Disconnect the L29 No. 2 CAN junction connector.

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




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L29-1 (CANH) - L29-2 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 CAN Junction Connector) |

| | |
|---|---|
| NG | Go to step 6 |

OK

## 5.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 CAN JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)

a. Disconnect the L30 No. 2 CAN junction connector.

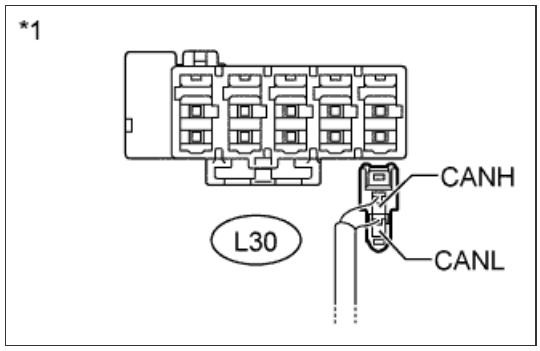
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L30-1 (CANH) - L30-2 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 CAN Junction Connector) |




NG → Go to step 11

OK

REPLACE NO. 2 CAN JUNCTION CONNECTOR

## 6.CONNECT CONNECTOR

a. Reconnect the L29 No. 2 CAN junction connector.

NEXT

## 7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 8 JUNCTION CONNECTOR - MAIN BODY ECU)

a. Disconnect the E76 No. 8 junction connector.

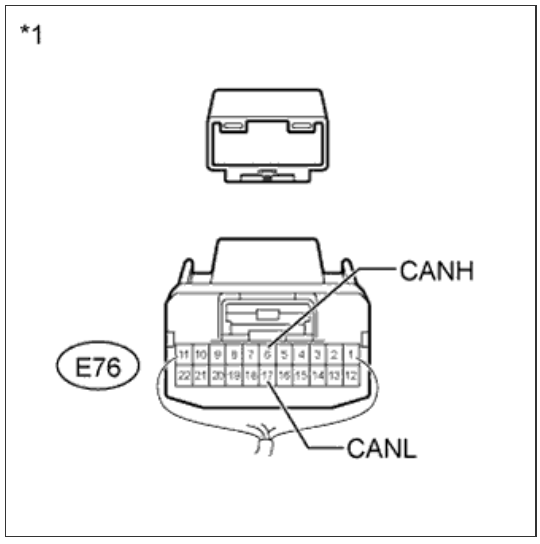
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-6 (CANH) - E76-17 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |




NG → Go to step 9

OK

## 8.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

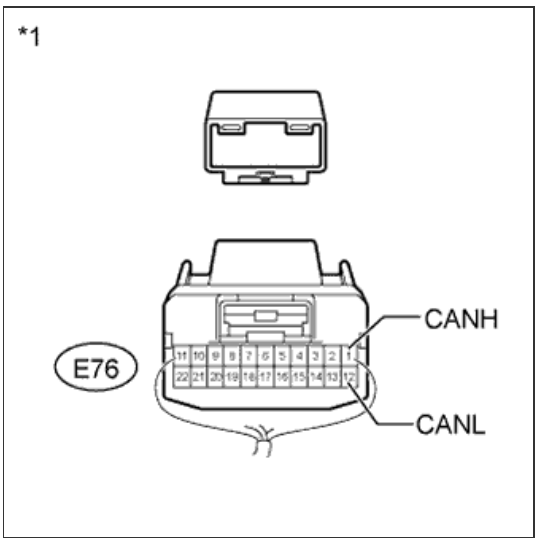
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-1 (CANH) - E76-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

OK

REPLACE NO. 8 JUNCTION CONNECTOR

## 9.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

## 10.CHECK FOR OPEN IN CAN BUS MAIN WIRE (MAIN BODY ECU - NO. 8 JUNCTION CONNECTOR)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

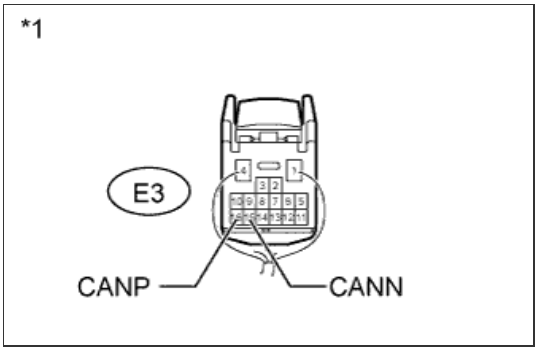
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO MAIN BODY ECU (MAIN BODY ECU - NO. 8 JUNCTION CONNECTOR)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 11.CONNECT CONNECTOR

a. Reconnect the L29 and L30 No. 2 CAN junction connectors.

NEXT

## 12.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 10 JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

a. Disconnect the E70 No. 10 junction connector.

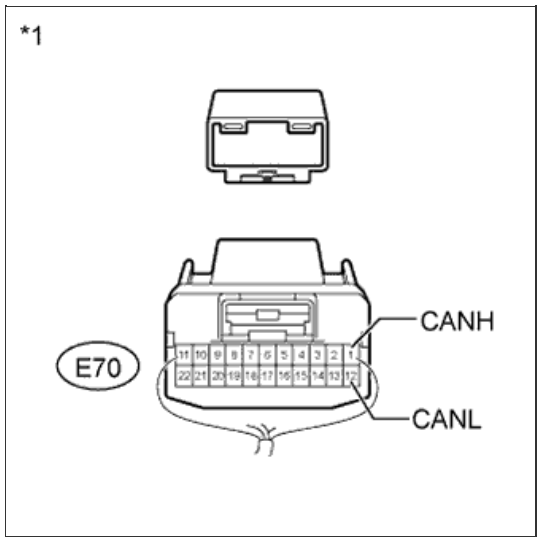
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E70-1 (CANH) - E70-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 10 Junction Connector) |




NG → Go to step 16

OK

## 13.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 10 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)

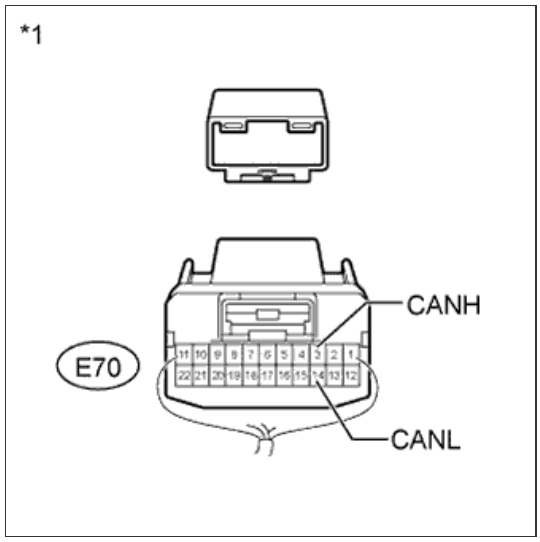
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E70-3 (CANH) - E70-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 10 Junction Connector) |




NG → Go to step 14

OK

## REPLACE NO. 10 JUNCTION CONNECTOR

## 14.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

## 15.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER ASSEMBLY - NO. 10 JUNCTION CONNECTOR)

a. Disconnect the E77 combination meter assembly connector.

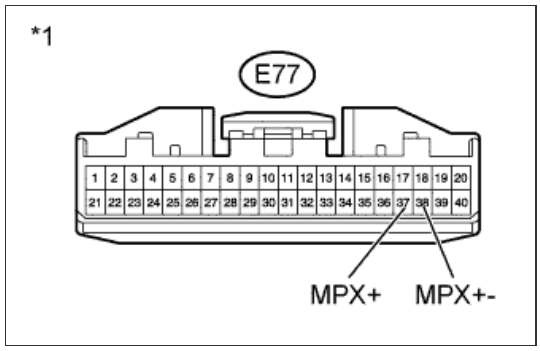
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-37 (MPX+) - E77-38 (MPX-) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Combination Meter Assembly) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER ASSEMBLY (COMBINATION METER ASSEMBLY - NO. 10 JUNCTION CONNECTOR)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

## 16.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

## 17.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

a. Disconnect the E73 No. 9 junction connector.

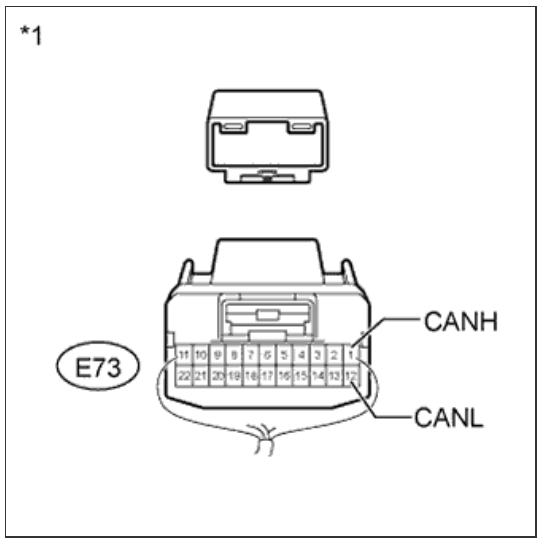
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-1 (CANH) - E73-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 9 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

OK

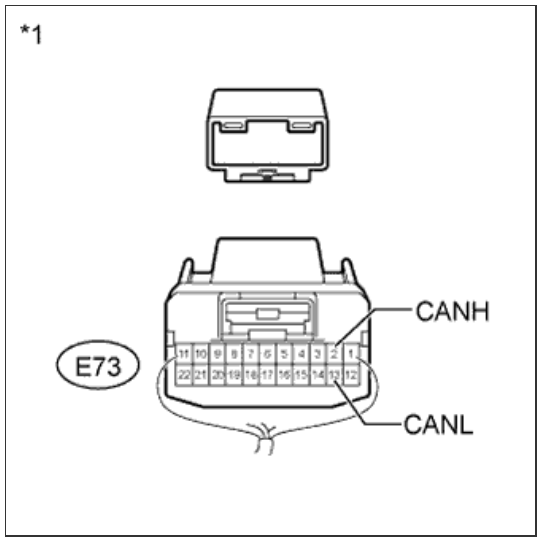
## 18.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 9 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

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

**Standard Resistance:**

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

| | | |
|---|---|---|
| E73-2 (CANH) - E73-13 (CANL) | Engine switch off | 108 to 132 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 9 Junction Connector) |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 9 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

OK

REPLACE NO. 9 JUNCTION CONNECTOR

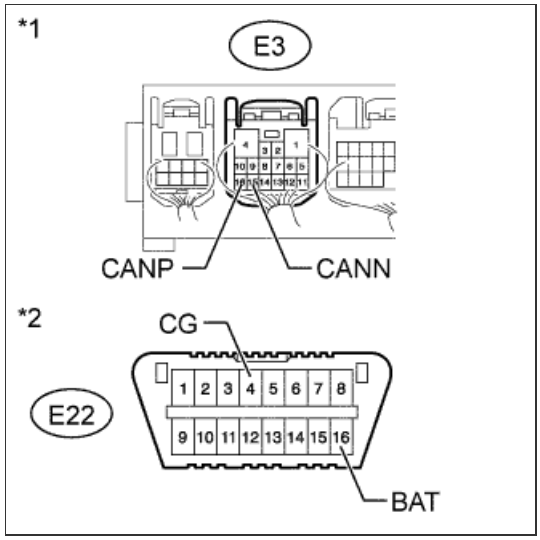
## 19.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR SIDE)

a. Disconnect the E70 No. 10 junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Main Body ECU [Cowl Side Junction Block LH]) |
| *2 | DLC3 |

NG → Go to step 21

OK

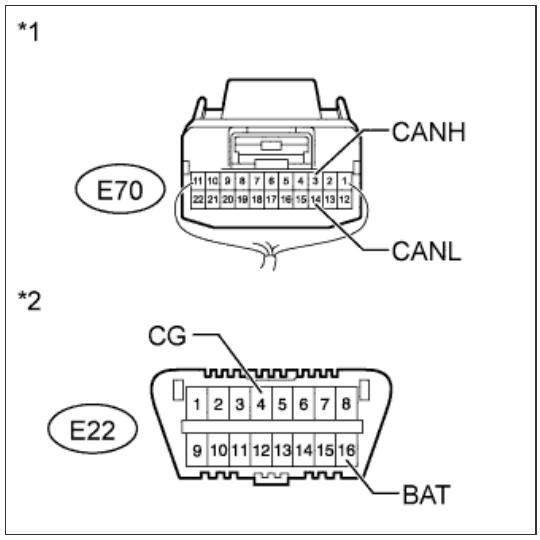
## 20.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)

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

**Standard Resistance:**

| | | Specified |
|---|---|---|

| Tester Connection | Switch Condition | Condition |
|---|---|---|
| E70-3 (CANH) - E70-14 (CANN) | Engine switch off | 108 to 132 Ω |
| E70-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E70-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E70-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E70-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 10 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 37

OK

**REPLACE NO. 10 JUNCTION CONNECTOR**

**21.CONNECT CONNECTOR**

a. Reconnect the E70 No. 10 junction connector.

NEXT

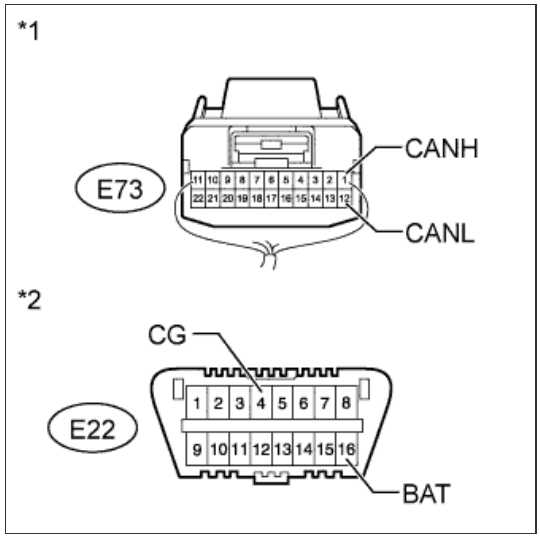
**22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)**

a. Disconnect the E73 No. 9 junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-1 (CANH) - E73-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E73-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E73-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 9 Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

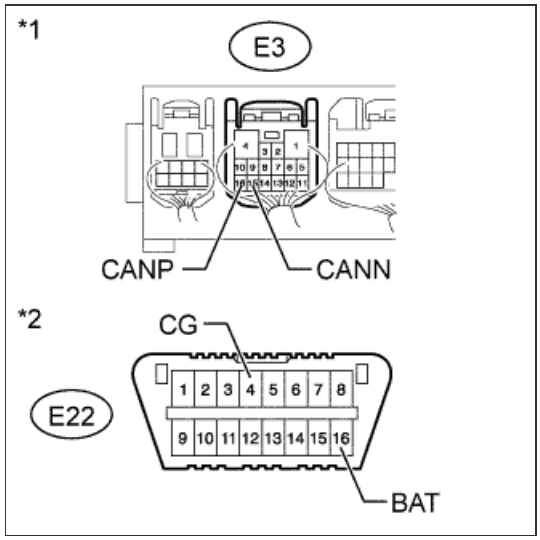
OK

**23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR SIDE)**

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Main Body ECU [Cowl Side Junction Block LH]) |
| *2 | DLC3 |

NG → Go to step 25

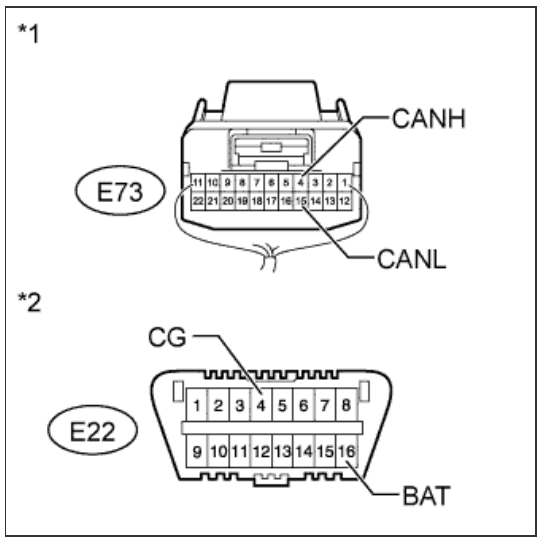
OK

## 24.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - WINDSHIELD WIPER ECU)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-4 (CANH) - E73-15 (CANL) | Engine switch off | 200 Ω or higher |
| E73-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E73-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 9 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 39

OK

REPLACE NO. 9 JUNCTION CONNECTOR

## 25.CONNECT CONNECTOR

a. Reconnect the E73 No. 9 junction connector.

NEXT

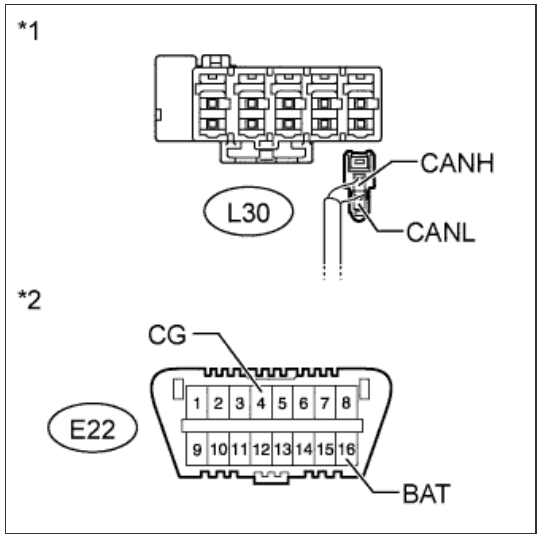
## 26.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

a. Disconnect the L30 No. 2 CAN junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L30-1 (CANH) - L30-2 (CANL) | Engine switch off | 108 to 132 Ω |
| L30-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L30-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L30-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| L30-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illumination**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 CAN Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

OK

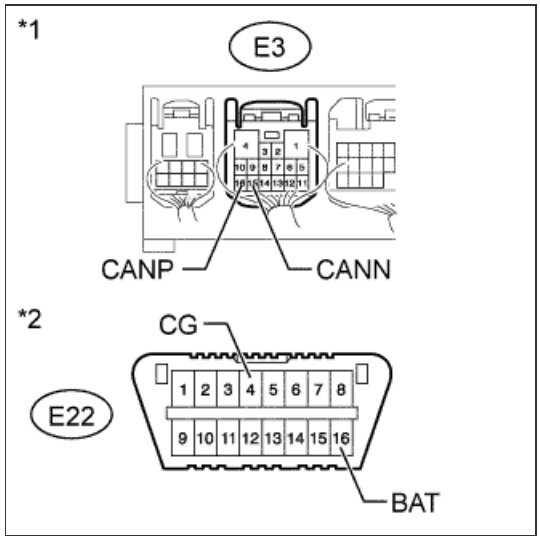
## 27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR SIDE)

a. Disconnect the L29 No. 2 CAN junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illumination**

| | |
|---|---|
| *1 | Component with harness connected (Main Body ECU [Cowl Side Junction Block LH]) |
| *2 | DLC3 |

NG → Go to step 30

OK

## 28.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - POWER BACK DOOR ECU)

**NOTICE:**

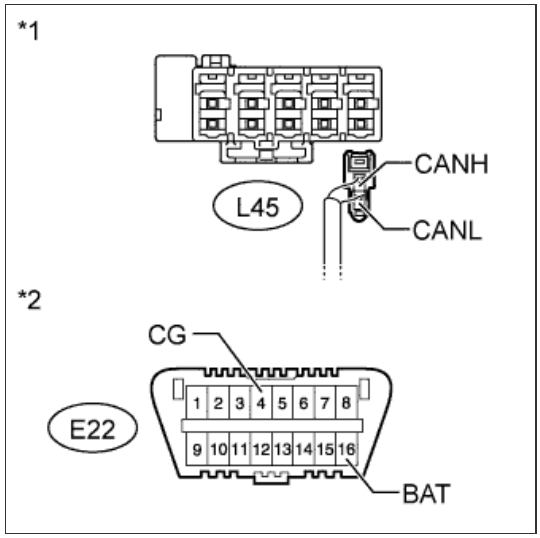
For vehicles without the power back door system, go to "Check for Short in CAN Bus Wires (No. 2 CAN Junction Connector - No. 2 Main Body ECU)".

a. Disconnect the L45 No. 2 CAN junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L45-1 (CANH) - L45-2 (CANL) | Engine switch off | 200 Ω or higher |
| L45-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L45-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L45-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| L45-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illumination**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 CAN Junction Connector) |
| *2 | DLC3 |

NG → Go to step 41

OK

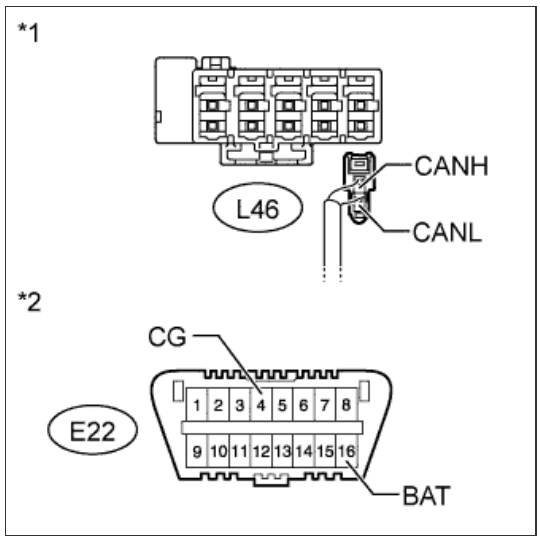
## 29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 2 MAIN BODY ECU)

a. Disconnect the L46 No. 2 CAN junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L46-1 (CANH) - L46-2 (CANL) | Engine switch off | 200 Ω or higher |
| L46-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L46-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L46-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| L46-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illumination**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 CAN Junction Connector) |

| | |
|---|---|
| *2 | DLC3 |

NG → Go to step 43

OK

REPLACE NO. 2 CAN JUNCTION CONNECTOR

30.CONNECT CONNECTOR

a. Reconnect the L29 and L30 No. 2 CAN junction connectors.

NEXT

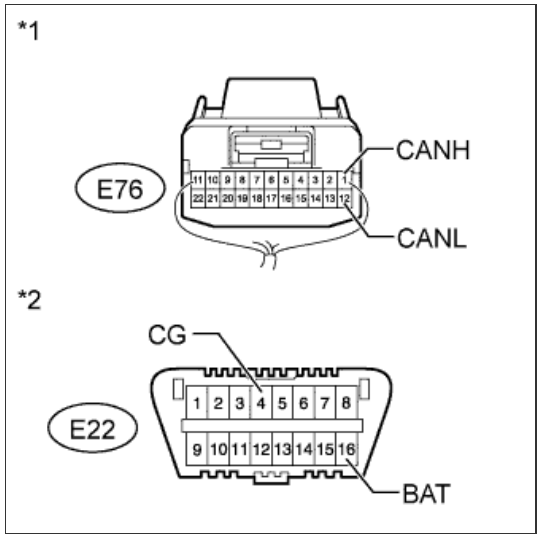
31.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

a. Disconnect the E76 No. 8 junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-1 (CANH) - E76-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E76-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

OK

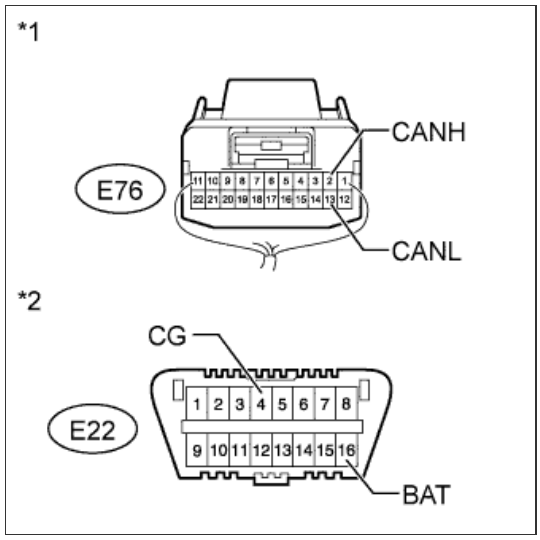
32.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - CERTIFICATION ECU)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-2 (CANH) - E76-13 (CANL) | Engine switch off | 200 Ω or higher |
| E76-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E76-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 45

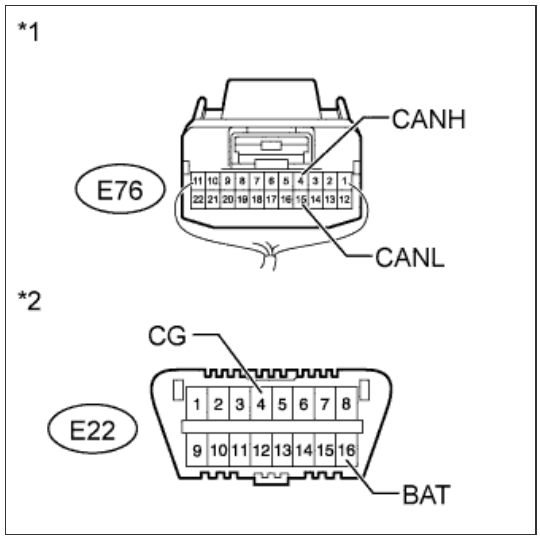
OK

## 33.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - POSITION CONTROL ECU AND SWITCH)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-4 (CANH) - E76-15 (CANL) | Engine switch off | 200 Ω or higher |
| E76-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 47

OK

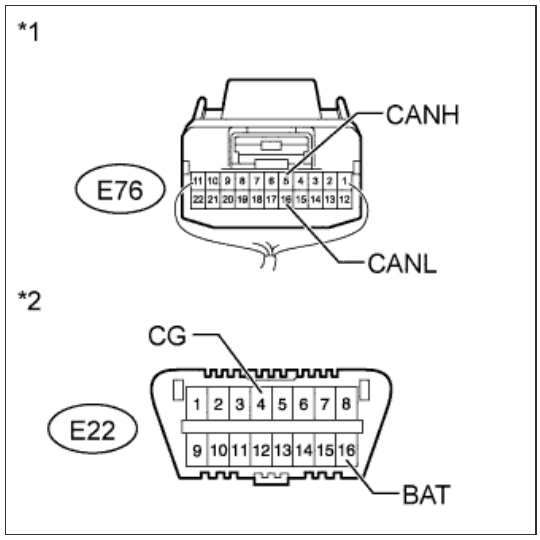
## 34.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - OUTER MIRROR CONTROL ECU ASSEMBLY)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-5 (CANH) - E76-16 (CANL) | Engine switch off | 200 Ω or higher |
| E76-5 (CANH) - | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E22-4 (CG) | | |
| E76-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 49

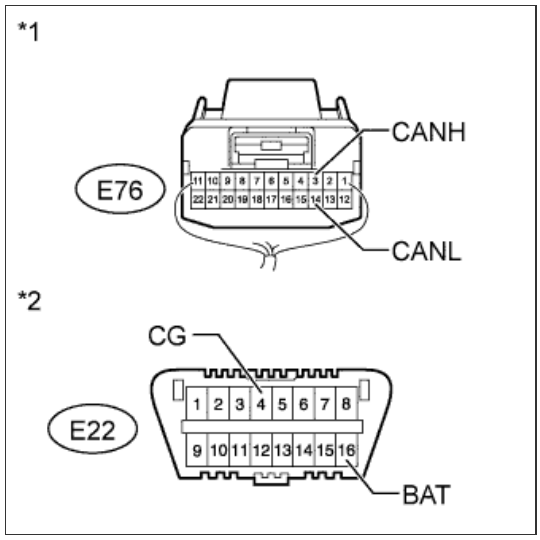
OK

## 35.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - MULTIPLEX TILT AND TELESCOPIC ECU)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-3 (CANH) - E76-14 (CANL) | Engine switch off | 200 Ω or higher |
| E76-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 51

OK

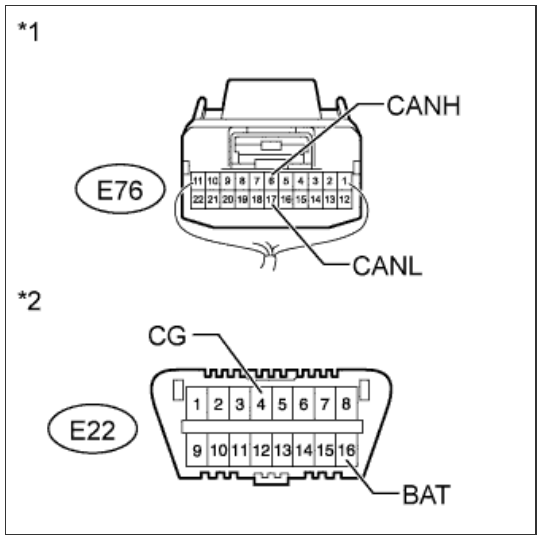
## 36.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - MAIN BODY ECU)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-6 (CANH) - E76-17 (CANL) | Engine switch off | 108 to 132 Ω |
| E76-6 (CANH) - | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E22-4 (CG) | | |
| E76-17 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-17 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 53

OK

**REPLACE NO. 8 JUNCTION CONNECTOR**

**37.CONNECT CONNECTOR**

a. Reconnect the E70 No. 10 junction connector.

NEXT

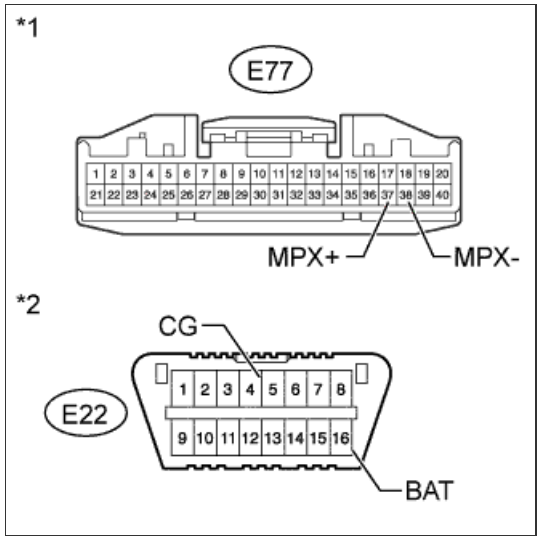
**38.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER ASSEMBLY)**

a. Disconnect the E77 combination meter assembly connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-37 (MPX+) - E77-38 (MPX-) | Engine switch off | 108 to 132 Ω |
| E77-37 (MPX+) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E77-38 (MPX-) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E77-37 (MPX+) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E77-38 (MPX-) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Combination Meter Assembly) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER ASSEMBLY (MPX+, MPX-)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

### 39.CONNECT CONNECTOR

a. Reconnect the E73 No. 9 junction connector.

NEXT

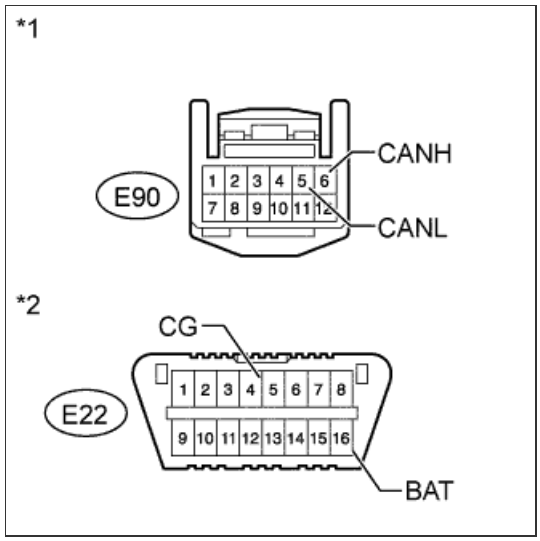
### 40.CHECK FOR SHORT IN CAN BUS WIRES (WINDSHIELD WIPER ECU)

a. Disconnect the E90 windshield wiper ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | Engine switch off | 54 to 69 Ω |
| E90-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E90-5 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E90-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E90-5 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Windshield Wiper ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO WINDSHIELD WIPER ECU (CANH, CANL)

OK

REPLACE WINDSHIELD WIPER ECU (Click here)

### 41.CONNECT CONNECTOR

a. Reconnect the L29, L30 and L45 No. 2 CAN junction connectors.

NEXT

### 42.CHECK FOR SHORT IN CAN BUS WIRES (POWER BACK DOOR ECU)

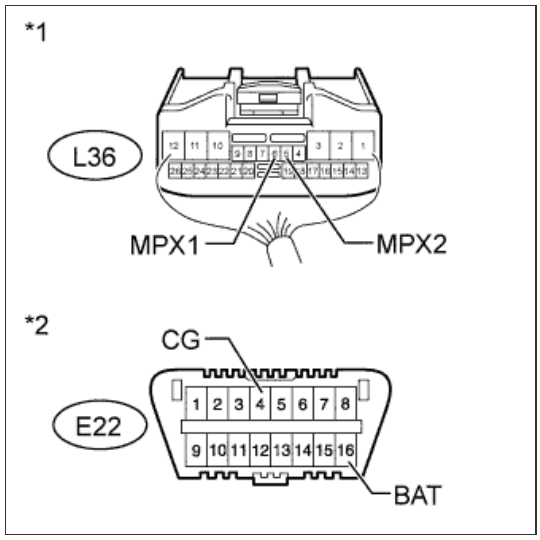
a. Disconnect the L36 power back door unit assembly (power back door ECU) connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | Engine switch off | 54 to 69 Ω |
| L36-6 (MPX1) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L36-5 (MPX2) - | | |

| | | |
|---|---|---|
| E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L36-6 (MPX1) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| L36-5 (MPX2) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Power Back Door Unit Assembly [Power Back Door ECU]) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO POWER BACK DOOR ECU (MPX1, MPX2)

OK

REPLACE POWER BACK DOOR UNIT ASSEMBLY (POWER BACK DOOR ECU) ( Click here)

## 43.CONNECT CONNECTOR

a. Reconnect the L29, L30, L45 and L46 No. 2 CAN junction connectors.

NEXT

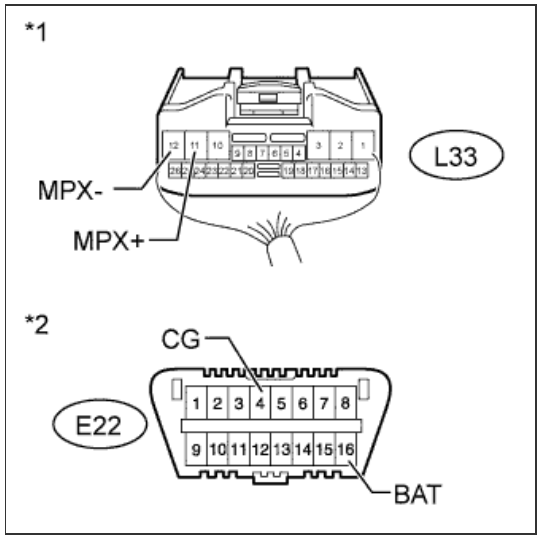
## 44.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 MAIN BODY ECU)

a. Disconnect the L33 No. 2 main body ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | Engine switch off | 54 to 69 Ω |
| L33-11 (MPX+) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L33-12 (MPX-) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L33-11 (MPX+) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| L33-12 (MPX-) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Main Body ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NO. 2 MAIN BODY ECU (MPX+, MPX-)

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

## 45.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

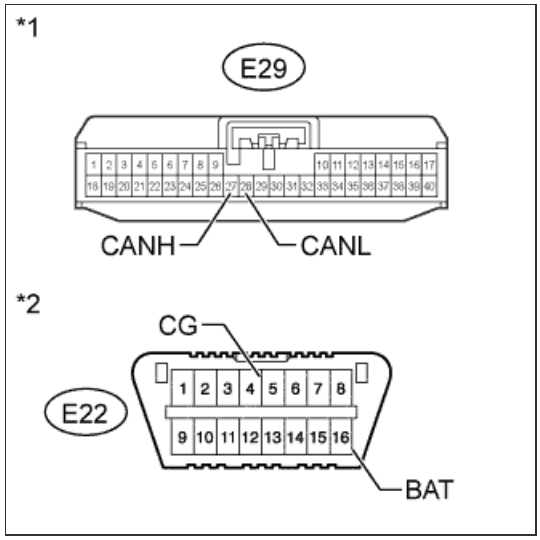
## 46.CHECK FOR SHORT IN CAN BUS WIRES (CERTIFICATION ECU)

a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | Engine switch off | 54 to 69 Ω |
| E29-27 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E29-28 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E29-27 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E29-28 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Certification ECU [Smart Key ECU Assembly]) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CERTIFICATION ECU (CANH, CANL)

OK

## REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

## 47.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

## 48.CHECK FOR SHORT IN CAN BUS WIRES (POSITION CONTROL ECU AND SWITCH)

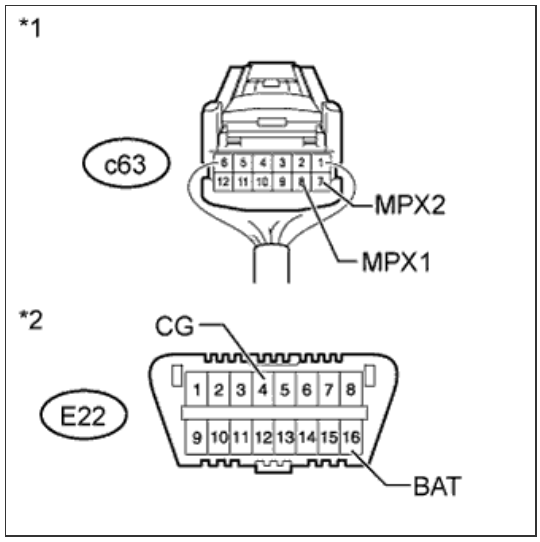
a. Disconnect the c63 position control ECU and switch connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| c63-8 (MPX1) - c63-7 (MPX2) | Engine switch off | 54 to 69 Ω |
| c63-8 (MPX1) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| c63-7 (MPX2) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| c63-8 (MPX1) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| c63-7 (MPX2) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Position Control ECU and Switch) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO POSITION CONTROL ECU AND SWITCH (MPX1, MPX2)

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

## 49.CONNECT CONNECTOR

a. Reconnect the E76 No. 8 junction connector.

NEXT

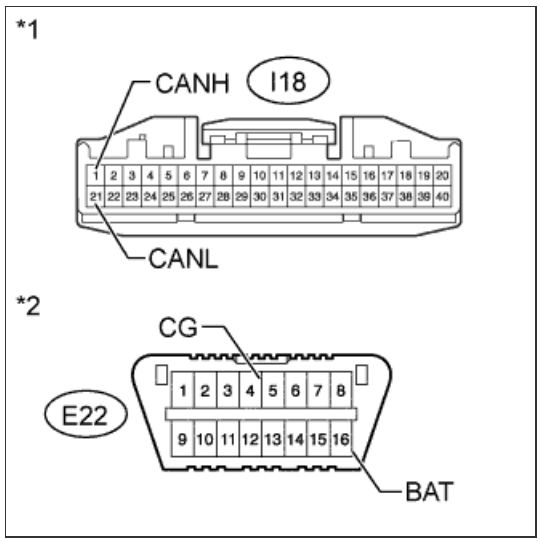
## 50.CHECK FOR SHORT IN CAN BUS WIRES (OUTER MIRROR CONTROL ECU ASSEMBLY)

a. Disconnect the I18 outer mirror control ECU assembly connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I18-1 (CANH) - I18-21 (CANL) | Engine switch off | 54 to 69 Ω |
| I18-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| I18-21 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| I18-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| I18-21 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Outer Mirror Control ECU Assembly) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO OUTER MIRROR CONTROL ECU ASSEMBLY (CANH, CANL)

OK

REPLACE OUTER MIRROR CONTROL ECU ASSEMBLY (Click here)

**51.CONNECT CONNECTOR**

a. Reconnect the E76 No. 8 junction connector.

**NEXT**

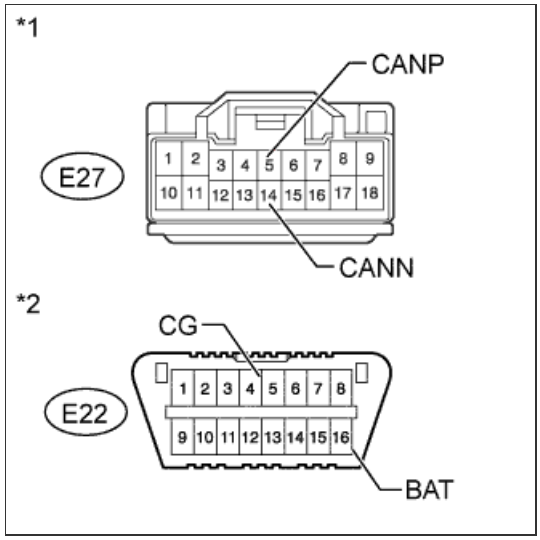
**52.CHECK FOR SHORT IN CAN BUS WIRES (MULTIPLEX TILT AND TELESCOPIC ECU)**

a. Disconnect the E27 power tilt and telescopic ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | Engine switch off | 54 to 69 Ω |
| E27-5 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E27-14 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E27-5 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E27-14 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Multiplex Tilt and Telescopic ECU) |
| *2 | DLC3 |

**NG** → **REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTIPLEX TILT AND TELESCOPIC ECU (CANP, CANN)**

**OK**

**REPLACE MULTIPLEX TILT AND TELESCOPIC ECU (Click here)**

**53.CONNECT CONNECTOR**

a. Reconnect the E76 No. 8 junction connector.

**NEXT**

**54.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)**

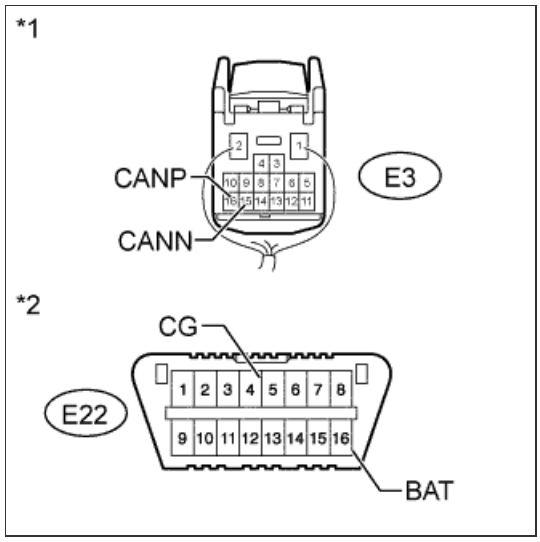
a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

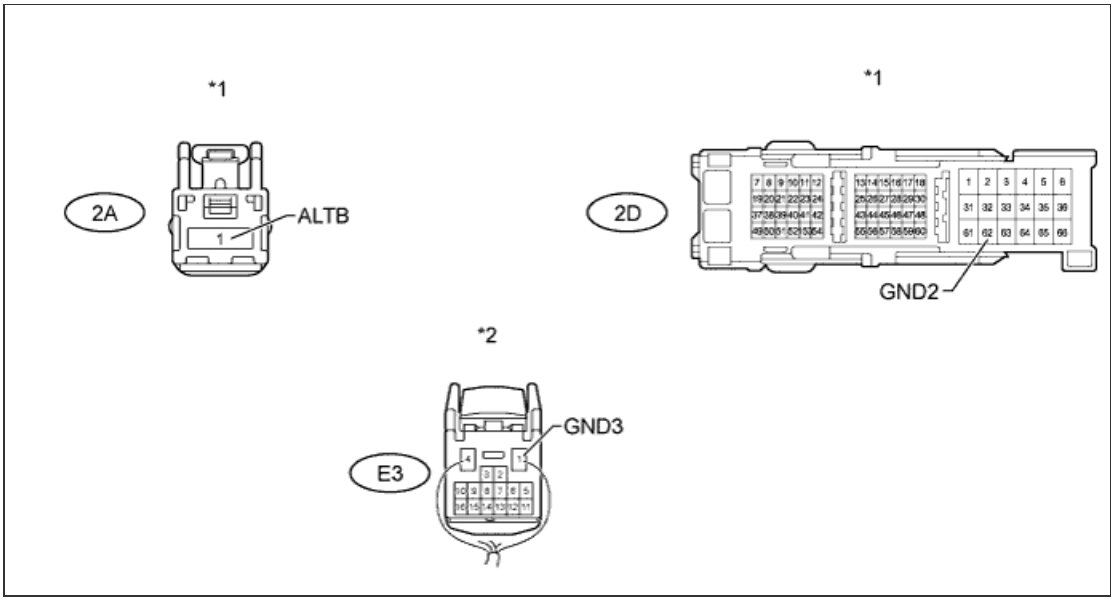
| | |
|---|---|
| *1 | Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO MAIN BODY ECU (CANP, CANN)

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

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

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




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Front view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) | *2 | Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) |

**NOTICE:**

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

b. Disconnect the 2A, 2D and E3 main body ECU (cowl side junction block LH) connectors.

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2A-1 (ALTB) - | | |

| | | |
|---|---|---|
| Body ground | Always | 11 to 14 V |

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |
| E3-1 (GND3) - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

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

## DTC U0125 Lost Communication with Yaw Rate Sensor Module

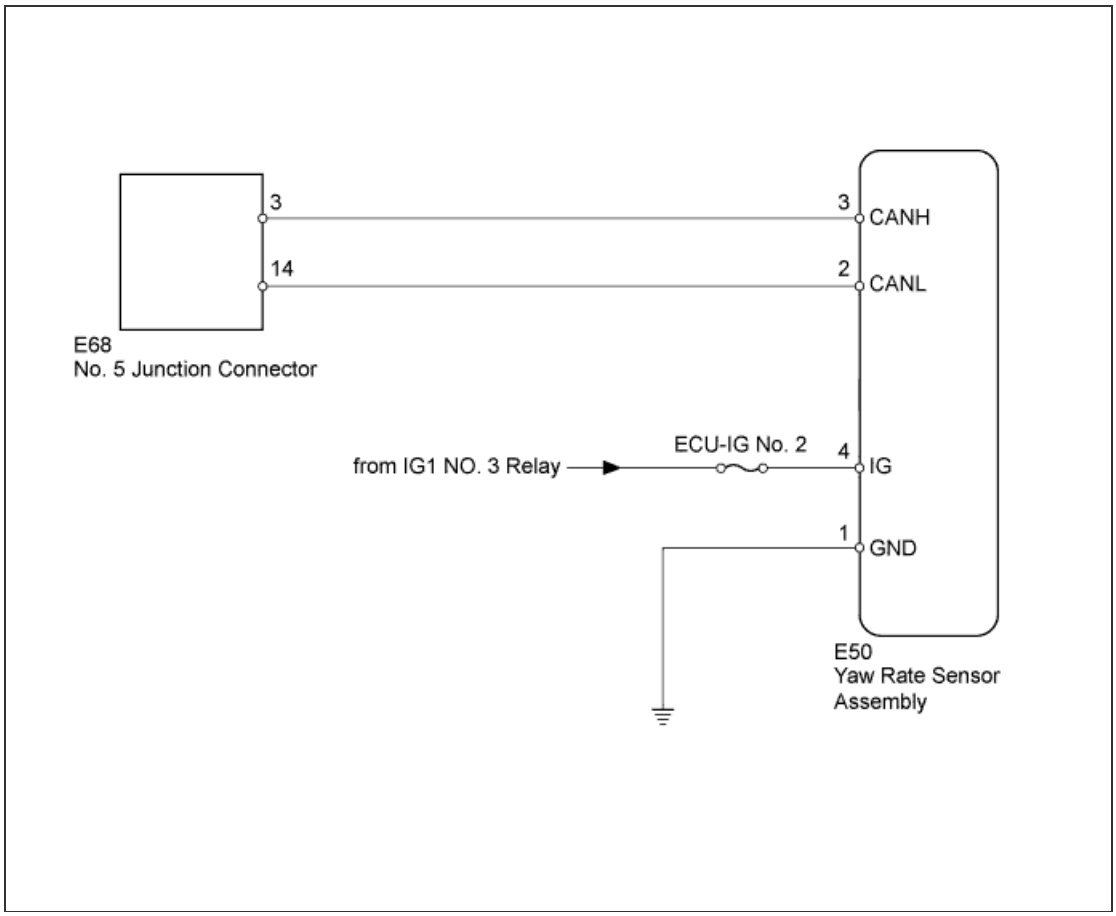
## DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0125 | There is no communication from the yaw rate sensor assembly. | • Power source circuit of yaw rate sensor assembly<br>• Yaw rate sensor CAN branch wire or connector<br>• Yaw rate sensor assembly |
| U0124 | There is no communication from the yaw rate sensor assembly (lateral acceleration sensor). | • Power source circuit of yaw rate sensor assembly<br>• Yaw rate sensor CAN branch wire or connector<br>• Yaw rate sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

**NEXT**

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (YAW RATE SENSOR ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the E50 yaw rate sensor assembly connector.

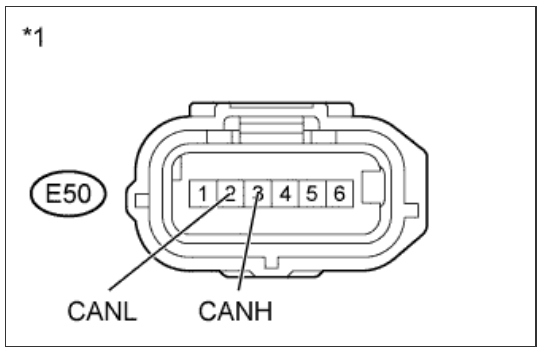
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Yaw Rate Sensor Assembly) |




**NG** → **REPAIR OR REPLACE YAW RATE SENSOR ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)**

**OK**

## 4.CHECK HARNESS AND CONNECTOR (YAW RATE SENSOR ASSEMBLY - BATTERY AND BODY GROUND)

a. 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).

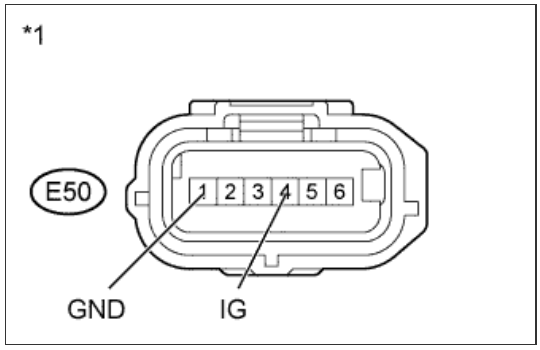
b. Measure the voltage according to the value(s) in table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-4 (IG) - 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 |
|---|---|---|
| E50-1 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Yaw Rate Sensor Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE YAW RATE SENSOR ASSEMBLY (Click here)

## DTC U1002 (CAN No. 2 BUS) Lost Communication with Gateway Module (Network Gateway ECU)

**for Preparation** Click here

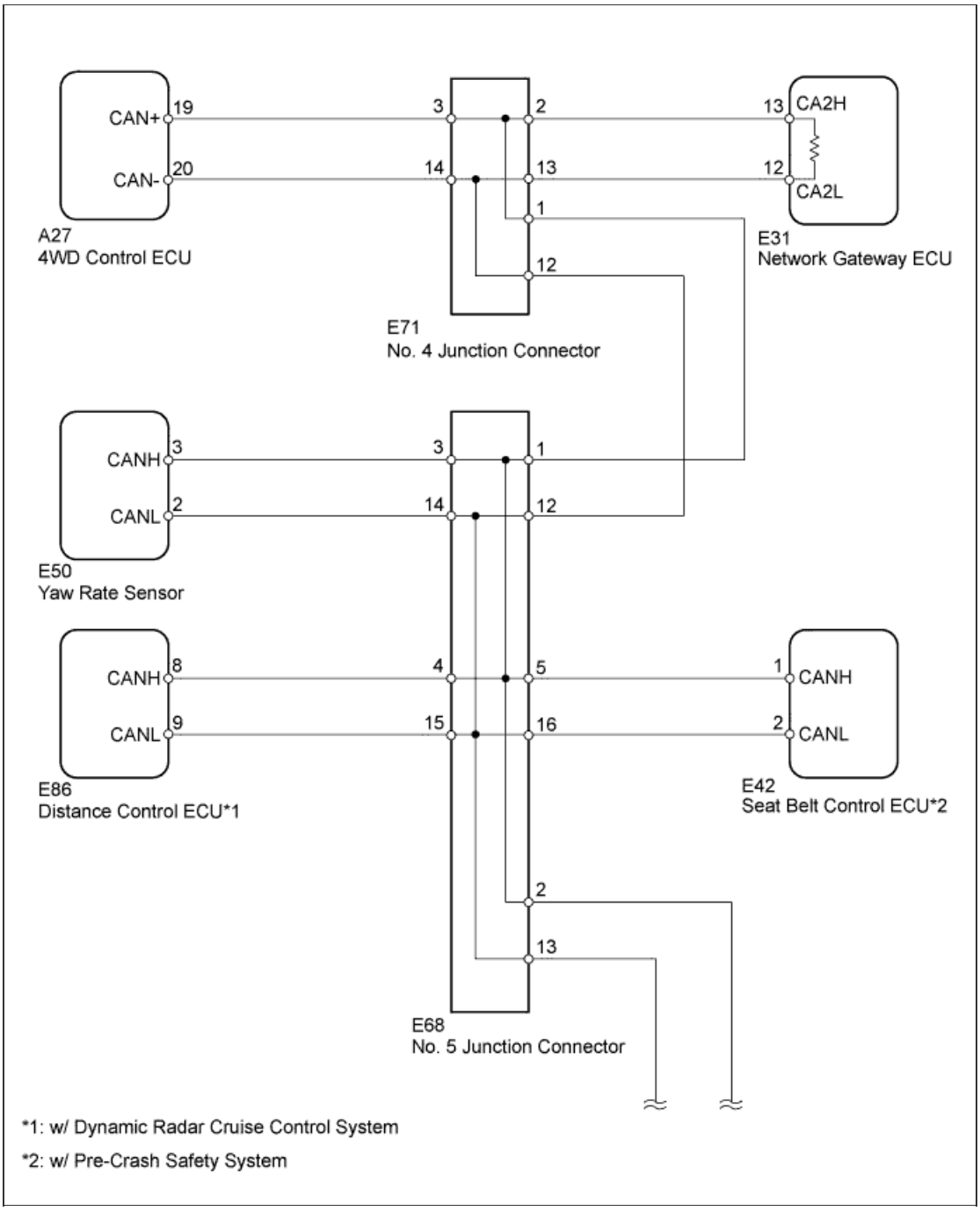
### DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (one side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| DTC Code | Symptoms | Trouble Area |
|---|---|---|
| U1002 (CAN No. 2 BUS) | Lost communication with the gateway module (network gateway ECU). | • Movement control bus circuit<br>• 4WD control ECU branch wire or connector<br>• Yaw rate sensor branch wire or connector<br>• Seat belt control ECU branch wire or connector*4<br>• Distance control ECU branch wire or connector*1<br>• Clearance warning ECU branch wire or connector*2<br>• Parking assist ECU branch wire or connector*3<br>• Master cylinder solenoid (skid control ECU) branch wire or connector<br>• Steering angle sensor branch wire or connector<br>• Network gateway ECU main wire or connector<br>• Suspension control ECU branch wire or connector<br>• Steering control ECU branch wire or connector<br>• 4WD control ECU<br>• Yaw rate sensor<br>• Seat belt control ECU*4<br>• Distance control ECU*1<br>• Clearance warning ECU*2<br>• Parking assist ECU*3<br>• Master cylinder solenoid (skid control ECU)<br>• Steering angle sensor<br>• Suspension control ECU<br>• Steering control ECU<br>• Network gateway ECU<br>• No. 4 junction connector<br>• No. 5 junction connector<br>• No. 6 junction connector<br>• No. 7 junction connector<br>• No. 1 CAN junction connector |

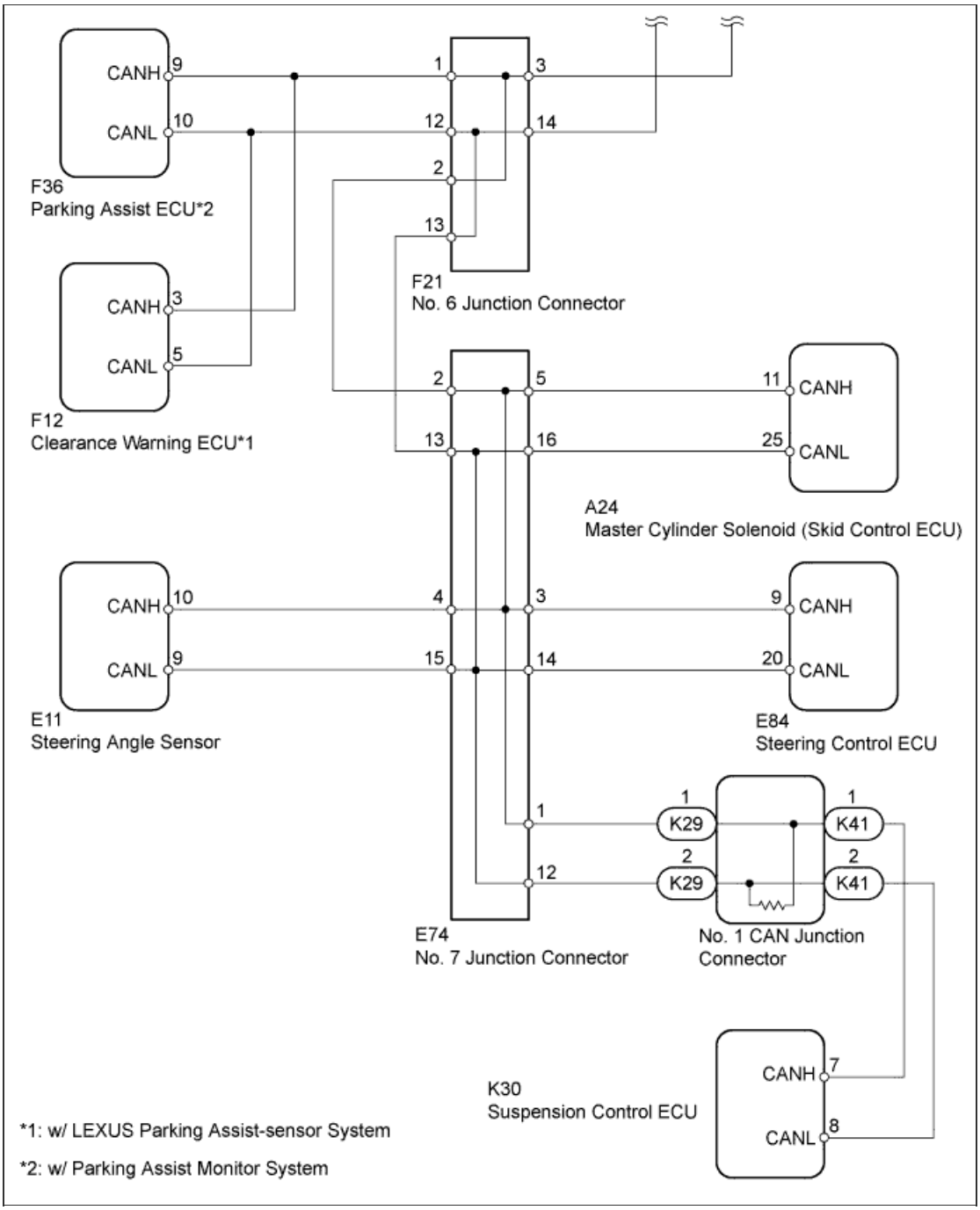
*1: w/ Dynamic Radar Cruise Control System
*2: w/ LEXUS Parking Assist-sensor System
*3: w/ Parking Assist Monitor System
*4: w/ Pre-Crash Safety System

### WIRING DIAGRAM




*1: w/ Dynamic Radar Cruise Control System

*2: w/ Pre-Crash Safety System




## INSPECTION PROCEDURE

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

### 2.CHECK CAN BUS WIRE (MAIN WIRE FOR DISCONNECTION, BUS LINE FOR SHORT CIRCUIT)

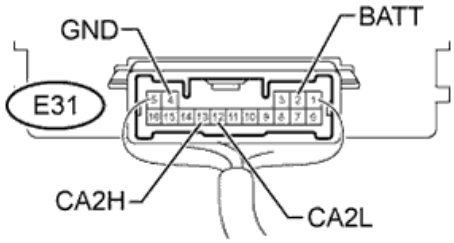
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Resistance Malfunction |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 54 to 69 Ω | Below 53 Ω: Short in line |
| | | | 70 Ω or higher: Open in CAN main bus line |
| E31-13 (CA2H) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E31-12 (CA2L) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E31-13 (CA2H) - E31-4 (GND) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |
| E31-12 (CA2L) - E31-4 (GND) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |

Component with harness connected:
(Network Gateway ECU)




H

**Result**

| Result | Proceed to |
|---|---|
| NG<br>- Open in CAN main bus line | A |
| NG<br>- Short in line<br>- +B short<br>- Ground short | B |
| OK | C |

**B** → Go to step 18

**C** → Go to step 63

**A**

### 3.CHECK FOR OPEN IN MAIN BUS WIRE (NO. 7 CAN JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

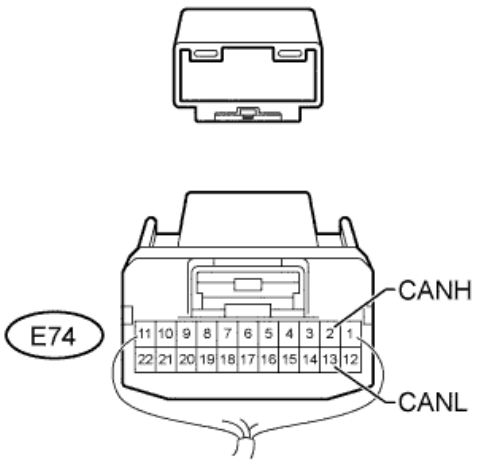
a. Disconnect the E74 No. 7 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-2 (CANH) - E74-13 (CANL) | Engine switch off | 108 to 132 Ω |

Rear view of wire harness connector:
(to No. 7 Junction Connector)




**NG** → Go to step 5

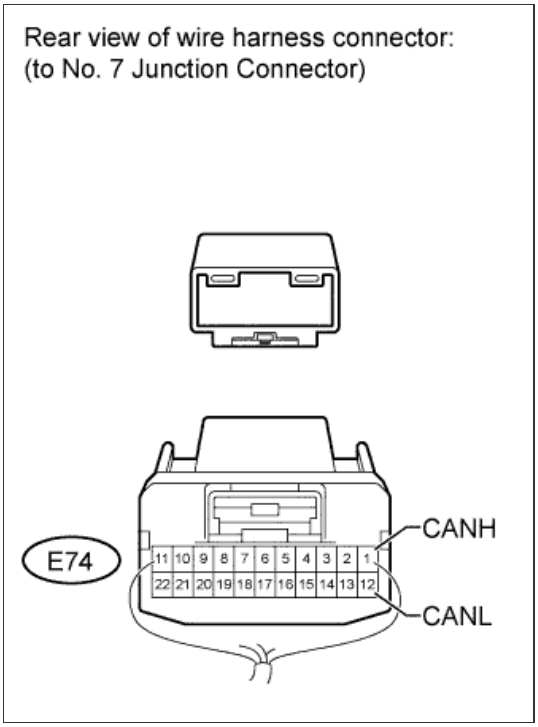
**OK**

**4.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)**

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-1 (CANH) - E74-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 14

OK

**REPAIR OR REPLACE NO. 7 JUNCTION CONNECTOR**

**5.CONNECT CONNECTOR**

a. Reconnect the E74 No. 7 junction connector connector.

NEXT

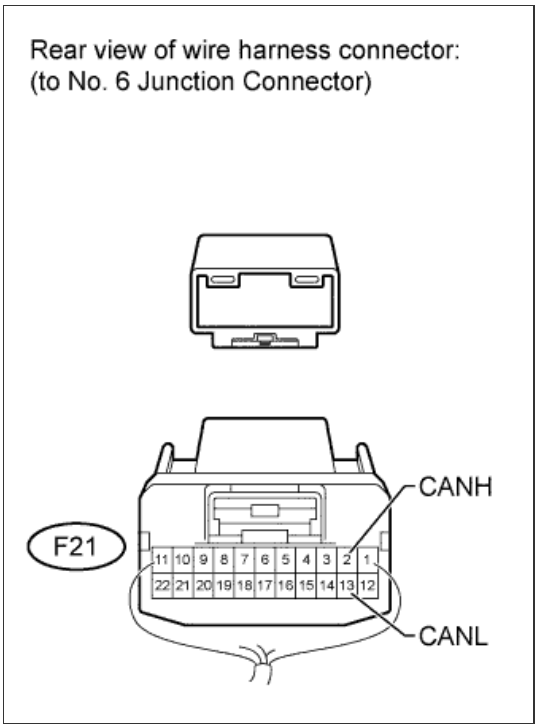
**6.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION BLOCK)**

a. Disconnect the F21 No. 6 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F21-2 (CANH) - F21-13 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

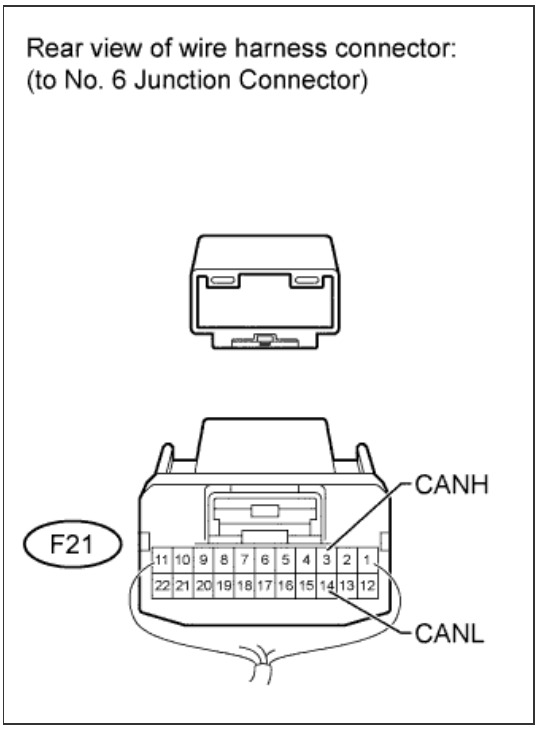
OK

## 7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 6 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F21-3 (CANH) - F21-14 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 8

OK

## REPAIR OR REPLACE NO. 6 JUNCTION CONNECTOR

## 8.CONNECT CONNECTOR

a. Reconnect the F21 No. 6 junction connector connector.

NEXT

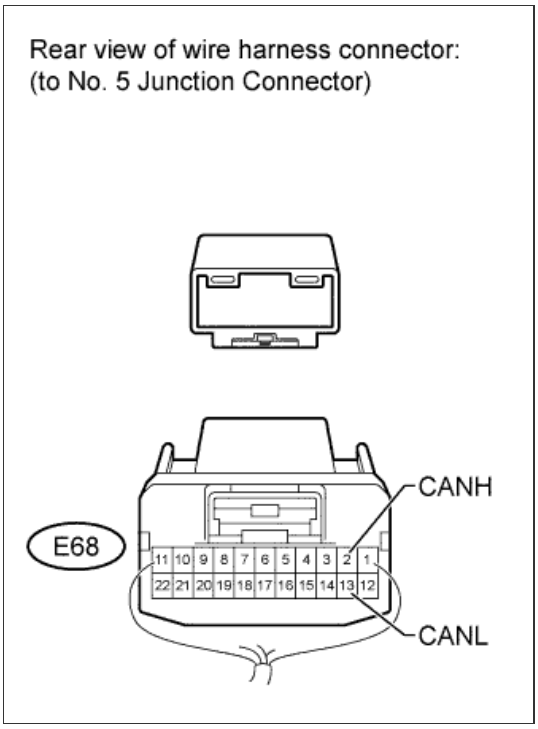
## 9.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

a. Disconnect the E68 No. 5 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-2 (CANH) - E68-13 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

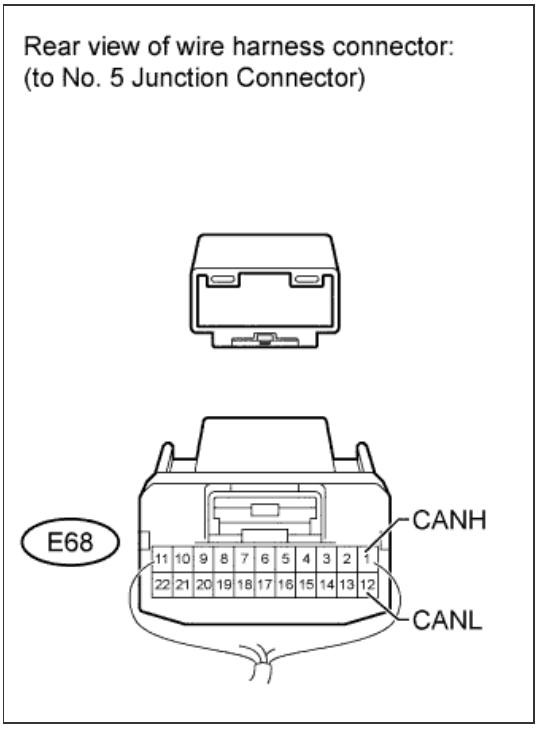
OK

**10.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 5 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)**

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-1 (CANH) - E68-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 11

OK

REPAIR OR REPLACE NO. 5 JUNCTION CONNECTOR

**11.CONNECT CONNECTOR**

a. Reconnect the E68 No. 5 junction connector connector.

NEXT

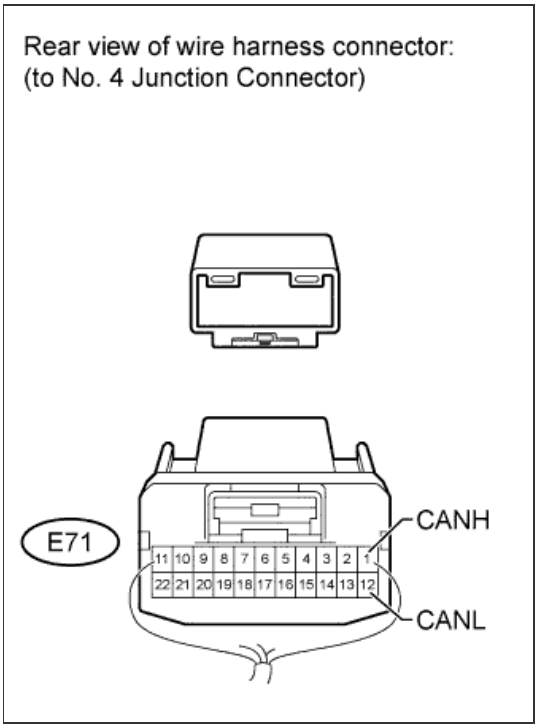
12.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

a. Disconnect the E71 No. 4 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-1 (CANH) - E71-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

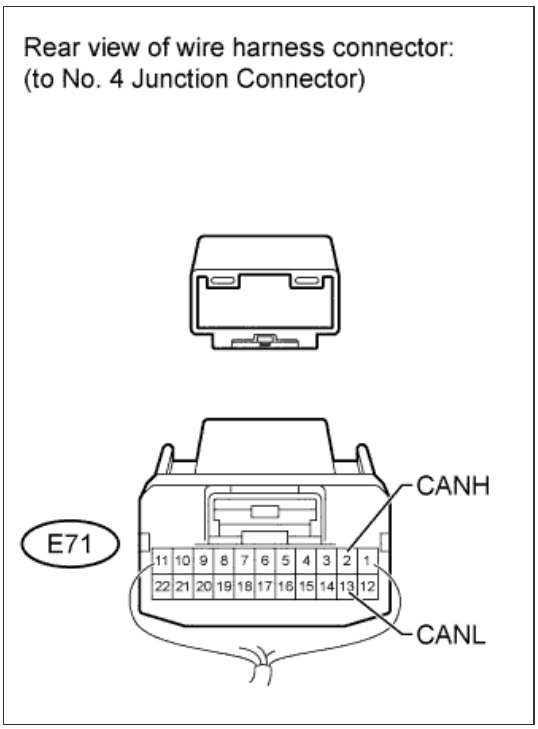
OK

13.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 4 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-2 (CANH) - E71-13 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 16

OK

REPAIR OR REPLACE NO. 4 CAN JUNCTION CONNECTOR

14.CONNECT CONNECTOR

a. Reconnect the E74 No. 7 junction connector connector.

NEXT

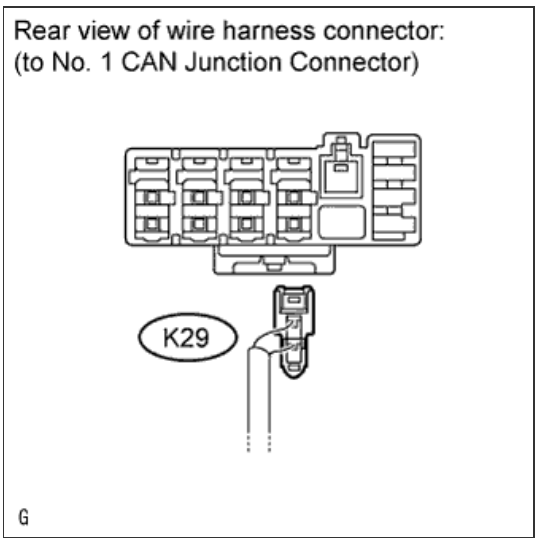
15.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 CAN JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

a. Disconnect the K29 No. 1 CAN junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K29-1 (CANH) - K29-2 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 CAN JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

OK

REPAIR OR REPLACE NO. 1 CAN JUNCTION CONNECTOR

16.CONNECT CONNECTOR

a. Reconnect the E71 No. 4 junction connector connector.

NEXT

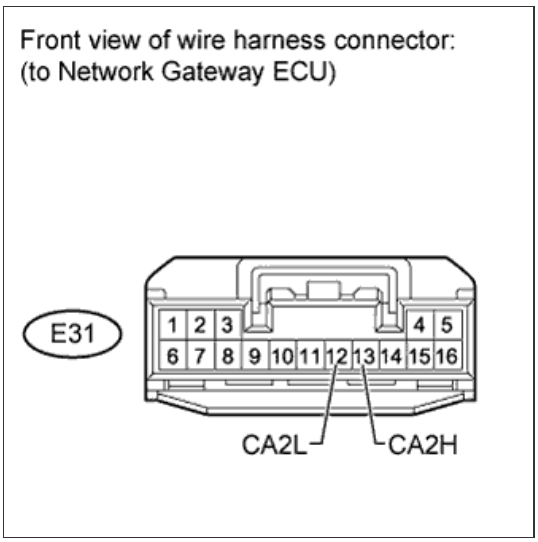
17.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NETWORK GATEWAY ECU - NO. 4 JUNCTION CONNECTOR)

a. Disconnect the E31 network gateway ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO NETWORK GATEWAY ECU (NETWORK GATEWAY ECU - NO. 4 JUNCTION CONNECTOR)

OK

REPLACE NETWORK GATEWAY ECU

## 18.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR SIDE)

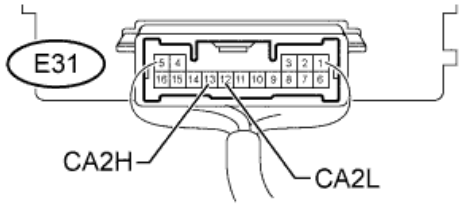
a. Disconnect the E74 No. 7 junction connector connector.

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

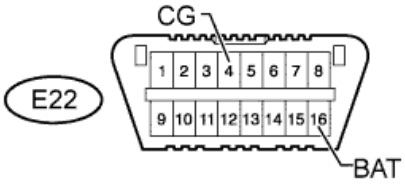
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Component with harness connected:
(Network Gateway ECU)




Front view of DLC3:




NG → Go to step 23

OK

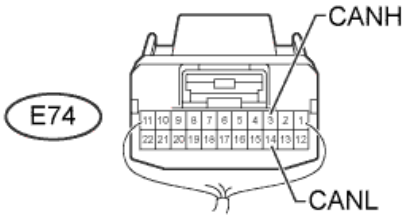
## 19.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - STEERING CONTROL ECU)

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

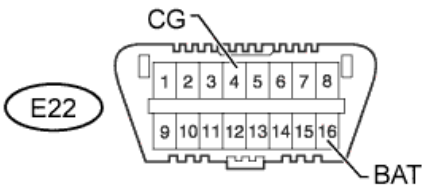
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E74-3 (CANH) - E74-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E74-3 (CANH) - E74-14 (CANL) | Engine switch off | Below 1 Ω | NG |
| E74-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E74-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 7 Junction Connector)




Front view of DLC3:




NG → Go to step 38

OK

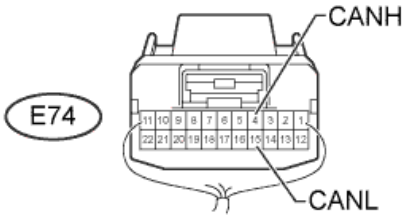
## 20.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - STEERING ANGLE SENSOR)

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

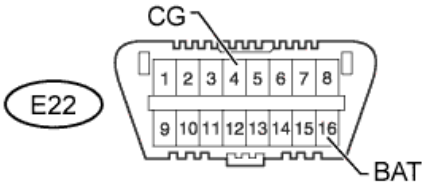
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E74-4 (CANH) - E74-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E74-4 (CANH) - E74-15 (CANL) | Engine switch off | Below 1 Ω | NG |
| E74-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E74-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 7 Junction Connector)




Front view of DLC3:




NG → Go to step 40

OK

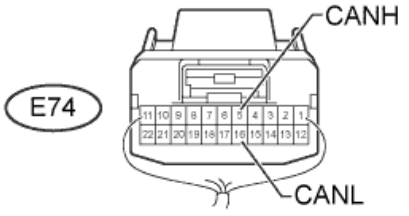
## 21.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - SKID CONTROL ECU)

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

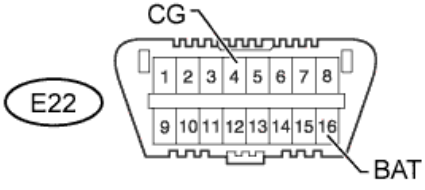
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E74-5 (CANH) - E74-16 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E74-5 (CANH) - E74-16 (CANL) | Engine switch off | Below 1 Ω | NG |
| E74-5 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-16 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-5 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-16 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-5 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-16 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-5 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E74-16 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 7 Junction Connector)




Front view of DLC3:




NG → Go to step 42

OK

## 22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)

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

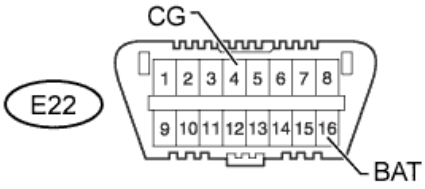
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Result |
|---|---|---|---|
| E74-1 (CANH) - E74-12 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E74-1 (CANH) - E74-12 (CANL) | Engine switch off | Below 1 Ω | NG |
| E74-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-12 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-12 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-12 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E74-12 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 7 Junction Connector)




Front view of DLC3:




NG → Go to step 44

OK

REPAIR OR REPLACE NO. 7 JUNCTION CONNECTOR

## 23.CONNECT CONNECTOR

a. Reconnect the E74 No. 7 junction connector connector.

NEXT

## 24.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

a. Disconnect the F21 No. 6 junction connector connector.

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

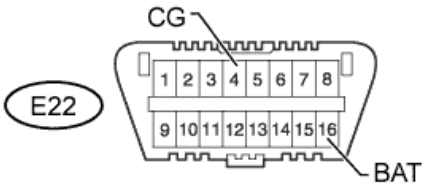
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F21-2 (CANH) - F21-13 (CANL) | Engine switch off | 108 to 132 Ω |
| F21-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F21-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F21-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| F21-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Rear view of wire harness connector:
(to No. 6 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 7 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

OK

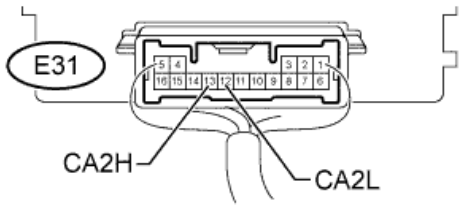
**25.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR SIDE)**

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

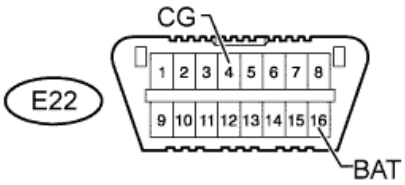
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Component with harness connected:
(Network Gateway ECU)




Front view of DLC3:




**Result**

| Result | Proceed to |
|---|---|
| OK | A |
| NG (w/ LEXUS Parking Assist-sensor System) | B |
| NG (w/ Parking Assist Monitor System) | C |
| NG (w/o LEXUS Parking Assist-sensor System and Parking Assist Monitor System) | D |

B → Go to step 26

C → Go to step 27

D → Go to step 28

A

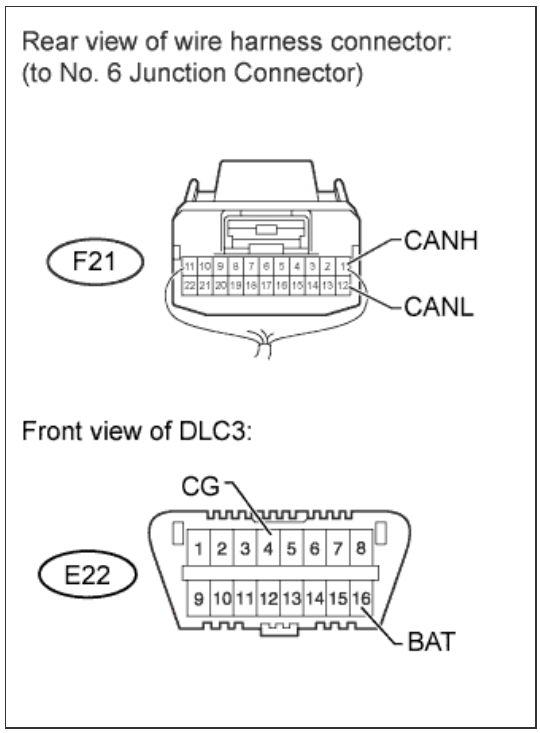
REPAIR OR REPLACE NO. 6 JUNCTION CONNECTOR

## 26.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - CLEARANCE WARNING ECU)

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| F21-1 (CANH) - F21-12 (CANL) | Engine switch off | 1 Ω or higher | OK |
| F21-1 (CANH) - F21-12 (CANL) | Engine switch off | Below 1 Ω | NG |
| F21-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F21-12 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F21-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F21-12 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F21-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F21-12 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F21-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| F21-12 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 49

OK

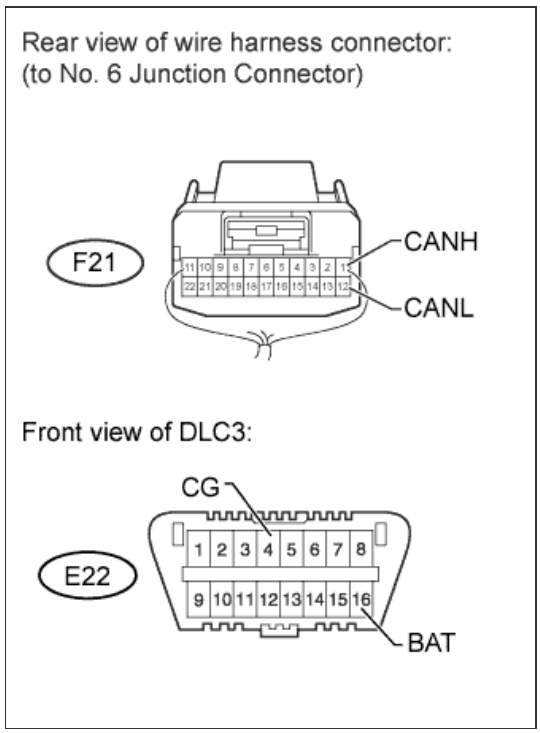
REPAIR OR REPLACE NO. 6 JUNCTION CONNECTOR

## 27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - PARKING ASSIST ECU)

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| F21-1 (CANH) - F21-12 (CANL) | Engine switch off | 1 Ω or higher | OK |
| F21-1 (CANH) - F21-12 (CANL) | Engine switch off | Below 1 Ω | NG |
| F21-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F21-12 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F21-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F21-12 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F21-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F21-12 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F21-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| F21-12 (CANL) - E22- | Engine | | |



| | | | |
|---|---|---|---|
| 16 (BAT) | switch off | Below 1 Ω | NG |

NG → Go to step 52

OK

REPAIR OR REPLACE NO. 6 JUNCTION CONNECTOR

28.CONNECT CONNECTOR

a. Reconnect the F21 No. 6 junction connector connector.

NEXT

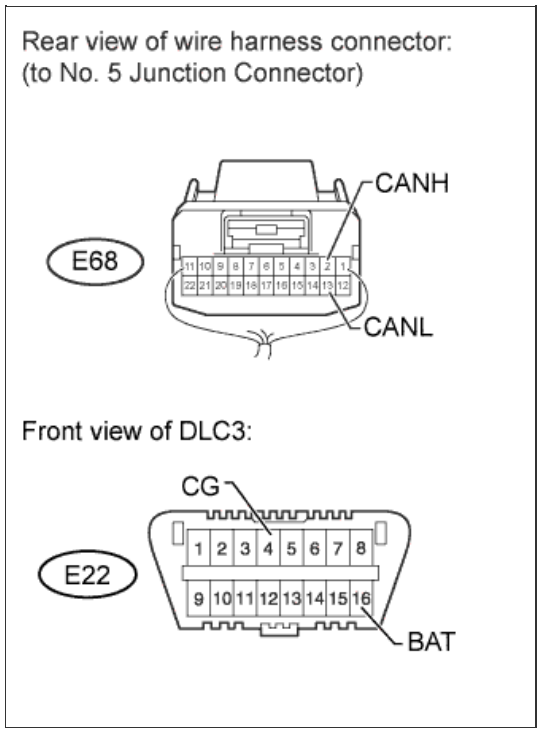
29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

a. Disconnect the E68 No. 5 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-2 (CANH) - E68-13 (CANL) | Engine switch off | 108 to 132 Ω |
| E68-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E68-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 6 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

OK

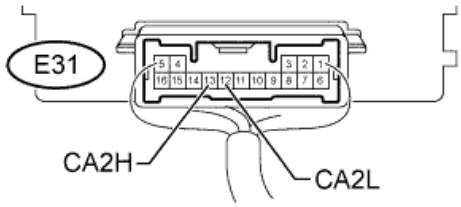
30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR SIDE)

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

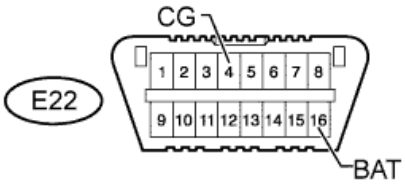
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Component with harness connected:
(Network Gateway ECU)




Front view of DLC3:




NG → Go to step 34

OK

## 31.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - SEAT BELT CONTROL ECU)

**NOTICE:**

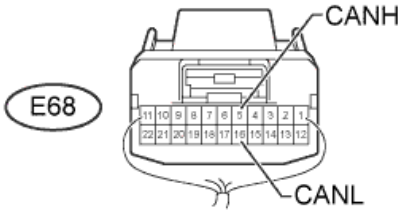
For vehicles without the pre-crash safety system, go to "Check for Short in CAN Bus Wires (No. 5 Junction Connector - Distance Control ECU)".

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

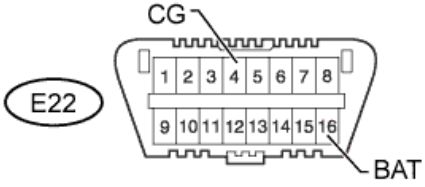
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E68-5 (CANH) - E68-16 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E68-5 (CANH) - E68-16 (CANL) | Engine switch off | Below 1 Ω | NG |
| E68-5 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E68-16 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E68-5 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E68-16 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E68-5 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E68-16 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E68-5 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E68-16 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 5 Junction Connector)




Front view of DLC3:




NG → Go to step 53

OK

## 32.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - DISTANCE CONTROL ECU)

**NOTICE:**

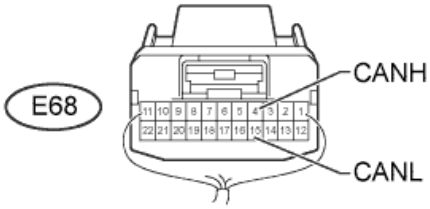
For vehicles without the dynamic radar cruise control system, go to "Check for Short in CAN Bus Wires (No. 5 Junction Connector - Yaw Rate Sensor)".

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

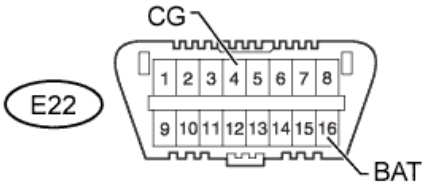
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E68-4 (CANH) - E68-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E68-4 (CANH) - E68-15 (CANL) | Engine switch off | Below 1 Ω | NG |
| E68-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E68-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E68-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E68-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E68-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E68-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E68-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E68-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 5 Junction Connector)




Front view of DLC3:




NG → Go to step 55

OK

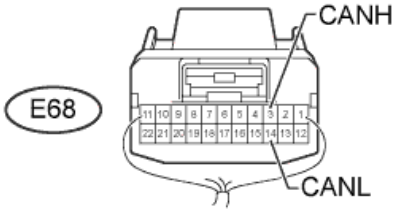
## 33.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - YAW RATE SENSOR)

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

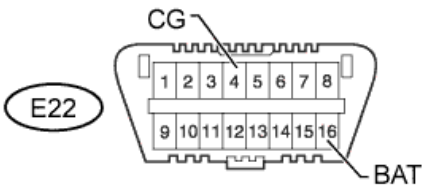
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E68-3 (CANH) - E68-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E68-3 (CANH) - E68-14 (CANL) | Engine switch off | Below 1 Ω | NG |
| E68-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E68-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E68-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E68-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E68-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E68-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E68-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E68-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 5 Junction Connector)




Front view of DLC3:



NG → Go to step 57

OK

REPAIR OR REPLACE NO. 5 JUNCTION CONNECTOR

34.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector connector.

NEXT

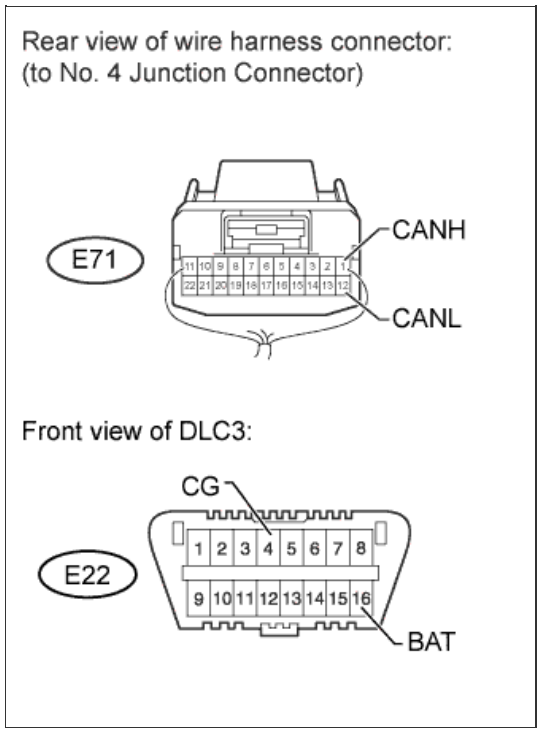
35.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - NO. 4 JUNCTION CONNECTOR)

a. Disconnect the E71 No. 4 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-1 (CANH) - E71-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E71-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E71-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E71-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E71-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 5 JUNCTION CONNECTOR - NO. 4 JUNCTION CONNECTOR)

OK

36.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - 4WD CONTROL ECU)

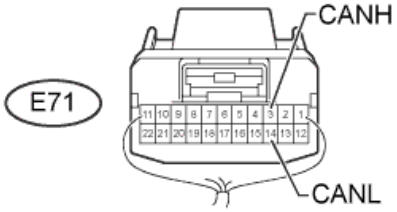
a. Measure the resistance according to the value(s) in the table below.

**Result**

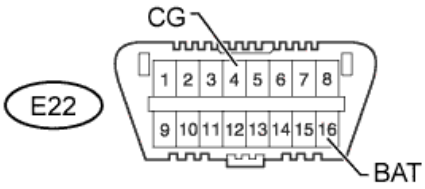
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E71-3 (CANH) - E71-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E71-3 (CANH) - E71-14 (CANL) | Engine switch off | Below 1 Ω | NG |
| E71-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E71-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E71-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E71-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E71-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |

| | | | |
|---|---|---|---|
| E71-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E71-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E71-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 4 Junction Connector)




Front view of DLC3:




NG → Go to step 59

OK

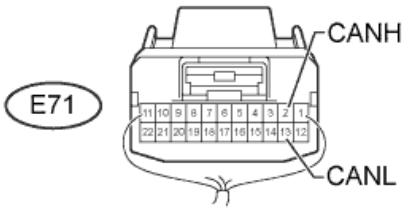
## 37.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

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

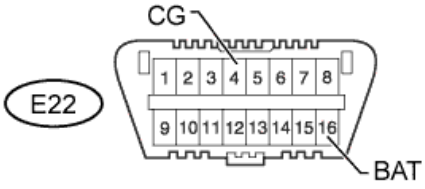
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E71-2 (CANH) - E71-13 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E71-2 (CANH) - E71-13 (CANL) | Engine switch off | Below 1 Ω | NG |
| E71-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E71-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E71-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E71-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E71-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E71-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E71-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E71-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 4 Junction Connector)




Front view of DLC3:




NG → Go to step 61

OK

## REPAIR OR REPLACE NO. 4 JUNCTION CONNECTOR

## 38.CONNECT CONNECTOR

a. Reconnect the E74 No. 7 junction connector connector.

NEXT

## 39.CHECK FOR SHORT IN CAN BUS WIRES (STEERING CONTROL ECU)

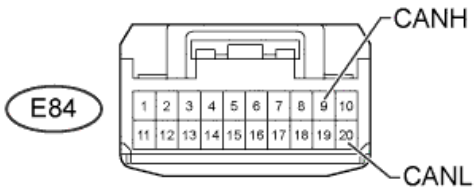
a. Disconnect the E84 steering control ECU connector.

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

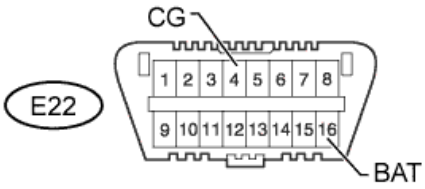
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E84-9 (CANH) - E84-20 (CANL) | Engine switch off | Below 1 Ω | NG |
| E84-9 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E84-20 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E84-9 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E84-20 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E84-9 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E84-20 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E84-9 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E84-20 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Steering Control ECU)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO STEERING CONTROL ECU (CANH, CANL)

OK

REPLACE STEERING CONTROL ECU (Click here)

## 40.CONNECT CONNECTOR

a. Reconnect the E74 No. 7 junction connector connector.

NEXT

## 41.CHECK FOR SHORT IN CAN BUS WIRES (STEERING ANGLE SENSOR)

a. Disconnect the E11 steering angle sensor connector.

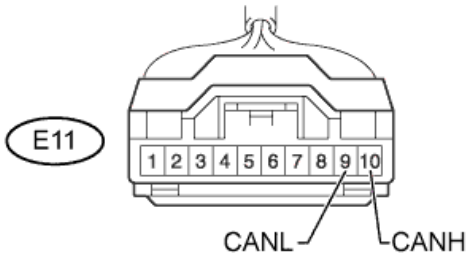
b. Measure the resistance according to the value(s) in the table below.

**Result**

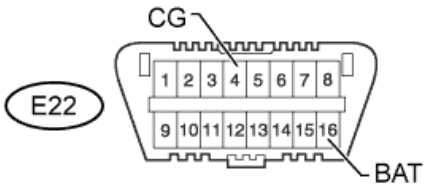
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E11-10 (CANH) - E11-9 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E11-10 (CANH) - E11-9 (CANL) | Engine switch off | Below 1 Ω | NG |
| E11-10 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E11-9 (CANL) - E22-4 | Engine | | |

| | | | |
|---|---|---|---|
| (CG) | switch off | 1 Ω or higher | OK |
| E11-10 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E11-9 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E11-10 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E11-9 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E11-10 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E11-9 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Steering Angle Sensor)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO STEERING ANGLE SENSOR (CANH, CANL)

OK

REPLACE STEERING ANGLE SENSOR (Click here)

## 42.CONNECT CONNECTOR

a. Reconnect the E74 No. 7 junction connector connector.

NEXT

## 43.CHECK FOR SHORT IN CAN BUS WIRES (SKID CONTROL ECU)

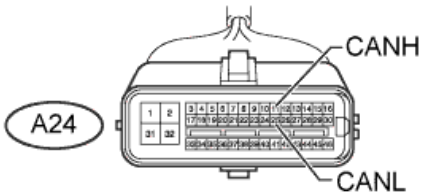
a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

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

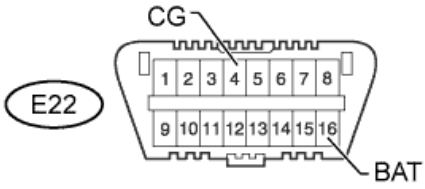
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | Engine switch off | 1 Ω or higher | OK |
| A24-11 (CANH) - A24-25 (CANL) | Engine switch off | Below 1 Ω | NG |
| A24-11 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| A24-25 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| A24-11 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| A24-25 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| A24-11 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| A24-25 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| A24-11 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| A24-25 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Skid Control ECU)




Front view of DLC3:



NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MASTER CYLINDER SOLENOID (SKID CONTROL ECU) (CANH, CANL)

OK

REPLACE MASTER CYLINDER SOLENOID (SKID CONTROL ECU) (Click here)

### 44.CONNECT CONNECTOR

a. Reconnect the E74 No. 7 junction connector connector.

NEXT

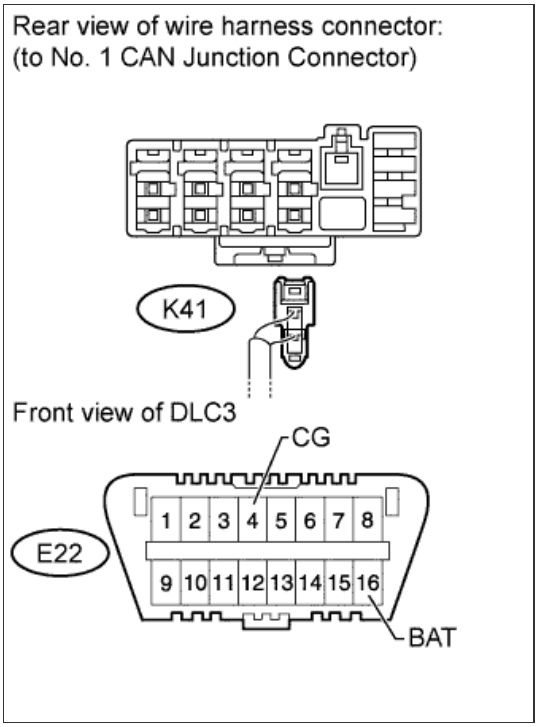
### 45.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR - SUSPENSION CONTROL ECU)

a. Disconnect the K41 No. 1 CAN junction connector connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| K41-1 (CANH) - K41-2 (CANL) | Engine switch off | 1 Ω or higher | OK |
| K41-1 (CANH) - K41-2 (CANL) | Engine switch off | Below 1 Ω | NG |
| K41-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| K41-2 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| K41-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| K41-2 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| K41-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| K41-2 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| K41-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| K41-2 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG

Go to step 48

OK

### 46.CONNECT CONNECTOR

a. Reconnect the E74 No. 7 junction connector connector.

NEXT

### 47.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR)

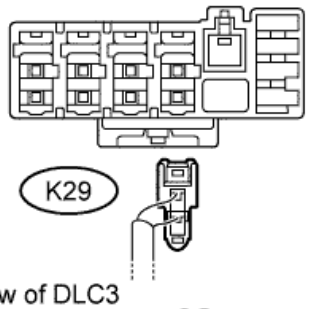
a. Measure the resistance according to the value(s) in the table below.

**Result**

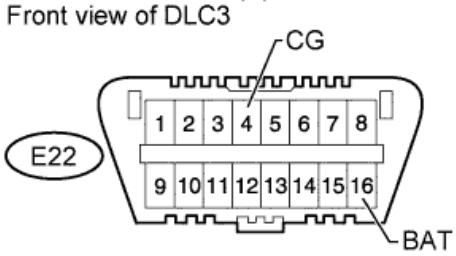
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| K29-1 (CANH) - K29-2 | Engine | | |

| | | | |
|---|---|---|---|
| (CANL) | switch off | 1 Ω or higher | OK |
| K29-1 (CANH) - K29-2 (CANL) | Engine switch off | Below 1 Ω | NG |
| K29-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| K29-2 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| K29-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| K29-2 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| K29-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| K29-2 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| K29-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| K29-2 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 CAN Junction Connector)




Front view of DLC3




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NO. 1 CAN JUNCTION CONNECTOR (CANH, CANL)

OK

REPLACE NO. 1 CAN JUNCTION CONNECTOR

## 48.CHECK FOR SHORT IN CAN BUS WIRES (SUSPENSION CONTROL ECU)

a. Disconnect the K30 suspension control ECU connector.

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

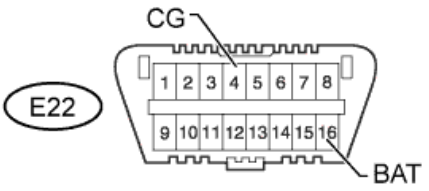
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | Engine switch off | 1 Ω or higher | OK |
| K30-7 (CANH) - K30-8 (CANL) | Engine switch off | Below 1 Ω | NG |
| K30-7 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| K30-8 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| K30-7 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| K30-8 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| K30-7 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| K30-8 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| K30-7 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| K30-8 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to Suspension Control ECU)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO SUSPENSION CONTROL ECU (CANH, CANL)

OK

REPLACE SUSPENSION CONTROL ECU (Click here)

49.CONNECT CONNECTOR

a. Reconnect the F21 No. 6 junction connector connector.

NEXT

50.CHECK FOR SHORT IN CAN BUS WIRES (CLEARANCE WARNING ECU)

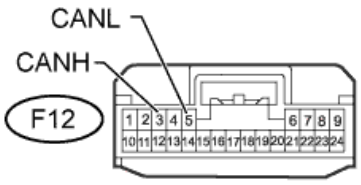
a. Disconnect the F12 clearance warning ECU connector.

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

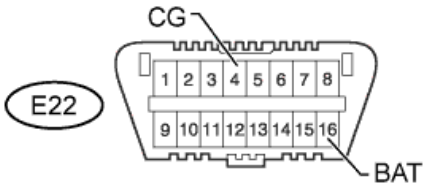
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| F12-3 (CANH) - F12-5 (CANL) | Engine switch off | 1 Ω or higher | OK |
| F12-3 (CANH) - F12-5 (CANL) | Engine switch off | Below 1 Ω | NG |
| F12-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F12-5 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F12-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F12-5 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F12-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F12-5 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F12-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| F12-5 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Clearance Warning ECU)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CLEARANCE WARNING ECU (CANH, CANL)

OK

REPLACE CLEARANCE WARNING ECU ASSEMBLY (Click here)

51.CONNECT CONNECTOR

a. Reconnect the F21 No. 6 junction connector connector.

NEXT

52.CHECK FOR SHORT IN CAN BUS WIRES (PARKING ASSIST ECU)

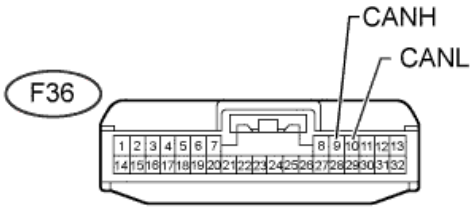
a. Disconnect the F36 parking assist ECU connector.

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

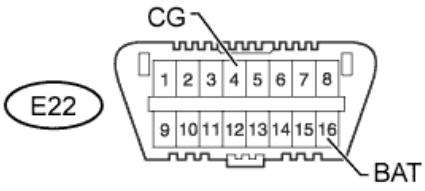
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| F36-9 (CANH) - F36-10 (CANL) | Engine switch off | 1 Ω or higher | OK |
| F36-9 (CANH) - F36-10 (CANL) | Engine switch off | Below 1 Ω | NG |
| F36-9 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F36-10 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F36-9 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F36-10 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F36-9 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F36-10 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F36-9 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| F36-10 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Parking Assist ECU)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO PARKING ASSIST ECU (CANH, CANL)

OK → REPLACE PARKING ASSIST ECU (Click here)

## 53.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector connector.

NEXT

## 54.CHECK FOR SHORT IN CAN BUS WIRES (SEAT BELT CONTROL ECU)

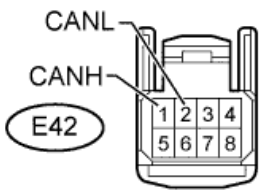
a. Disconnect the E42 seat belt control ECU connector.

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

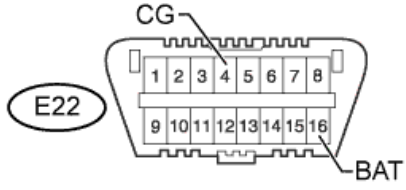
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E42-1 (CANH) - E42-2 (CANL) | Engine switch off | Below 1 Ω | NG |
| E42-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E42-2 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E42-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E42-2 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E42-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E42-2 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E42-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Seat Belt Control ECU)




Front view of DLC3:



| | | | |
|---|---|---|---|
| E42-2 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO SEAT BELT CONTROL ECU (CANH, CANL)

OK

REPLACE SEAT BELT CONTROL ECU (Click here)

55.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector connector.

NEXT

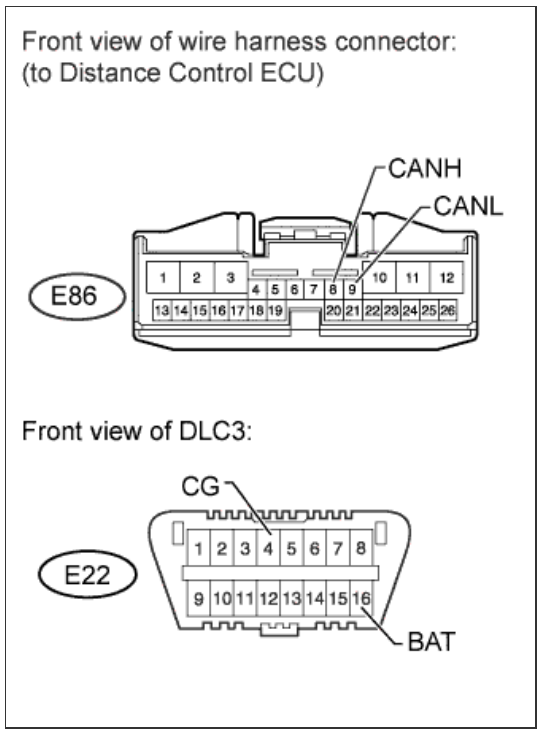
56.CHECK FOR SHORT IN CAN BUS WIRES (DISTANCE CONTROL ECU)

a. Disconnect the E86 distance control ECU connector.

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

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E86-8 (CANH) - E86-9 (CANL) | Engine switch off | Below 1 Ω | NG |
| E86-8 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E86-9 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E86-8 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E86-9 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E86-8 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E86-9 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E86-8 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E86-9 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DISTANCE CONTROL ECU (CANH, CANL)

OK

REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

57.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector connector.

NEXT

58.CHECK FOR SHORT IN CAN BUS WIRES (YAW RATE SENSOR)

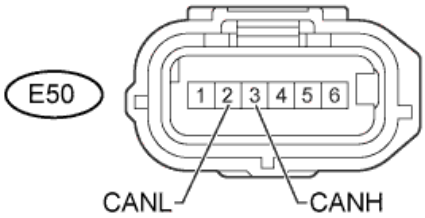
a. Disconnect the E50 yaw rate sensor connector.

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

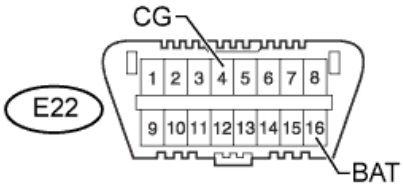
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | Below 1 Ω | NG |
| E50-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E50-2 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E50-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E50-2 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E50-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E50-2 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E50-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E50-2 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Yaw Rate Sensor)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO YAW RATE SENSOR (CANH, CANL)

OK

REPLACE YAW RATE SENSOR ASSEMBLY (Click here)

## 59.CONNECT CONNECTOR

a. Reconnect the E71 No. 4 junction connector connector.

NEXT

## 60.CHECK FOR SHORT IN CAN BUS WIRES (4WD CONTROL ECU)

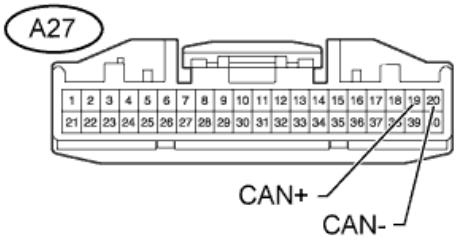
a. Disconnect the A27 4WD control ECU connector.

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

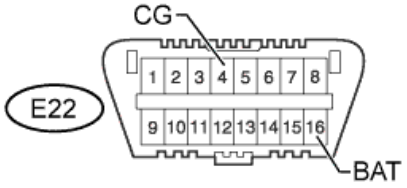
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| A27-19 (CAN+) - A27-20 (CAN-) | Engine switch off | 1 Ω or higher | OK |
| A27-19 (CAN+) - A27-20 (CAN-) | Engine switch off | Below 1 Ω | NG |
| A27-19 (CAN+) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| A27-20 (CAN-) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| A27-19 (CAN+) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| A27-20 (CAN-) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| A27-19 (CAN+) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| A29-20 (CAN-) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| A27-19 (CAN+) - E22- | Engine | | |

Front view of wire harness connector:
(to 4WD Control ECU)




Front view of DLC3:



| | | | |
|---|---|---|---|
| 16 (BAT) | switch off | Below 1 Ω | NG |
| A27-20 (CAN-) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO 4WD CONTROL ECU (CAN+, CAN-)

OK

REPLACE 4WD CONTROL ECU (Click here)

61.CONNECT CONNECTOR

a. Reconnect the E71 No. 4 junction connector connector.

NEXT

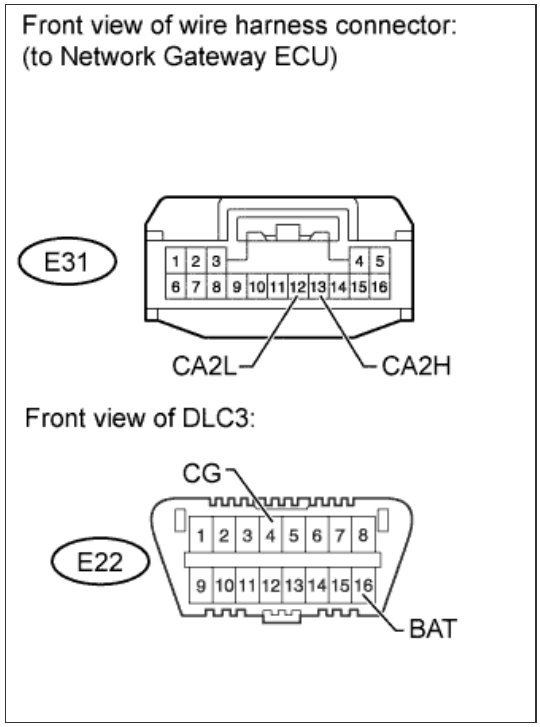
62.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

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

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 1 Ω or higher | OK |
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | Below 1 Ω | NG |
| E31-13 (CA2H) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E31-12 (CA2L) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E31-13 (CA2H) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E31-12 (CA2L) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E31-13 (CA2H) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E31-12 (CA2L) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E31-13 (CA2H) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E31-12 (CA2L) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CA2H, CA2L)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

63.CHECK HARNESS AND CONNECTOR (NETWORK GATEWAY ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E31 network gateway ECU connector.

b. Disconnect the E31 network gateway ECU connector.

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

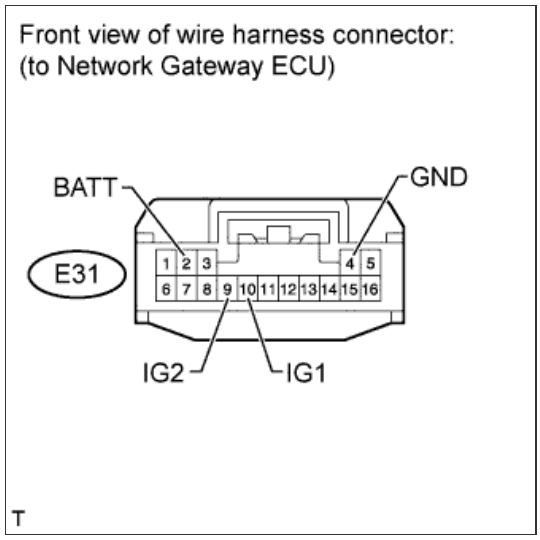
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E31-4 (GND) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-2 (BATT) - Body ground | Always | 11 to 14 V |
| E31-9 (IG2) - Body ground | Engine switch on (IG) | 11 to 14 V |
| E31-10 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## DTC U0125 Lost Communication with Yaw Rate Sensor Module

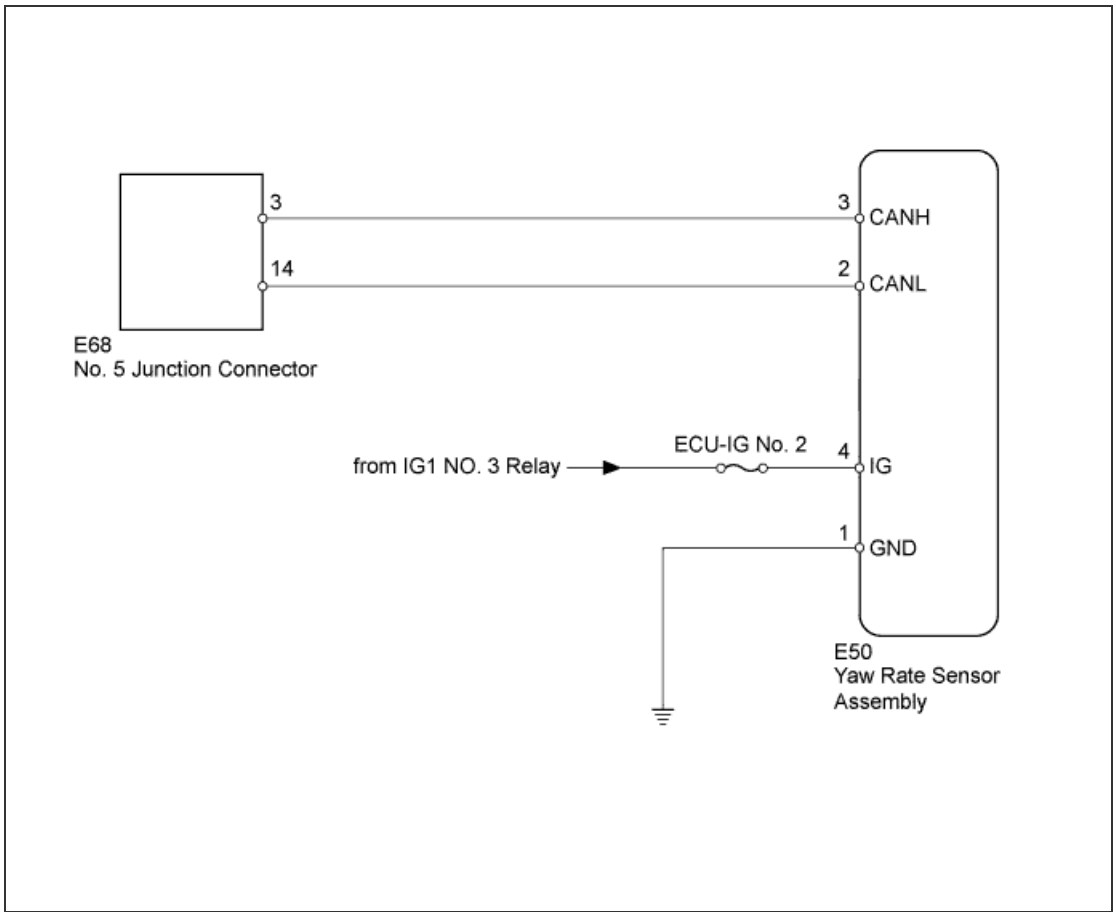
## DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0125 | There is no communication from the yaw rate sensor assembly. | • Power source circuit of yaw rate sensor assembly<br>• Yaw rate sensor CAN branch wire or connector<br>• Yaw rate sensor assembly |
| U0124 | There is no communication from the yaw rate sensor assembly (lateral acceleration sensor). | • Power source circuit of yaw rate sensor assembly<br>• Yaw rate sensor CAN branch wire or connector<br>• Yaw rate sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

**NEXT**

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (YAW RATE SENSOR ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the E50 yaw rate sensor assembly connector.

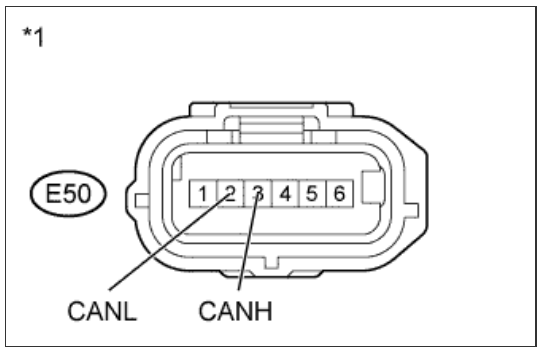
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Yaw Rate Sensor Assembly) |




**NG** → **REPAIR OR REPLACE YAW RATE SENSOR ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)**

**OK**

## 4.CHECK HARNESS AND CONNECTOR (YAW RATE SENSOR ASSEMBLY - BATTERY AND BODY GROUND)

a. 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).

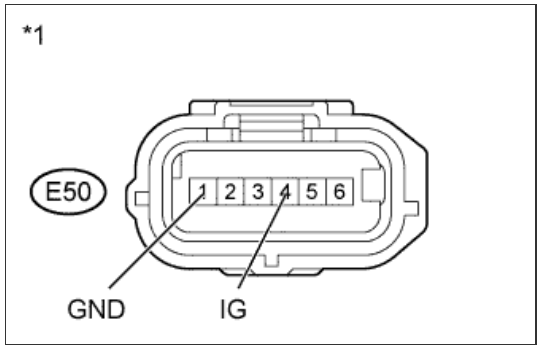
b. Measure the voltage according to the value(s) in table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-4 (IG) - 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 |
|---|---|---|
| E50-1 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Yaw Rate Sensor Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE YAW RATE SENSOR ASSEMBLY (Click here)

## DTC U1002 (CAN No. 2 BUS) Lost Communication with Gateway Module (Network Gateway ECU)

**for Preparation** Click here

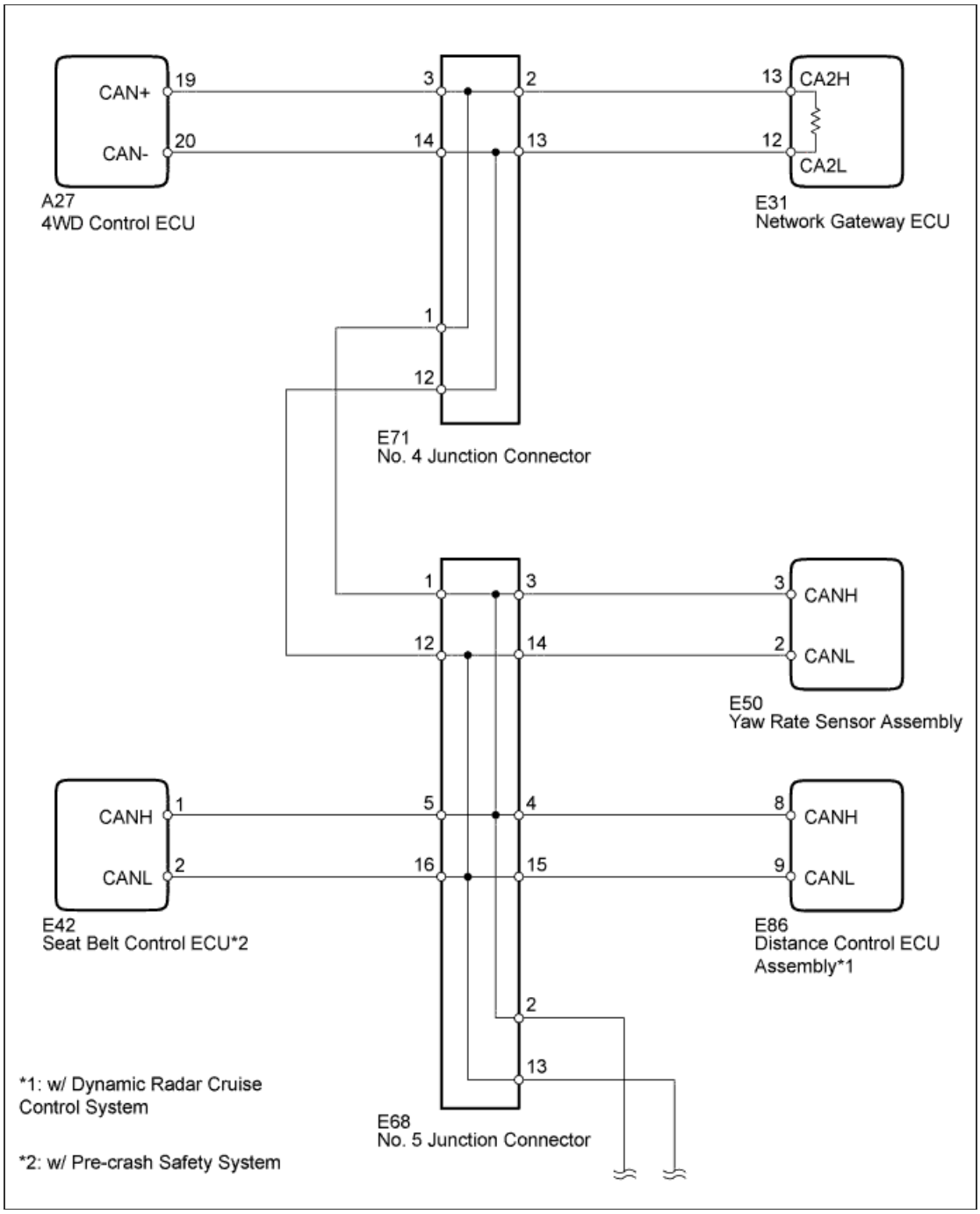
### DESCRIPTION

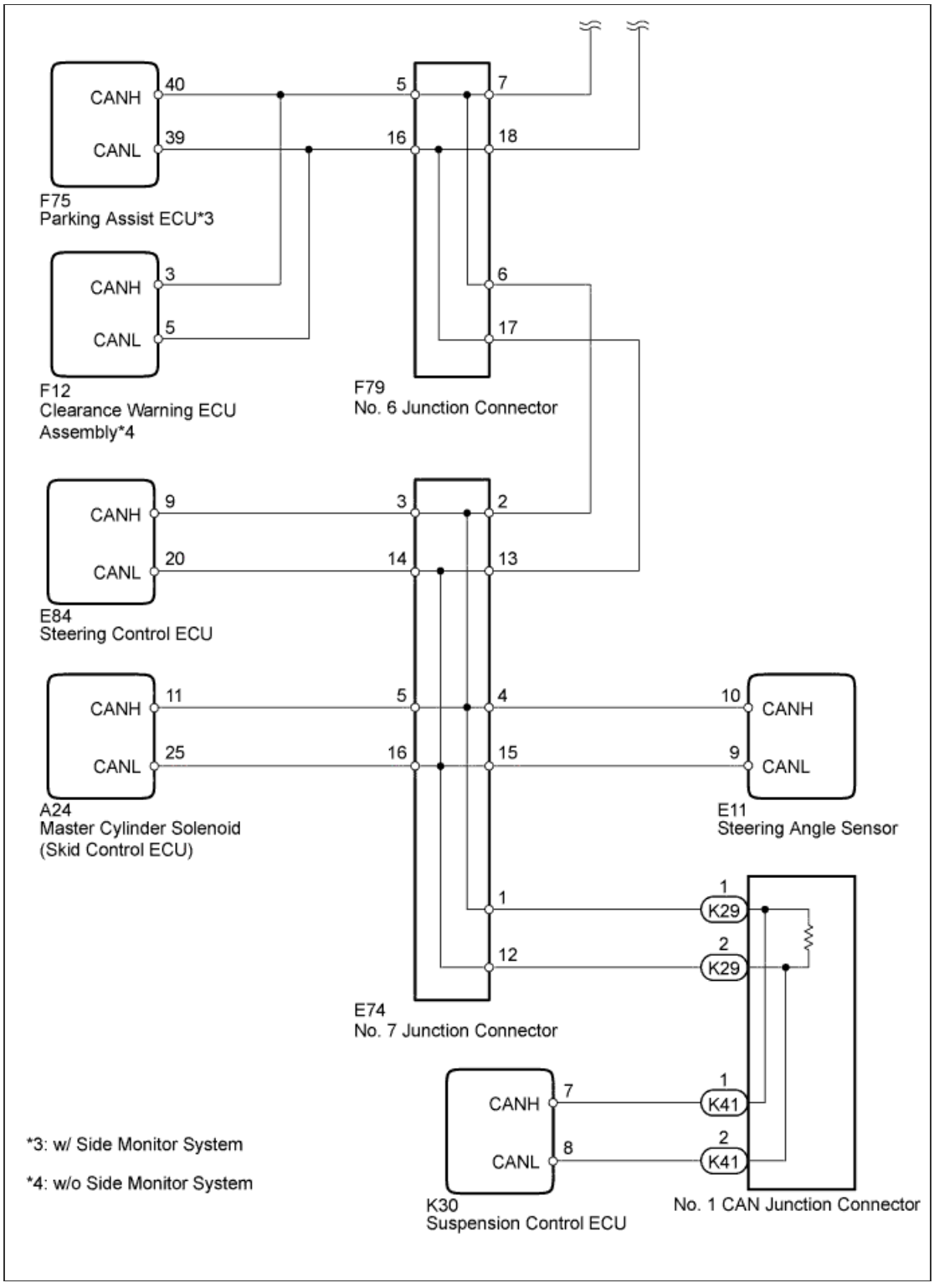
- The network gateway ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN movement control bus.
- When the network gateway ECU receives a response signal from the ECUs connected to the CAN movement control bus, the network gateway ECU recognizes and memorizes that the ECU is connected to the CAN movement control bus. Based on this memorized data, the network gateway ECU monitors for malfunctions in the ECUs connected to the CAN movement control bus when communicating with those ECUs. If the network gateway ECU cannot receive response signals from the ECUs that have been memorized as those connected to the CAN movement control bus, the network gateway ECU determines that a malfunction exists.
- If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (one side of the CANH [CAN branch wire]/CANL [CAN branch wire] of the ECU and/or sensor is open).

| DTC Code | Symptoms | Trouble Area |
|---|---|---|
| U1002 (CAN No. 2 BUS) | Lost communication with the gateway module (network gateway ECU). | • Movement control bus circuit<br>• 4WD control ECU CAN branch wire or connector<br>• Yaw rate sensor assembly CAN branch wire or connector<br>• Distance control ECU assembly CAN branch wire or connector*1<br>• Seat belt control ECU CAN branch wire or connector*2<br>• Parking assist ECU CAN branch wire or connector*3<br>• Clearance warning ECU assembly CAN branch wire or connector*4<br>• Master cylinder solenoid (skid control ECU) CAN branch wire or connector<br>• Steering angle sensor CAN branch wire or connector<br>• Network gateway ECU CAN main wire or connector<br>• Steering control ECU CAN branch wire or connector<br>• Suspension control ECU CAN branch wire or connector<br>• 4WD control ECU<br>• Yaw rate sensor assembly<br>• Distance control ECU assembly*1<br>• Seat belt control ECU*2<br>• Parking assist ECU*3<br>• Clearance warning ECU assembly*4<br>• Master cylinder solenoid (skid control ECU)<br>• Steering angle sensor<br>• Steering control ECU<br>• Suspension control ECU<br>• Network gateway ECU<br>• No. 4 junction connector<br>• No. 5 junction connector<br>• No. 6 junction connector<br>• No. 7 junction connector<br>• No. 1 CAN junction connector |

*1: w/ Dynamic Radar Cruise Control System
*2: w/ Pre-crash Safety System
*3: w/ Side Monitor System
*4: w/o Side Monitor System

### WIRING DIAGRAM


CAN+
19
CAN-
20
A27
4WD Control ECU
3
2
14
13
13
CA2H
12
CA2L
E31
Network Gateway ECU
1
12
E71
No. 4 Junction Connector
1
3
12
14
3
CANH
2
CANL
E50
Yaw Rate Sensor Assembly
CANH
1
CANL
2
E42
Seat Belt Control ECU*2
5
4
16
15
8
CANH
9
CANL
E86
Distance Control ECU
Assembly*1
2
13
E68
No. 5 Junction Connector
*1: w/ Dynamic Radar Cruise
Control System
*2: w/ Pre-crash Safety System




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**CAUTION:**

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

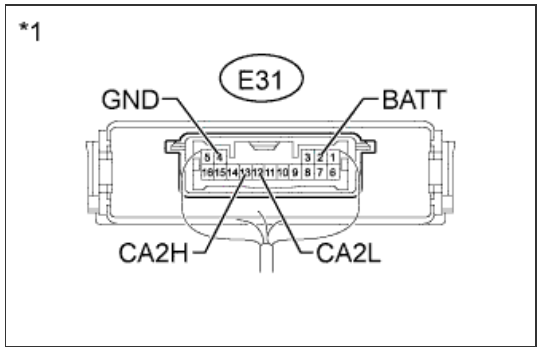
**NOTICE:**

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

**NEXT**

## 3.CHECK CAN BUS WIRE (CAN MAIN WIRE FOR DISCONNECTION, CHECK BUS LINE FOR SHORT CIRCUIT)

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




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Resistance Malfunction |
|---|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 54 to 69 Ω | Below 53 Ω: Short in line |
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 54 to 69 Ω | 70 Ω or higher: Open in CAN main bus line |
| E31-13 (CA2H) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E31-12 (CA2L) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E31-13 (CA2H) - E31-4 (GND) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |
| E31-12 (CA2L) - E31-4 (GND) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |

**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Network Gateway ECU) |

**Result**

| Result | Proceed to |
|---|---|
| NG<br>• Open in CAN main wire | A |
| NG<br>• Short in line<br>• +B short<br>• Ground short | B |
| OK | C |

**B** → Go to step 19

**C** → Go to step 64

**A**

## 4.CHECK FOR OPEN IN MAIN BUS WIRE (NO. 7 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Disconnect the E74 No. 7 junction connector.

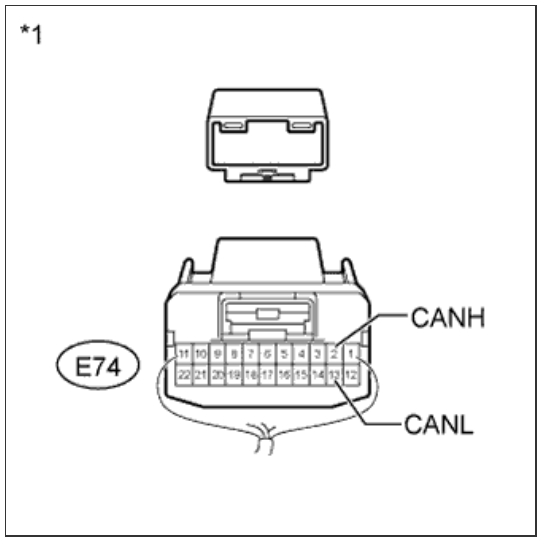
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-2 (CANH) - E74-13 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 7 Junction Connector) |




NG → Go to step 6

OK

## 5.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)

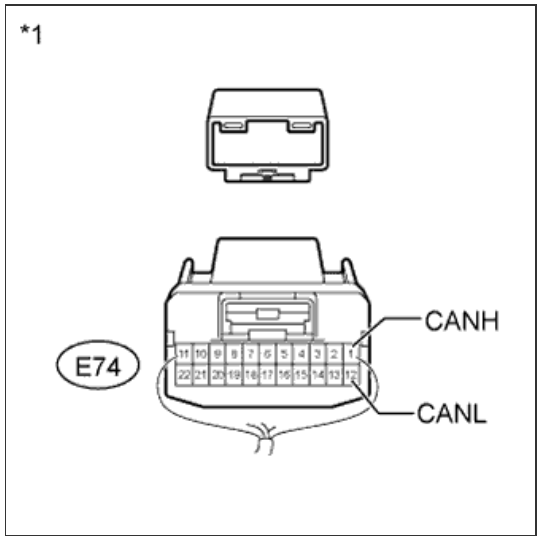
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-1 (CANH) - E74-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 7 Junction Connector) |




NG → Go to step 15

OK

REPLACE NO. 7 JUNCTION CONNECTOR

## 6.CONNECT CONNECTOR

a. Reconnect the E74 No. 7 junction connector.

NEXT

## 7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

a. Disconnect the F79 No. 6 junction connector.

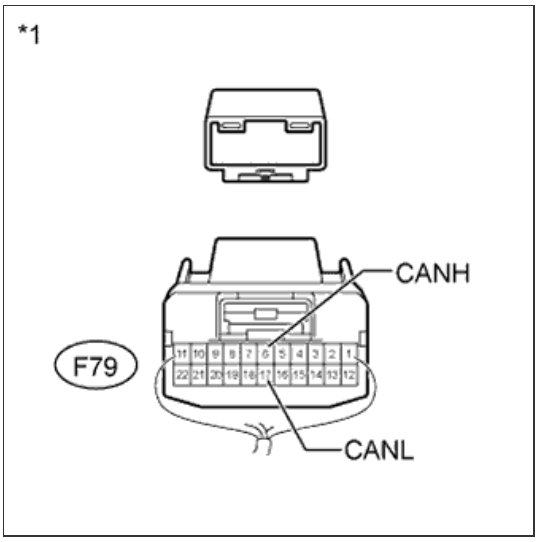
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F79-6 (CANH) - F79-17 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 6 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

OK

## 8.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 6 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

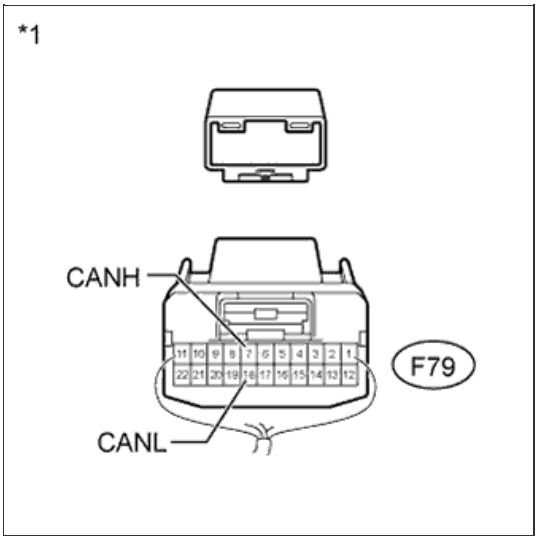
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F79-7 (CANH) - F79-18 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 6 Junction Connector) |




NG → Go to step 9

OK

## REPLACE NO. 6 JUNCTION CONNECTOR

## 9.CONNECT CONNECTOR

a. Reconnect the F79 No. 6 junction connector.

NEXT

## 10.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

a. Disconnect the E68 No. 5 junction connector.

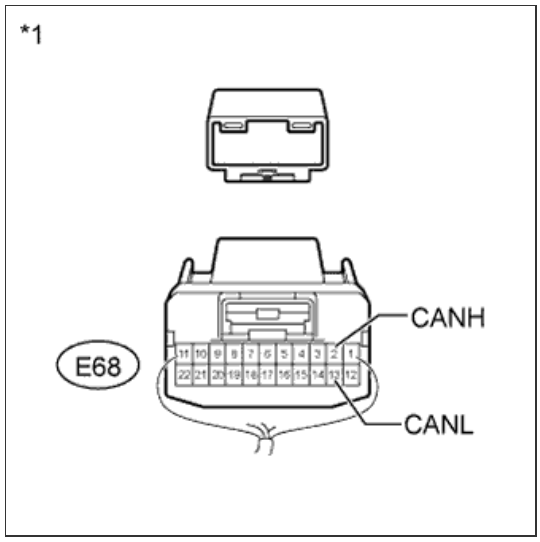
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-2 (CANH) - E68-13 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 5 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

OK

**11.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 5 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)**

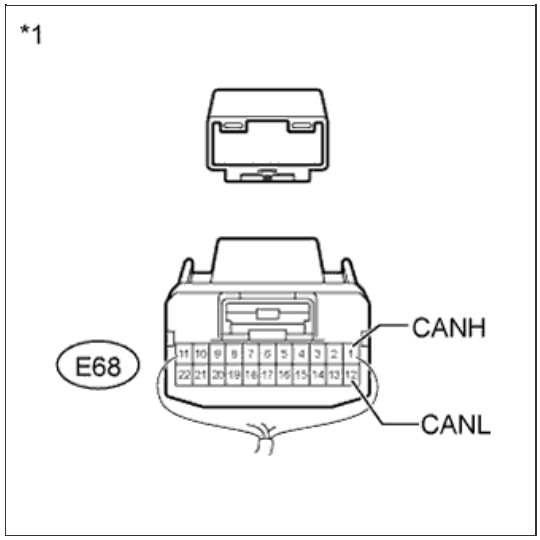
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-1 (CANH) - E68-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 5 Junction Connector) |




NG → Go to step 12

OK

**REPLACE NO. 5 JUNCTION CONNECTOR**

**12.CONNECT CONNECTOR**

a. Reconnect the E68 No. 5 junction connector.

NEXT

**13.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)**

a. Disconnect the E71 No. 4 junction connector.

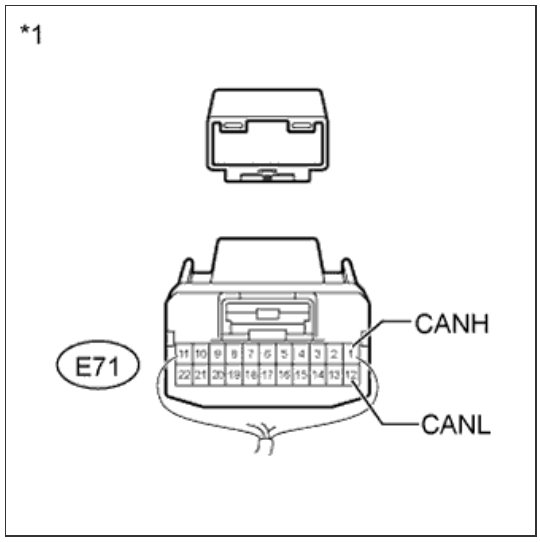
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-1 (CANH) - E71-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

OK

**14.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 4 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)**

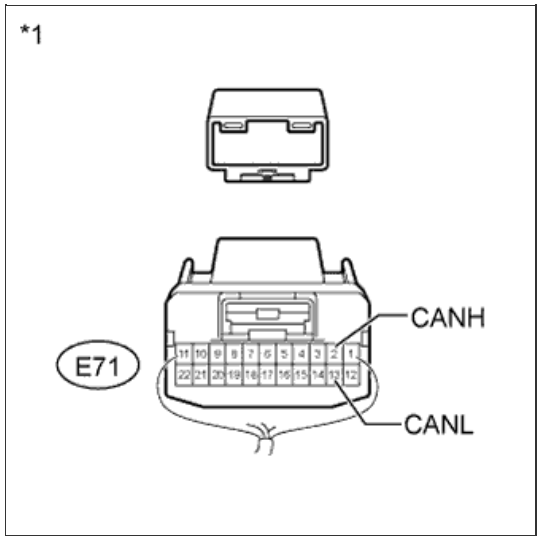
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-2 (CANH) - E71-13 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |




NG → Go to step 17

OK

**REPLACE NO. 4 JUNCTION CONNECTOR**

**15.CONNECT CONNECTOR**

a. Reconnect the E74 No. 7 junction connector.

NEXT

**16.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 CAN JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)**

a. Disconnect the K29 No. 1 CAN junction connector.

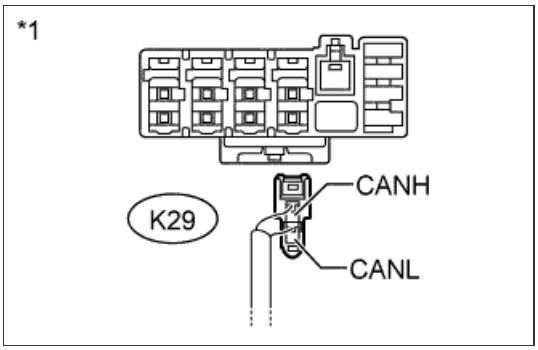
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K29-1 (CANH) - K29-2 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 CAN Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 CAN JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

OK

REPLACE NO. 1 CAN JUNCTION CONNECTOR

17.CONNECT CONNECTOR

a. Reconnect the E71 No. 4 junction connector.

NEXT

18.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NETWORK GATEWAY ECU - NO. 4 JUNCTION CONNECTOR)

a. Disconnect the E31 network gateway ECU connector.

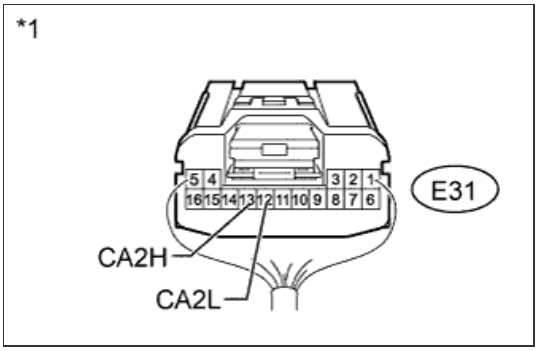
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Network Gateway ECU) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO NETWORK GATEWAY ECU (NETWORK GATEWAY ECU - NO. 4 JUNCTION CONNECTOR)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

19.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR SIDE)

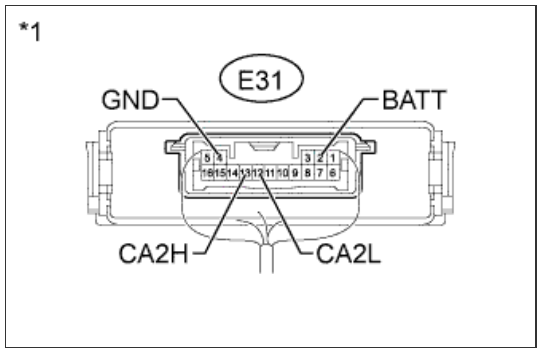
a. Disconnect the E74 No. 7 junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |

| | | |
|---|---|---|
| E31-13 (CA2H) - E31-4 (GND) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E31-4 (GND) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Network Gateway ECU) |

NG → Go to step 24

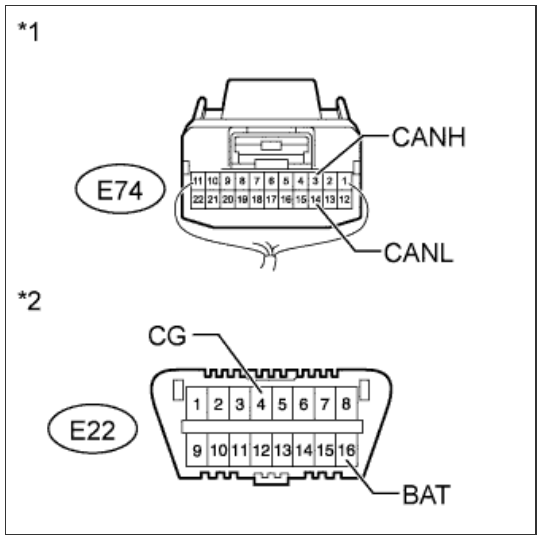
OK

## 20.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - STEERING CONTROL ECU)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-3 (CANH) - E74-14 (CANL) | Engine switch off | 200 Ω or higher |
| E74-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E74-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 7 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 39

OK

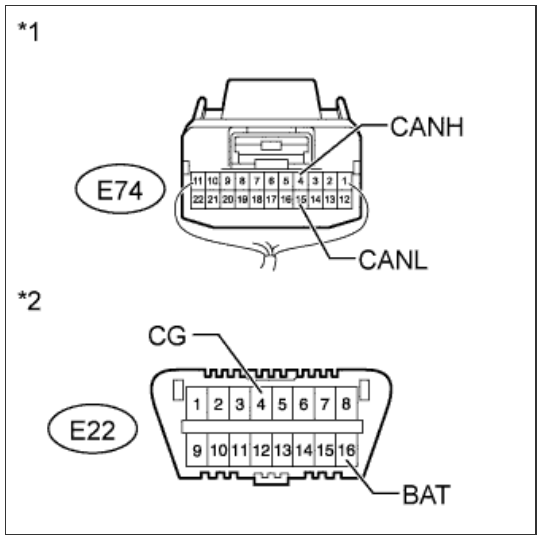
## 21.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - STEERING ANGLE SENSOR)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-4 (CANH) - E74-15 (CANL) | Engine switch off | 200 Ω or higher |
| E74-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-4 (CANH) - | | |

| | | |
|---|---|---|
| E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E74-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 7 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 41

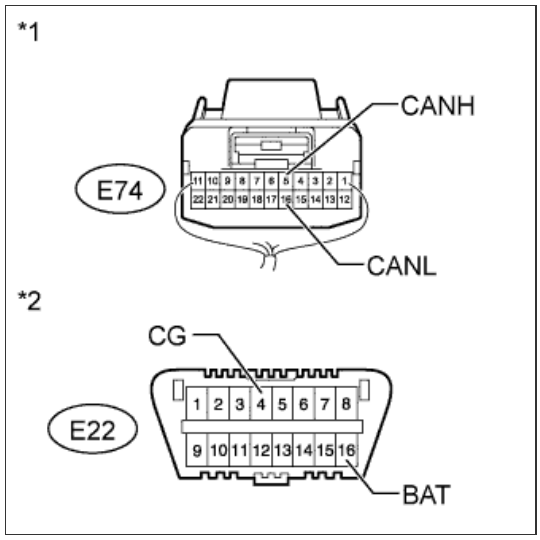
OK

## 22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - SKID CONTROL ECU)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-5 (CANH) - E74-16 (CANL) | Engine switch off | 200 Ω or higher |
| E74-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E74-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 7 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 43

OK

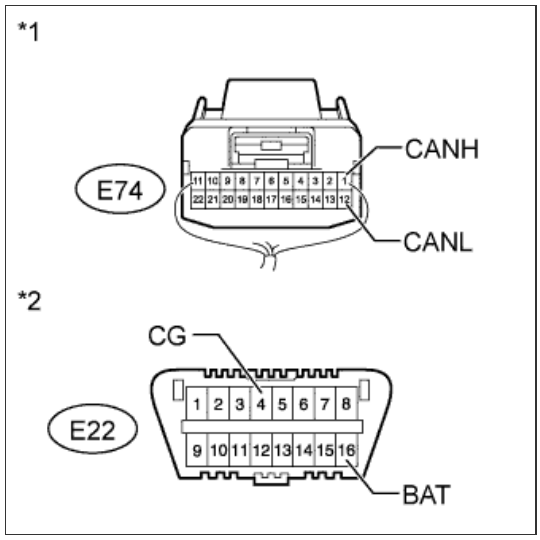
## 23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-1 (CANH) - E74-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E74-1 (CANH) - | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E22-4 (CG) | | |
| E74-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E74-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 7 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 45

OK

REPLACE NO. 7 JUNCTION CONNECTOR

24.CONNECT CONNECTOR

a. Reconnect the E74 No. 7 junction connector.

NEXT

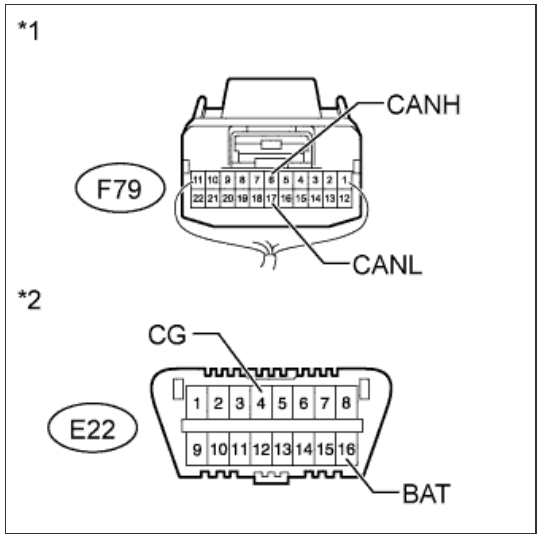
25.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

a. Disconnect the F79 No. 6 junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F79-6 (CANH) - F79-17 (CANL) | Engine switch off | 108 to 132 Ω |
| F79-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F79-17 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F79-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| F79-17 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

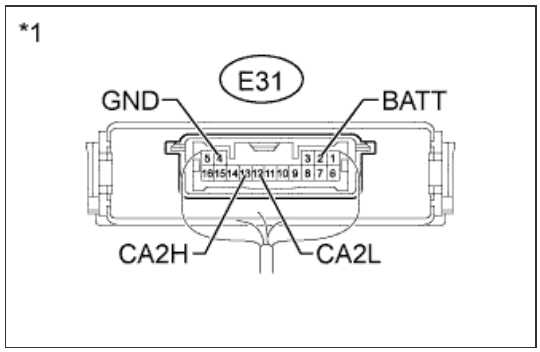
| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 6 Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

OK

26.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR SIDE)

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




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E31-4 (GND) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E31-4 (GND) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Network Gateway ECU) |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/o Side Monitor System) | A |
| OK (w/ Side Monitor System) | B |
| NG | C |

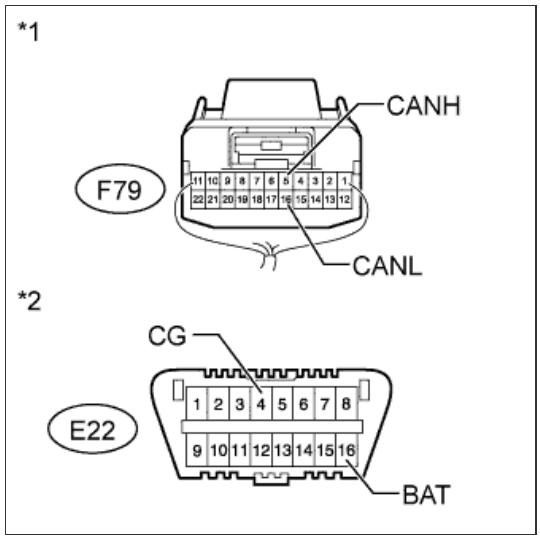
B → Go to step 28

C → Go to step 29

A

## 27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - CLEARANCE WARNING ECU ASSEMBLY)

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




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F79-5 (CANH) - F79-16 (CANL) | Engine switch off | 200 Ω or higher |
| F79-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F79-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F79-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| F79-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 6 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 50

OK

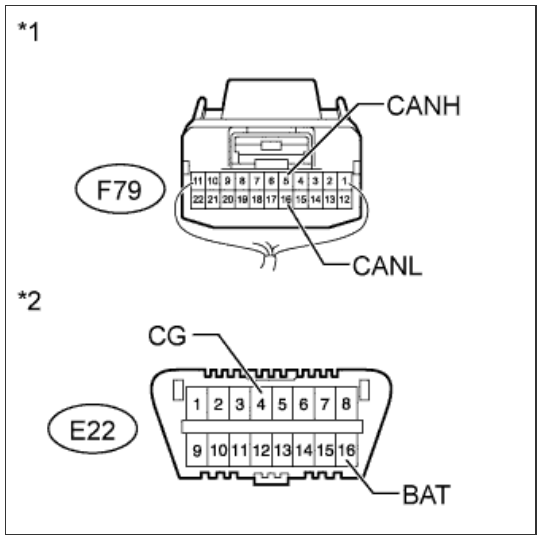
REPLACE NO. 6 JUNCTION CONNECTOR

28.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - PARKING ASSIST ECU)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F79-5 (CANH) - F79-16 (CANL) | Engine switch off | 200 Ω or higher |
| F79-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F79-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F79-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| F79-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 6 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 52

OK

REPLACE NO. 6 JUNCTION CONNECTOR

29.CONNECT CONNECTOR

a. Reconnect the F79 No. 6 junction connector.

NEXT

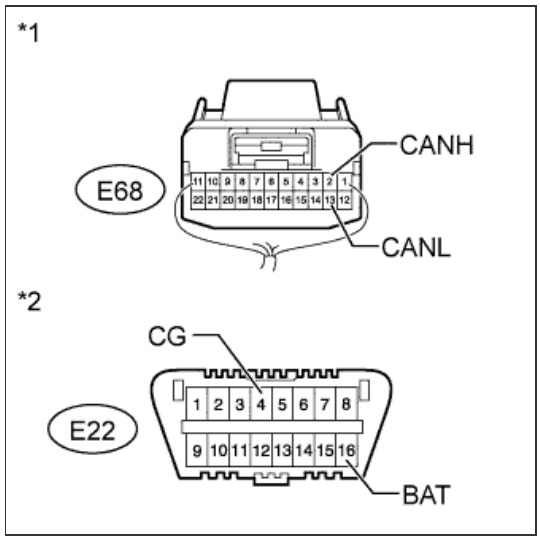
30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

a. Disconnect the E68 No. 5 junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-2 (CANH) - E68-13 (CANL) | Engine switch off | 108 to 132 Ω |
| E68-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E68-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| | Rear view of wire harness connector |

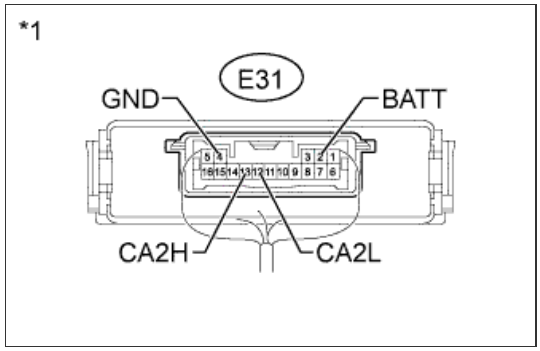
| | |
|---|---|
| *1 | (to No. 5 Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

OK

## 31.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR SIDE)

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




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E31-4 (GND) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E31-4 (GND) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Network Gateway ECU) |

NG → Go to step 35

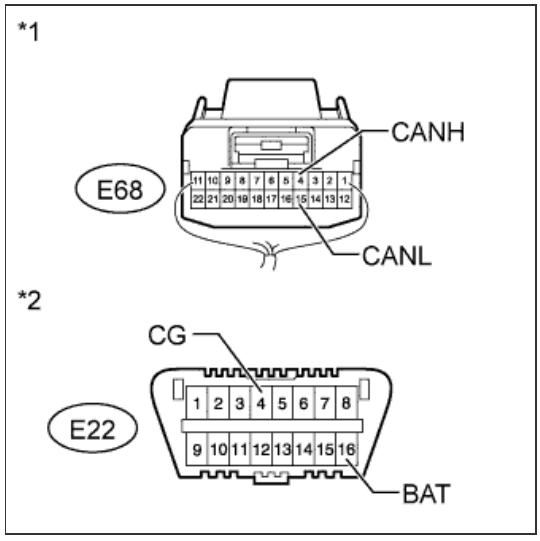
OK

## 32.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - DISTANCE CONTROL ECU ASSEMBLY)

**NOTICE:**

For vehicles without a dynamic radar cruise control system, go to "Check for Short in CAN Bus Wires (No. 5 Junction Connector - Seat Belt Control ECU)".

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




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-4 (CANH) - E68-15 (CANL) | Engine switch off | 200 Ω or higher |
| E68-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E68-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| | Rear view of wire harness connector |

| | |
|---|---|
| *1 | (to No. 5 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 54

OK

## 33.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - SEAT BELT CONTROL ECU)

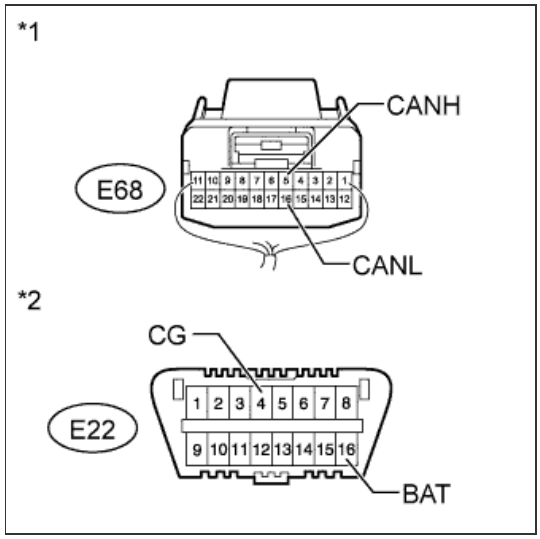
**NOTICE:**

For vehicles without a pre-crash safety system, go to "Check for Short in CAN Bus Wires (No. 5 Junction Connector - Yaw Rate Sensor Assembly)".

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-5 (CANH) - E68-16 (CANL) | Engine switch off | 200 Ω or higher |
| E68-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E68-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 5 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 56

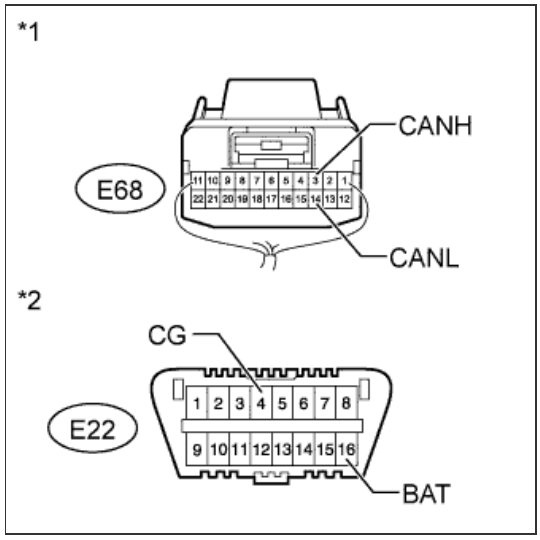
OK

## 34.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - YAW RATE SENSOR ASSEMBLY)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-3 (CANH) - E68-14 (CANL) | Engine switch off | 200 Ω or higher |
| E68-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E68-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 5 Junction Connector) |

| | |
|---|---|
| *2 | DLC3 |

NG → Go to step 58

OK

REPLACE NO. 5 JUNCTION CONNECTOR

35.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector.

NEXT

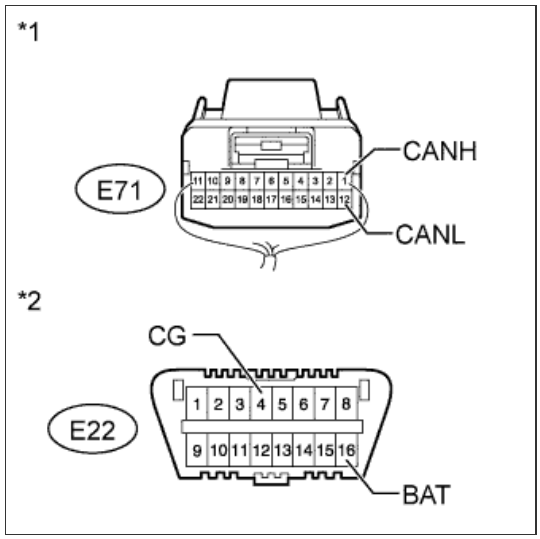
36.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

a. Disconnect the E71 No. 4 junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-1 (CANH) - E71-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E71-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E71-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E71-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E71-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

OK

37.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - 4WD CONTROL ECU)

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

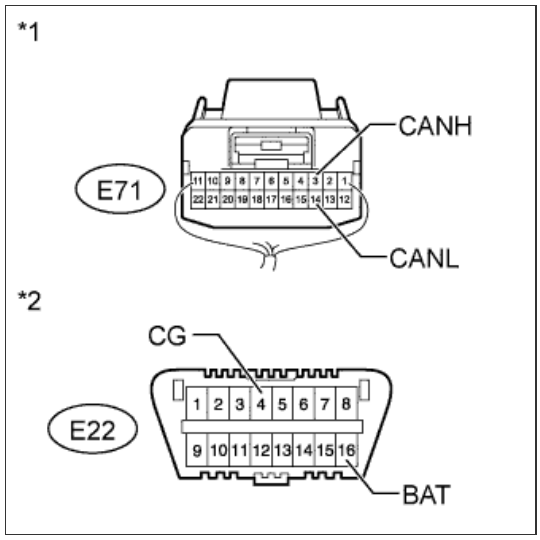
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-3 (CANH) - E71-14 (CANL) | Engine switch off | 200 Ω or higher |
| E71-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E71-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E71-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E71-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 60

OK

## 38.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

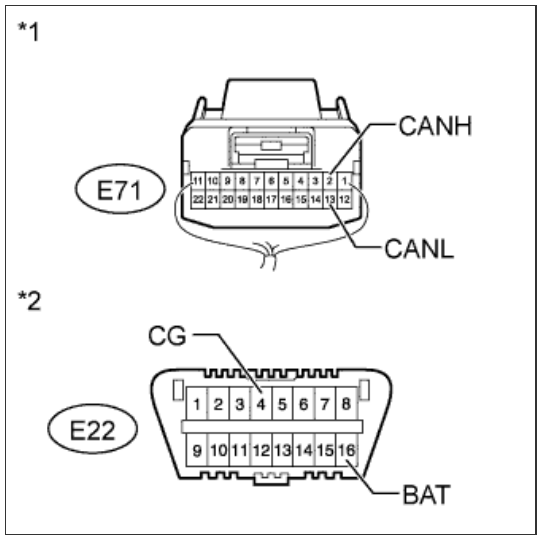
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-2 (CANH) - E71-13 (CANL) | Engine switch off | 108 to 132 Ω |
| E71-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E71-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E71-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E71-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 62

OK

## REPLACE NO. 4 JUNCTION CONNECTOR

## 39.CONNECT CONNECTOR

a. Reconnect the E74 No. 7 junction connector.

NEXT

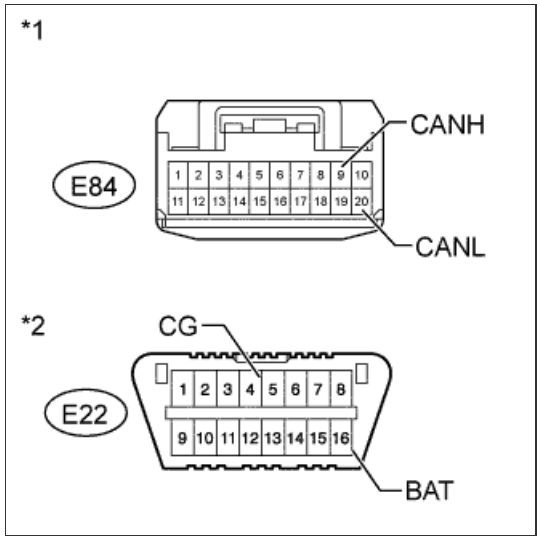
## 40.CHECK FOR SHORT IN CAN BUS WIRES (STEERING CONTROL ECU)

a. Disconnect the E84 steering control ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | Engine switch off | 54 to 69 Ω |
| E84-9 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E84-20 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E84-9 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E84-20 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Steering Control ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO STEERING CONTROL ECU (CANH, CANL)

OK

REPLACE STEERING CONTROL ECU (Click here)

## 41.CONNECT CONNECTOR

a. Reconnect the E74 No. 7 junction connector.

NEXT

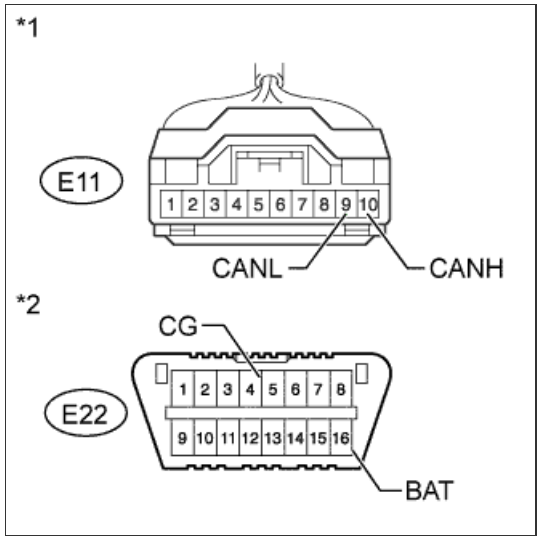
## 42.CHECK FOR SHORT IN CAN BUS WIRES (STEERING ANGLE SENSOR)

a. Disconnect the E11 steering angle sensor connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E11-10 (CANH) - E11-9 (CANL) | Engine switch off | 54 to 69 Ω |
| E11-10 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E11-9 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E11-10 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E11-9 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Steering Angle Sensor) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO STEERING ANGLE SENSOR (CANH, CANL)

OK

REPLACE STEERING ANGLE SENSOR (Click here)

43.CONNECT CONNECTOR

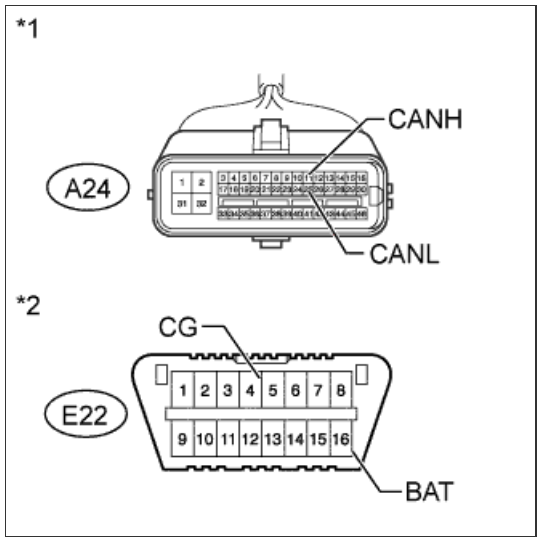
a. Reconnect the E74 No. 7 junction connector.

NEXT

44.CHECK FOR SHORT IN CAN BUS WIRES (SKID CONTROL ECU)

a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

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




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | Engine switch off | 54 to 69 Ω |
| A24-11 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| A24-25 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| A24-11 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| A24-25 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Master Cylinder Solenoid [Skid Control ECU]) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO SKID CONTROL ECU (CANH, CANL)

OK

REPLACE MASTER CYLINDER SOLENOID (SKID CONTROL ECU) (Click here)

45.CONNECT CONNECTOR

a. Reconnect the E74 No. 7 junction connector.

NEXT

46.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR - SUSPENSION CONTROL ECU)

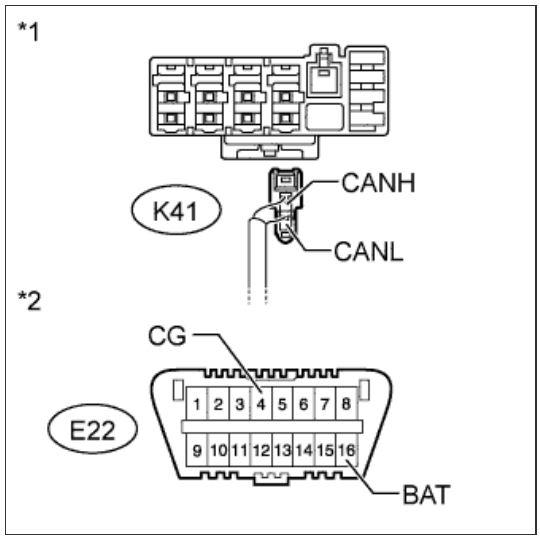
a. Disconnect the K41 No. 1 CAN junction connector.

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

**Standard Resistance:**

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

| | | Condition |
|---|---|---|
| K41-1 (CANH) - K41-2 (CANL) | Engine switch off | 200 Ω or higher |
| K41-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| K41-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| K41-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| K41-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 CAN Junction Connector) |
| *2 | DLC3 |

NG → Go to step 48

OK →

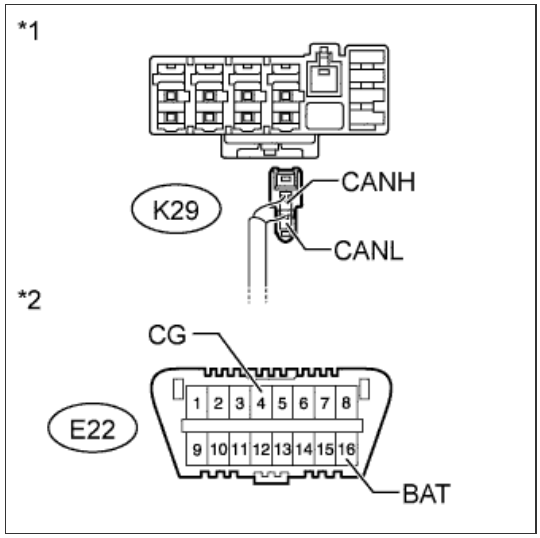
**47.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR)**

a. Disconnect the K29 No. 1 CAN junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K29-1 (CANH) - K29-2 (CANL) | Engine switch off | 108 to 132 Ω |
| K29-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| K29-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| K29-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| K29-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 CAN Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 CAN JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

OK →

REPLACE NO. 1 CAN JUNCTION CONNECTOR

**48.CONNECT CONNECTOR**

a. Reconnect the K41 No. 1 CAN junction connector.

NEXT

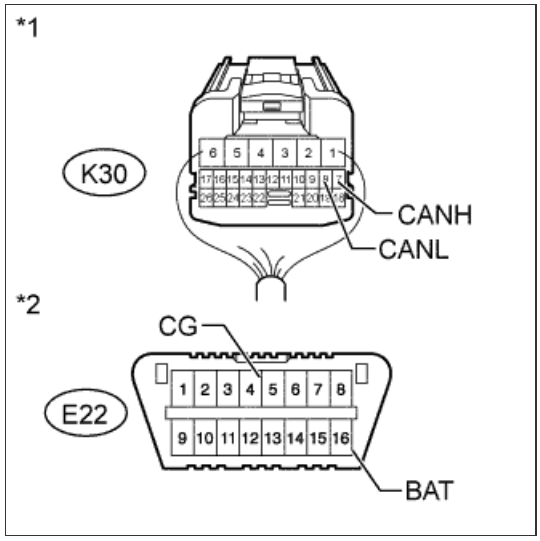
## 49.CHECK FOR SHORT IN CAN BUS WIRES (SUSPENSION CONTROL ECU)

a. Disconnect the K30 suspension control ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | Engine switch off | 54 to 69 Ω |
| K30-7 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| K30-8 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| K30-7 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| K30-8 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Suspension Control ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO SUSPENSION CONTROL ECU (CANH, CANL)

OK

REPLACE SUSPENSION CONTROL ECU (Click here)

## 50.CONNECT CONNECTOR

a. Reconnect the F79 No. 6 junction connector.

NEXT

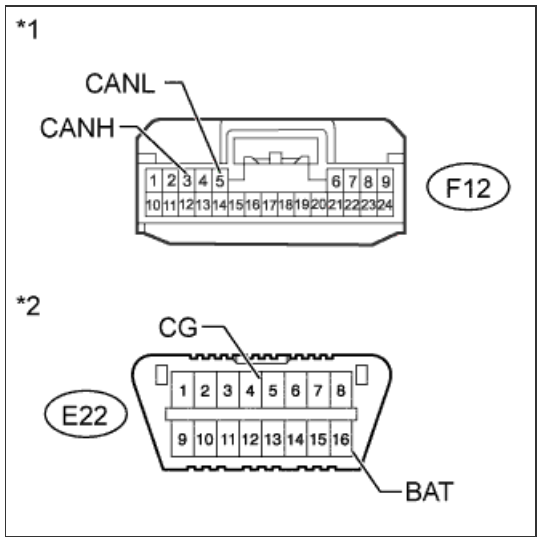
## 51.CHECK FOR SHORT IN CAN BUS WIRES (CLEARANCE WARNING ECU ASSEMBLY)

a. Disconnect the F12 clearance warning ECU assembly connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F12-3 (CANH) - F12-5 (CANL) | Engine switch off | 54 to 69 Ω |
| F12-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F12-5 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F12-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| F12-5 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| | Front view of wire harness connector |

| | |
|---|---|
| *1 | (to Clearance Warning ECU Assembly) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CLEARANCE WARNING ECU ASSEMBLY (CANH, CANL)

OK

REPLACE CLEARANCE WARNING ECU ASSEMBLY (Click here)

52.CONNECT CONNECTOR

a. Reconnect the F79 No. 6 junction connector.

NEXT

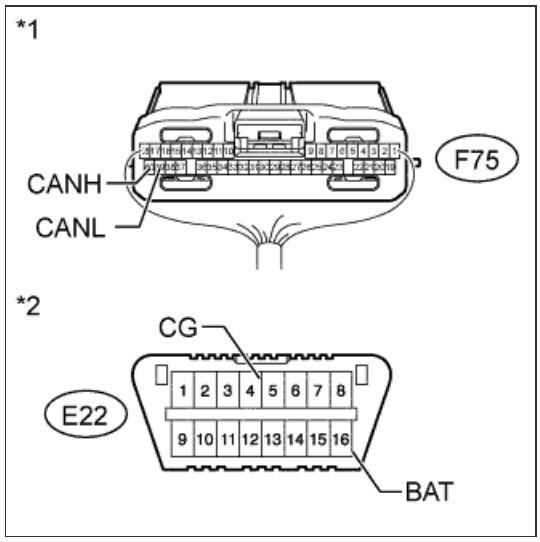
53.CHECK FOR SHORT IN CAN BUS WIRES (PARKING ASSIST ECU)

a. Disconnect the F75 parking assist ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F75-40 (CANH) - F75-39 (CANL) | Engine switch off | 54 to 69 Ω |
| F75-40 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F75-39 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F75-40 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| F75-39 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Parking Assist ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO PARKING ASSIST ECU (CANH, CANL)

OK

REPLACE PARKING ASSIST ECU (Click here)

54.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector.

NEXT

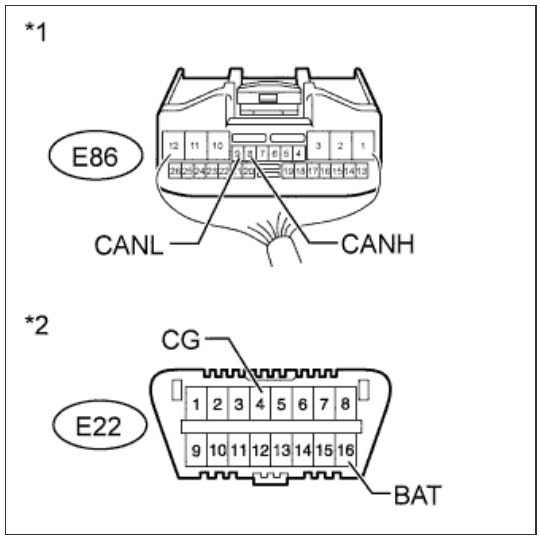
55.CHECK FOR SHORT IN CAN BUS WIRES (DISTANCE CONTROL ECU ASSEMBLY)

a. Disconnect the E86 distance control ECU assembly connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | Engine switch off | 54 to 69 Ω |
| E86-8 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E86-9 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E86-8 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E86-9 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Distance Control ECU Assembly) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DISTANCE CONTROL ECU ASSEMBLY (CANH, CANL)

OK → REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

## 56.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector.

NEXT

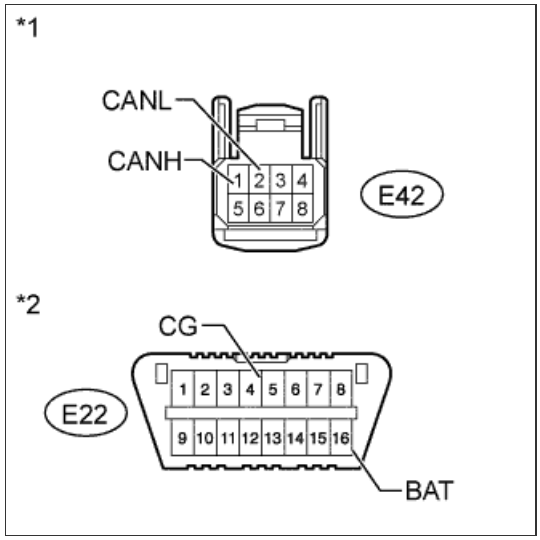
## 57.CHECK FOR SHORT IN CAN BUS WIRES (SEAT BELT CONTROL ECU)

a. Disconnect the E42 seat belt control ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | Engine switch off | 54 to 69 Ω |
| E42-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E42-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E42-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E42-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Seat Belt Control ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO SEAT BELT CONTROL ECU (CANH, CANL)

OK

REPLACE SEAT BELT CONTROL ECU (Click here)

58.CONNECT CONNECTOR

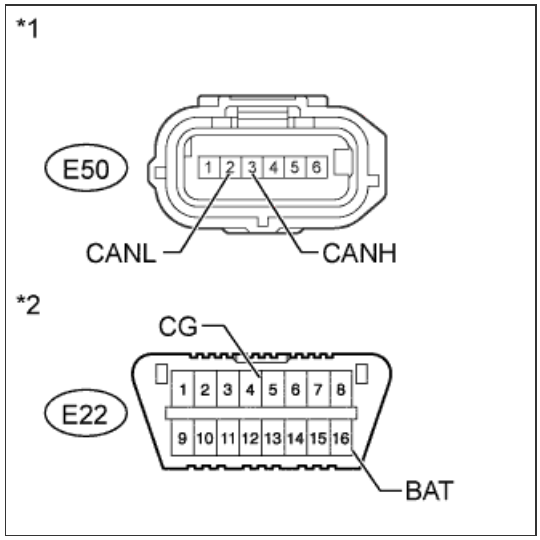
a. Reconnect the E68 No. 5 junction connector.

NEXT

59.CHECK FOR SHORT IN CAN BUS WIRES (YAW RATE SENSOR ASSEMBLY)

a. Disconnect the E50 yaw rate sensor assembly connector.

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




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | 54 to 69 Ω |
| E50-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E50-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E50-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E50-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Yaw Rate Sensor Assembly) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO YAW RATE SENSOR ASSEMBLY (CANH, CANL)

OK

REPLACE YAW RATE SENSOR ASSEMBLY (Click here)

60.CONNECT CONNECTOR

a. Reconnect the E71 No. 4 junction connector.

NEXT

61.CHECK FOR SHORT IN CAN BUS WIRES (4WD CONTROL ECU)

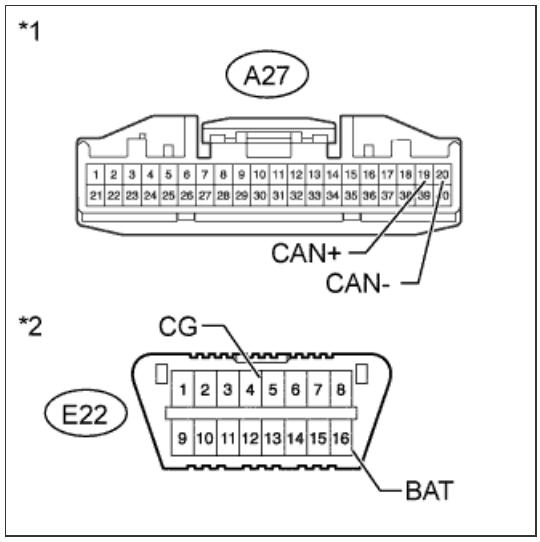
a. Disconnect the A27 4WD control ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A27-19 (CAN+) - | Engine switch off | 54 to 69 Ω |

| | | |
|---|---|---|
| A27-20 (CAN-) | | |
| A27-19 (CAN+) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| A27-20 (CAN-) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| A27-19 (CAN+) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| A27-20 (CAN-) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to 4WD Control ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO 4WD CONTROL ECU (CAN+, CAN-)

OK

REPLACE 4WD CONTROL ECU (Click here)

## 62.CONNECT CONNECTOR

a. Reconnect the E71 No. 4 junction connector.

NEXT

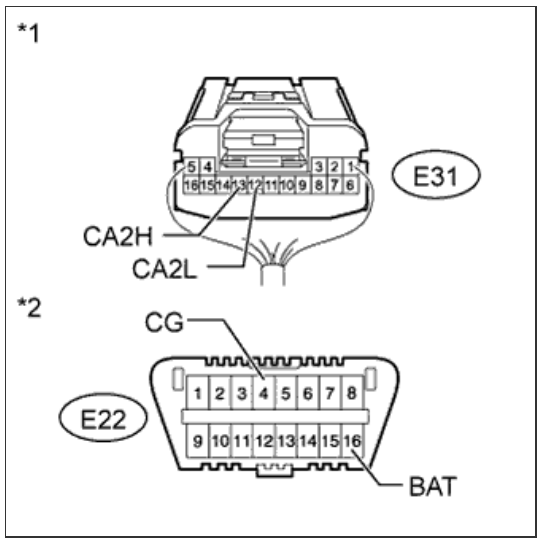
## 63.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Network Gateway ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO NETWORK GATEWAY ECU (CA2H, CA2L)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## 64.CHECK HARNESS AND CONNECTOR (NETWORK GATEWAY ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E31 network gateway ECU connector.

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

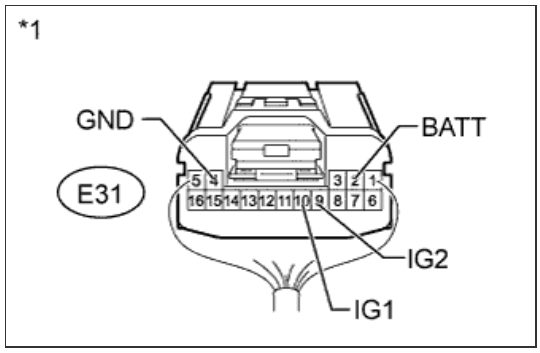
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-4 (GND) - Body ground | Engine switch off | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E31-2 (BATT) - Body ground | Always | 11 to 14 V |
| E31-9 (IG2) - Body ground | Engine switch on (IG) | 11 to 14 V |
| E31-10 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Network Gateway ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## DTC U0126 Lost Communication with Steering Angle Sensor Module

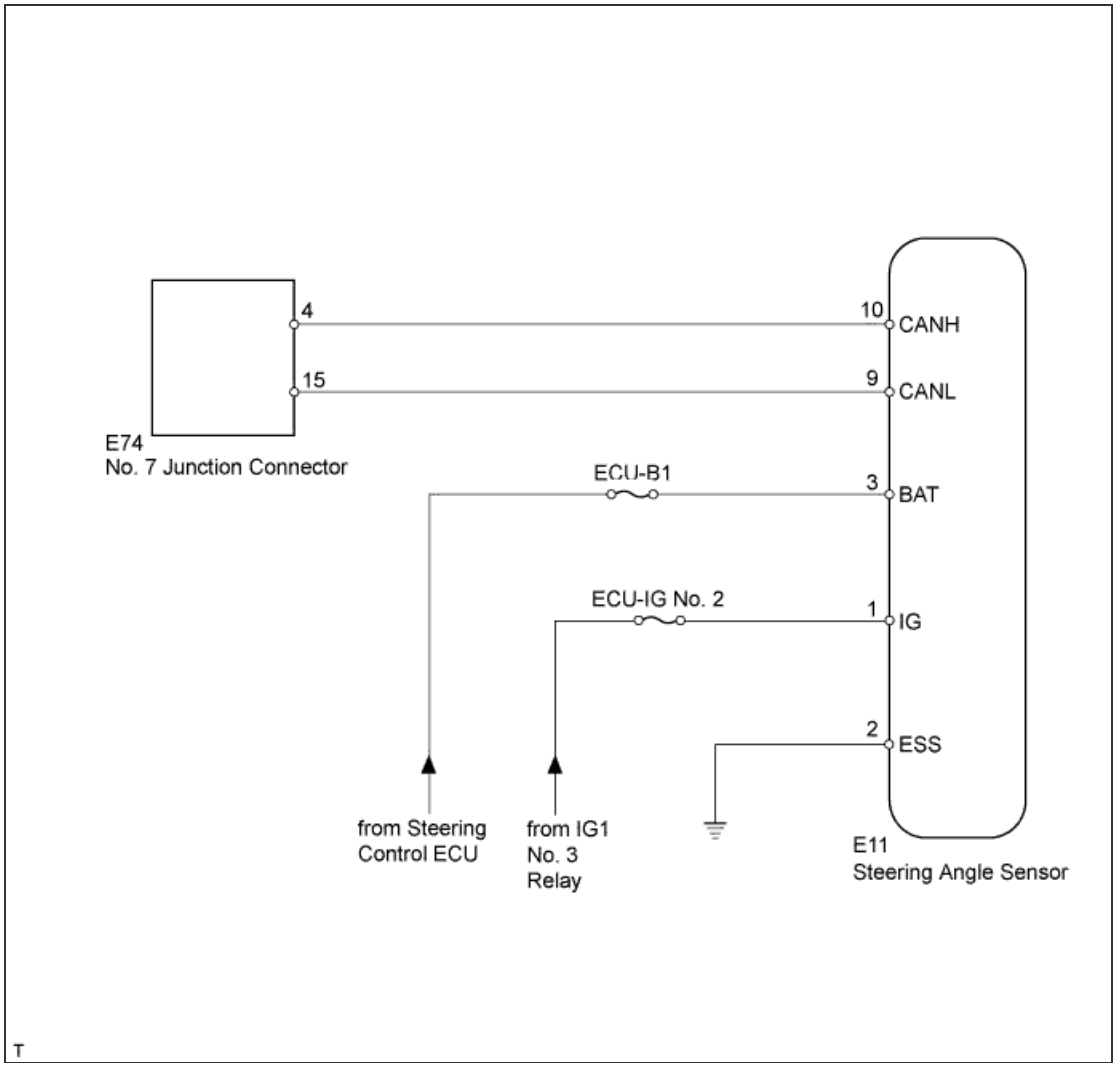
**for Preparation** Click here

### DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0126 | There is no communication from the steering angle sensor. | • Power source circuit of steering angle sensor<br>• One side of CAN branch wire of other systems<br>• Steering angle sensor<br>• Steering angle sensor branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

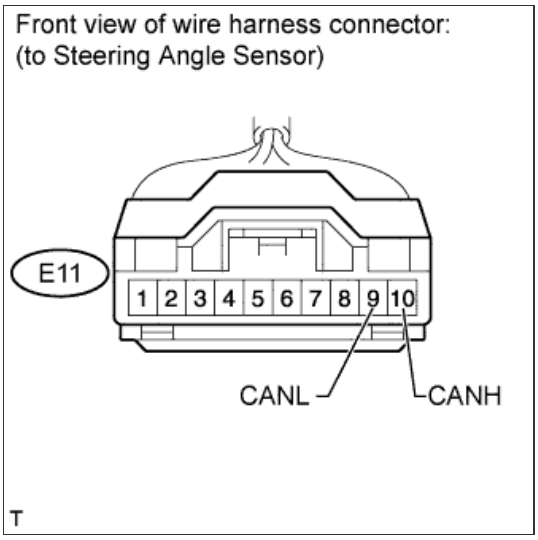
## 2.CHECK FOR OPEN IN CAN BUS WIRE (STEERING ANGLE SENSOR BRANCH WIRE)

a. Disconnect the E11 steering angle sensor connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E11-10 (CANH) - E11-9 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE STEERING ANGLE SENSOR BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (STEERING ANGLE SENSOR - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E11 steering angle sensor connector.

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

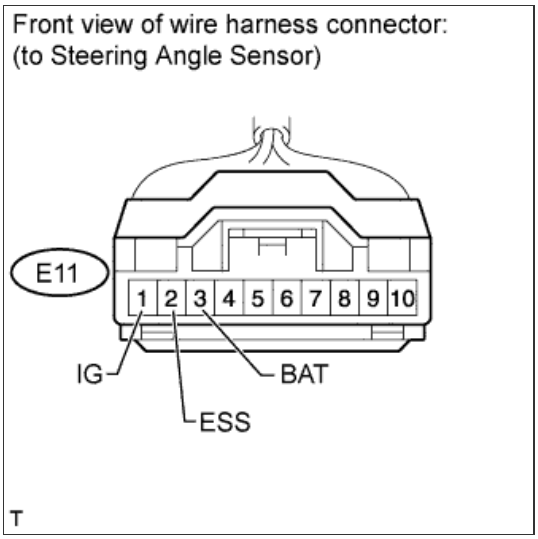
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E11-2 (ESS) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E11-3 (BAT) - Body ground | Always | 11 to 14 V |
| E11-1 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE STEERING ANGLE SENSOR (Click here)

## DTC U1100 Lost Communication with Seat Belt Control ECU

**for Preparation** Click here

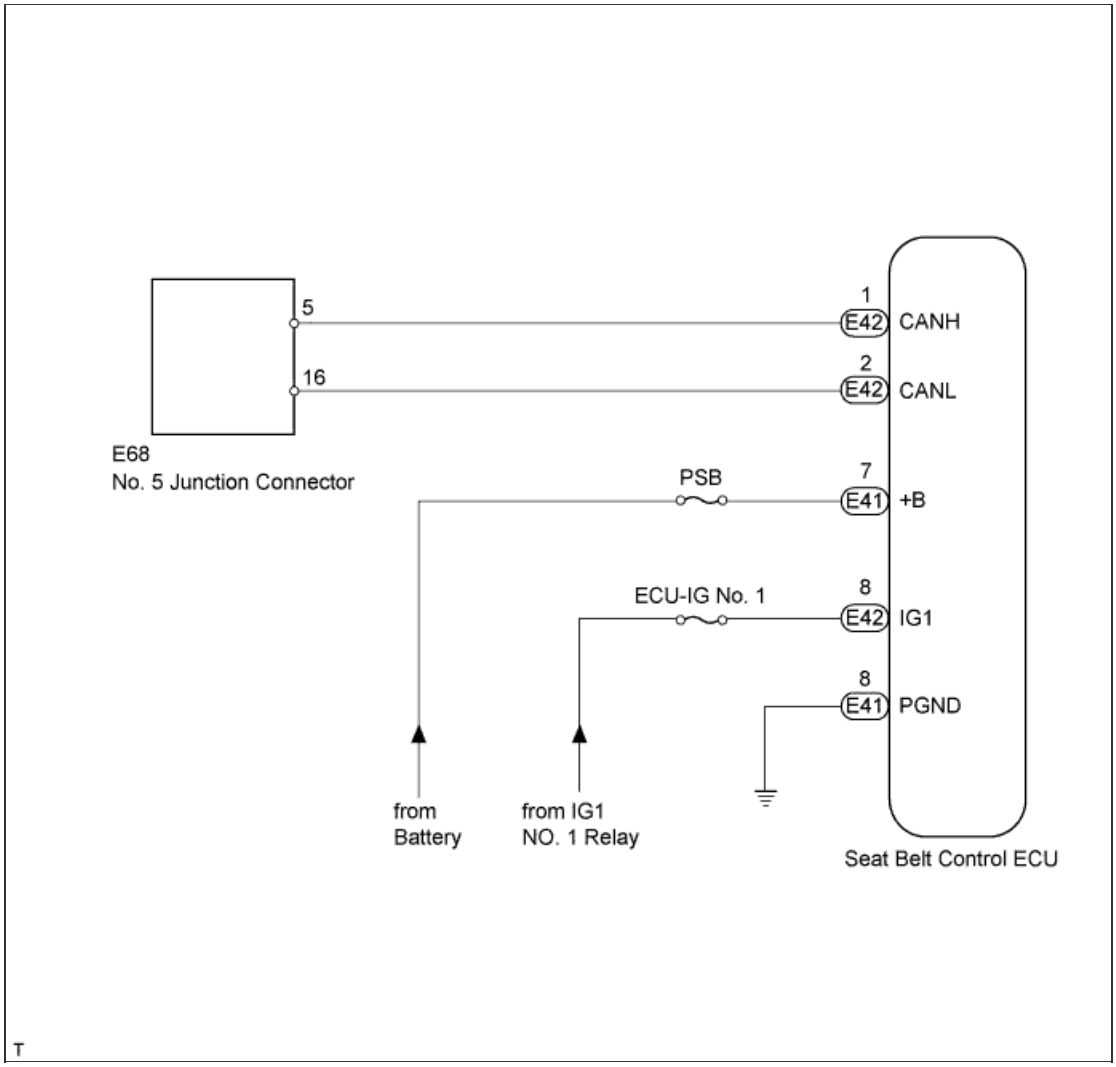
### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1100 | There is no communication from the seat belt control ECU. | • Power source circuit of seat belt control ECU<br>• Seat belt control ECU<br>• Seat belt control ECU branch wire or connector |

**HINT:**

For vehicles with the pre-crash safety system only.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

## 2.CHECK FOR OPEN IN CAN BUS WIRE (SEAT BELT CONTROL ECU BRANCH WIRE)

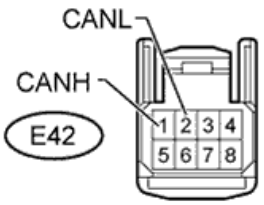
a. Disconnect the E42 seat belt control ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Seat Belt Control ECU)




NG → REPAIR OR REPLACE SEAT BELT CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (SEAT BELT CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E41 and E42 seat belt control ECU connectors.

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

**Standard Resistance:**

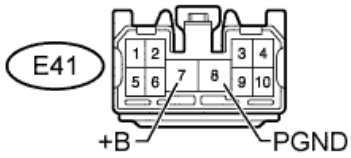
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-8 (PGND) - Body ground | Always | Below 1 Ω |

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

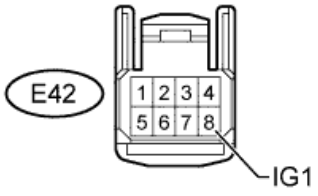
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E41-7 (+B) - Body ground | Always | 11 to 14 V |
| E42-8 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector:
(to Seat Belt Control ECU)




Front view of wire harness connector:
(to Seat Belt Control ECU)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE SEAT BELT CONTROL ECU (Click here)

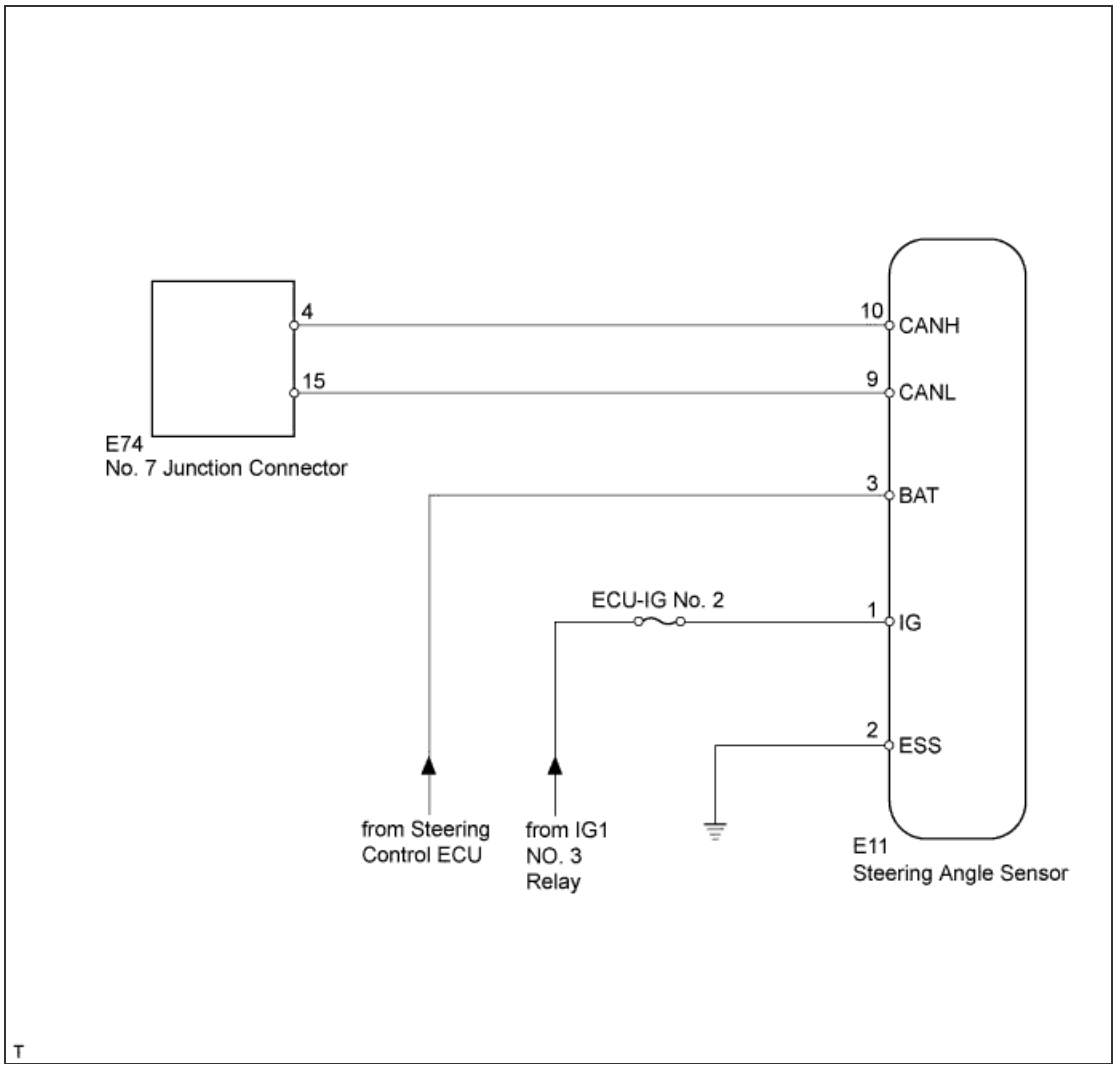
## DTC U0126 Lost Communication with Steering Angle Sensor Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0126 | There is no communication from the steering angle sensor. | • Power source circuit of steering angle sensor<br>• Steering angle sensor CAN branch wire or connector<br>• Steering angle sensor |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (STEERING ANGLE SENSOR CAN BRANCH WIRE)

a. Disconnect the E11 steering angle sensor connector.

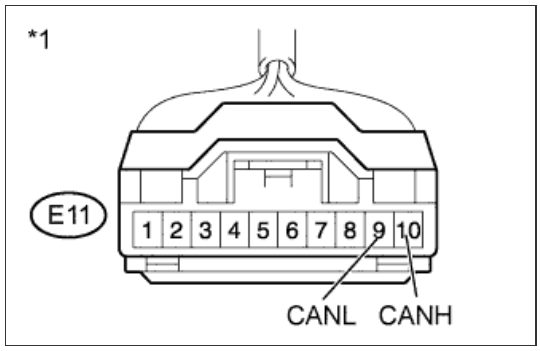
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E11-10 (CANH) - E11-9 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Steering Angle Sensor) |




NG → REPAIR OR REPLACE STEERING ANGLE SENSOR CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (STEERING ANGLE SENSOR - BATTERY AND BODY GROUND)

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

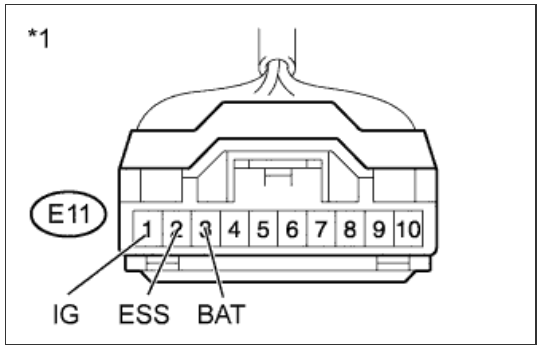
**NOTICE:**

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

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E11-3 (BAT) - Body ground | Always | 11 to 14 V |
| E11-1 (IG) - 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 |
|---|---|---|
| E11-2 (ESS) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Steering Angle Sensor) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE STEERING ANGLE SENSOR (Click here)

## DTC U1100 Lost Communication with Seat Belt Control ECU

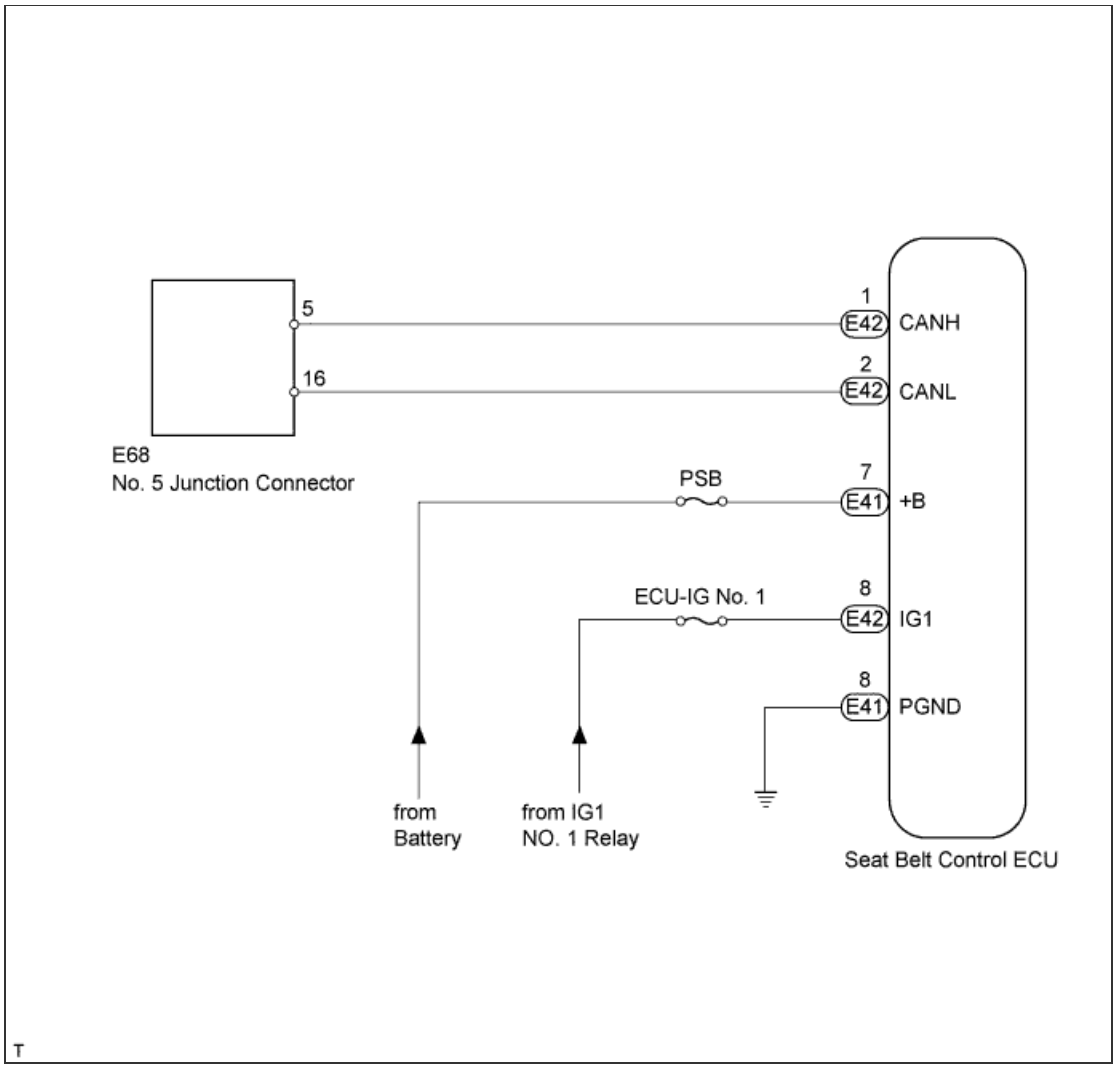
**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1100 | There is no communication from the seat belt control ECU. | • Power source circuit of seat belt control ECU<br>• Seat belt control ECU CAN branch wire or connector<br>• Seat belt control ECU |

For vehicles with the pre-crash safety system.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (SEAT BELT CONTROL ECU CAN BRANCH WIRE)

a. Disconnect the E42 seat belt control ECU connector.

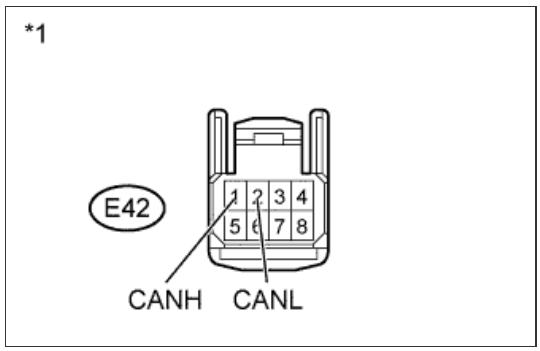
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Seat Belt Control ECU) |




NG → REPAIR OR REPLACE SEAT BELT CONTROL ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (SEAT BELT CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E41 seat belt control ECU connector.

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

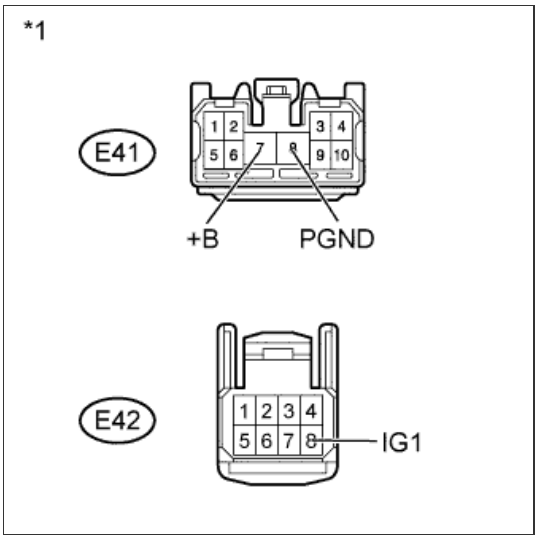
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E41-7 (+B) - Body ground | Always | 11 to 14 V |
| E42-8 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-8 (PGND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Seat Belt Control ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE SEAT BELT CONTROL ECU (Click here)

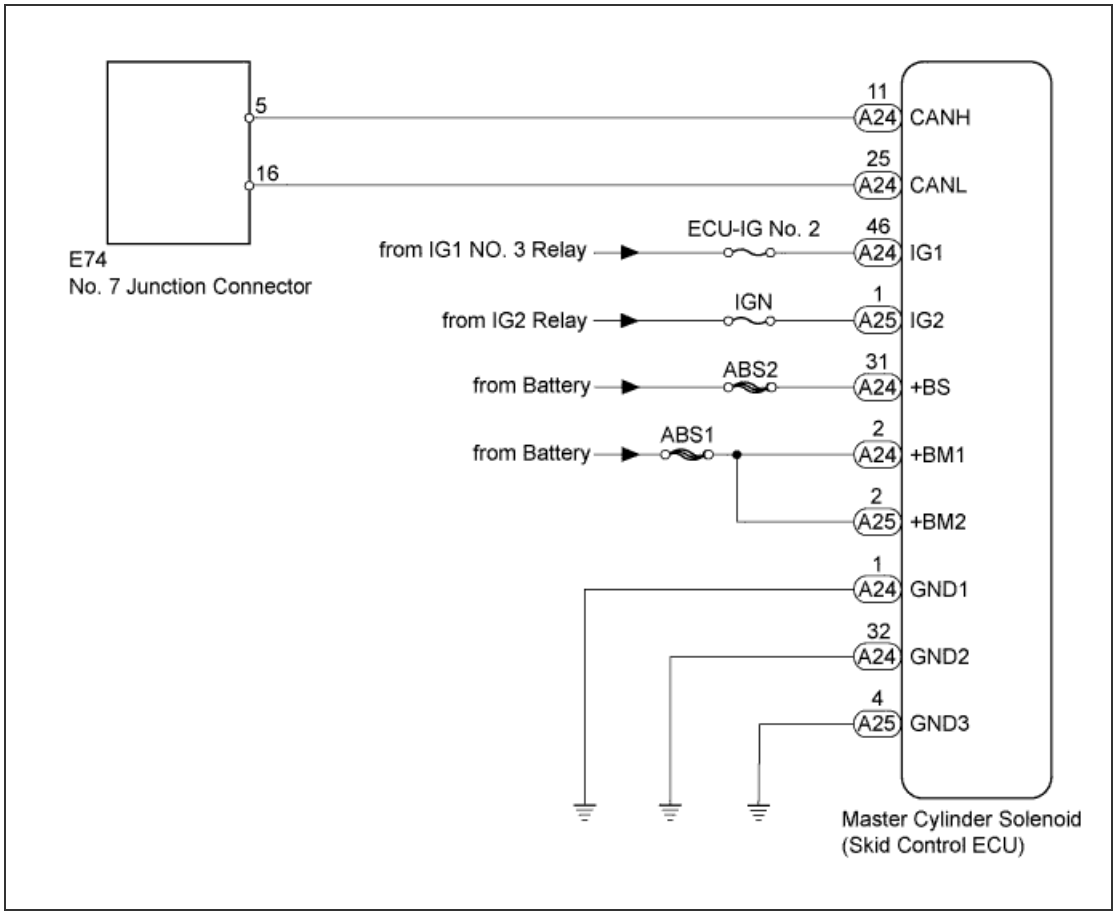
## DTC U0129 Lost Communication with Brake System Control Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0129 | There is no communication from the master cylinder solenoid (skid control ECU). | • Power source circuit of master cylinder solenoid (skid control ECU)<br>• One side of CAN branch wire of other systems<br>• Master cylinder solenoid (skid control ECU)<br>• Master cylinder solenoid (skid control ECU) branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (SKID CONTROL ECU CAN BRANCH WIRE)

a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

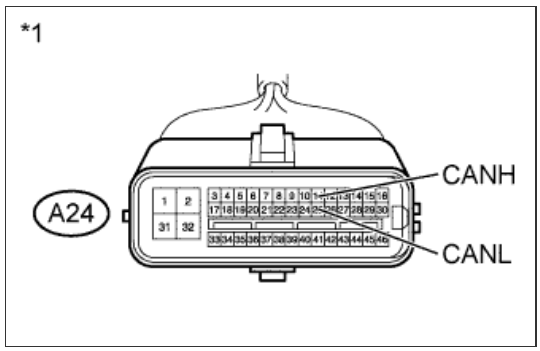
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Master Cylinder Solenoid [Skid Control ECU]) |




NG → REPAIR OR REPLACE SKID CONTROL ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (SKID CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the A25 master cylinder solenoid (skid control ECU) connector.

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

**Standard Voltage:**

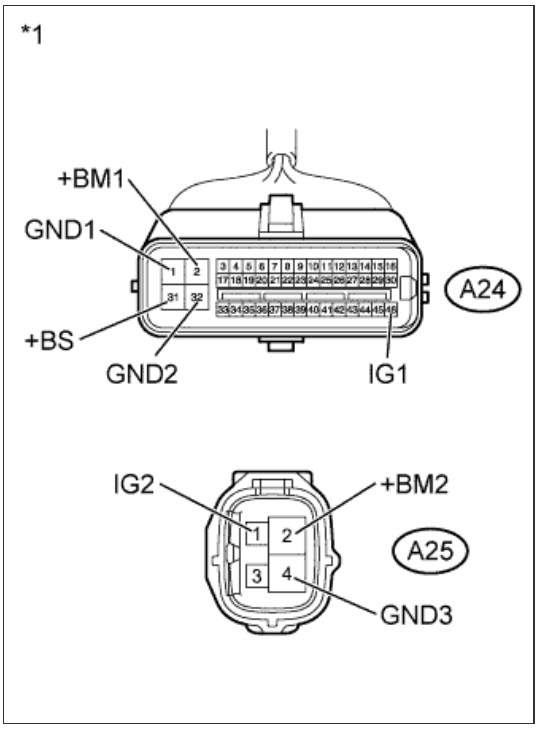
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A24-2 (+BM1) - Body ground | Always | 11 to 14 V |
| A24-31 (+BS) - Body ground | Always | 11 to 14 V |
| A25-2 (+BM2) - Body ground | Always | 11 to 14 V |
| A24-46 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |

| | | |
|---|---|---|
| A25-1 (IG2) - Body ground | Engine switch on (IG) | 11 to 14 V |

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A24-1 (GND1) - Body ground | Always | Below 1 Ω |
| A24-32 (GND2) - Body ground | Always | Below 1 Ω |
| A25-4 (GND3) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Master Cylinder Solenoid [Skid Control ECU]) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE MASTER CYLINDER SOLENOID (SKID CONTROL ECU) (Click here)

## DTC U1101 Lost Communication with Distance Control ECU

**for Preparation** Click here

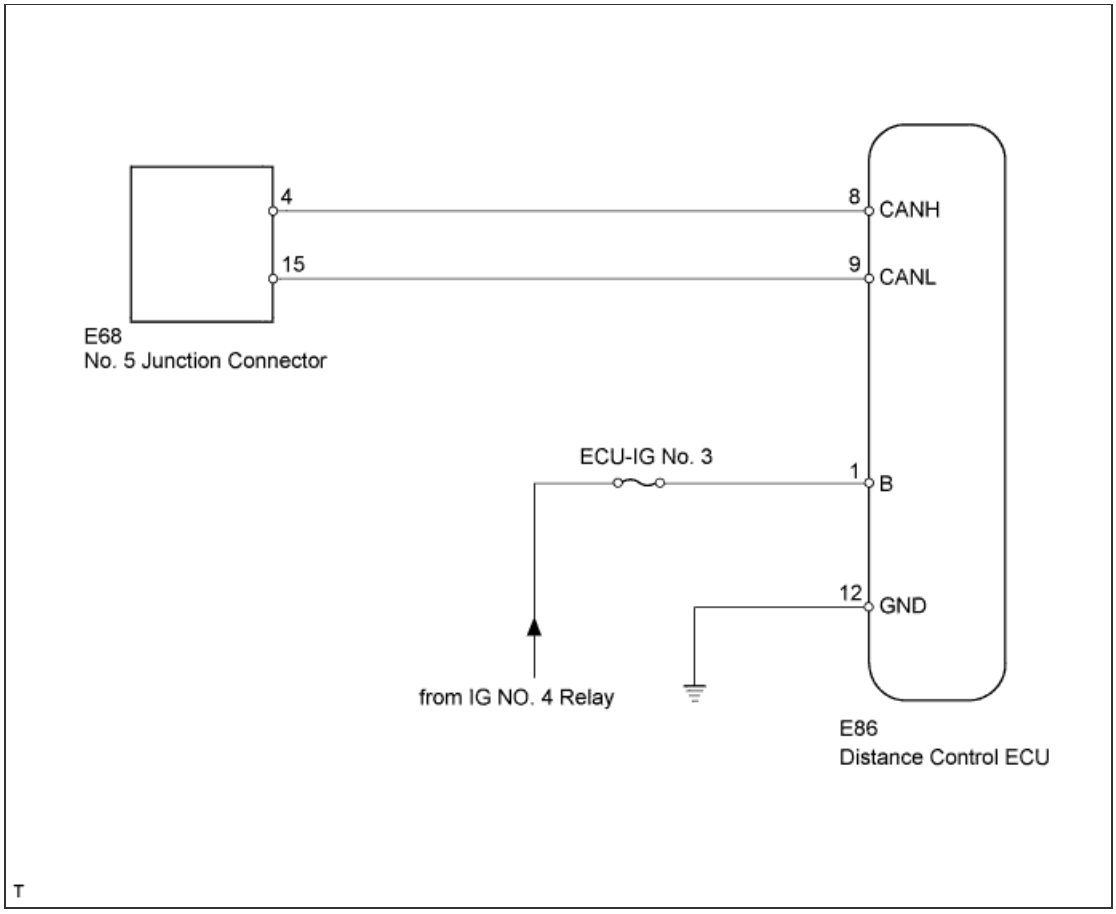
### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1101 | There is no communication from the distance control ECU. | • Power source circuit of distance control ECU assembly<br>• Distance control ECU assembly<br>• Distance control ECU assembly branch wire or connector |

**HINT:**

For vehicles with the dynamic radar cruise control system only.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

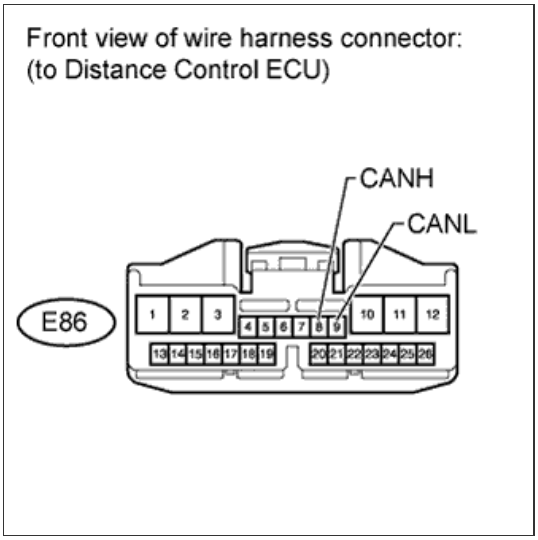
## 2.CHECK FOR OPEN IN CAN BUS WIRE (DISTANCE CONTROL ECU)

a. Disconnect the E86 distance control ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE DISTANCE CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (DISTANCE CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E86 distance control ECU connector.

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

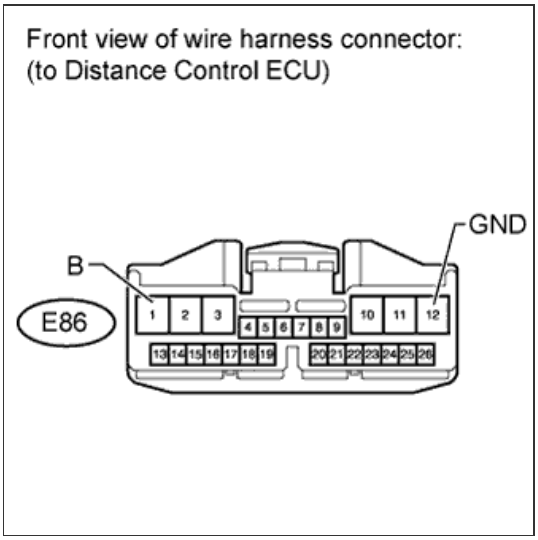
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E86-12 (GND) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E86-1 (B) - Body ground | Always | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

## DTC U0130 Lost Communication with Steering Effort Control Module

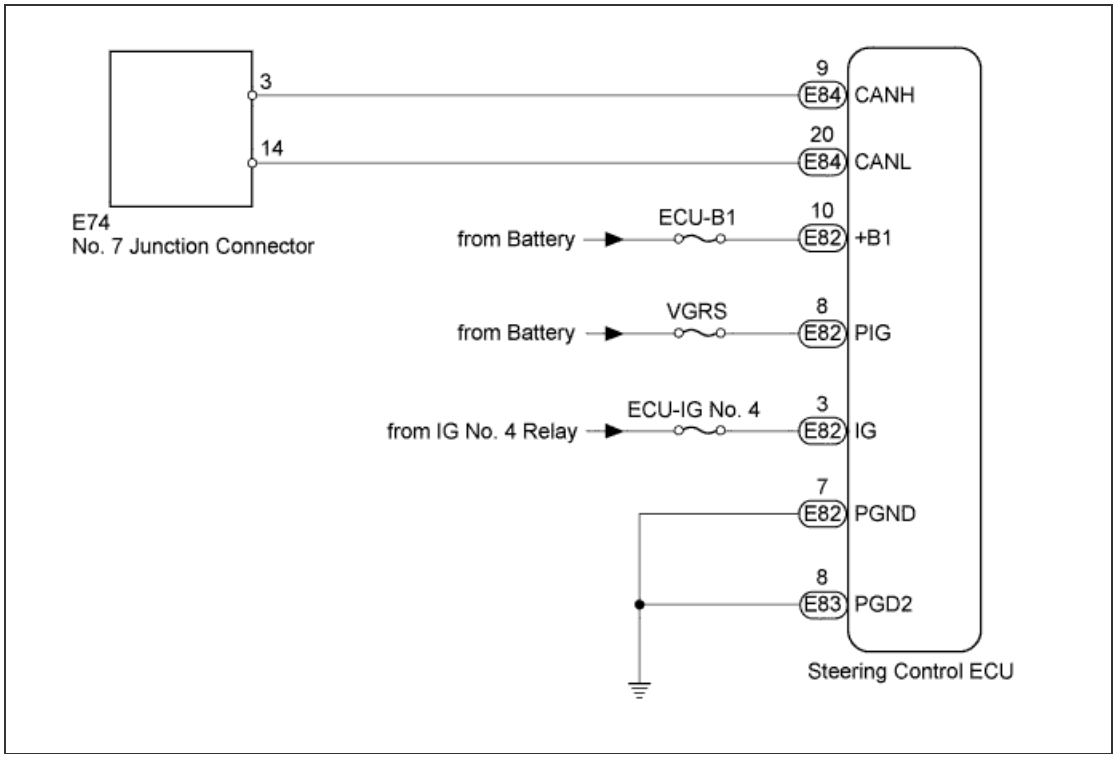
**for Preparation** Click here

### DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0130 | There is no communication from the steering control ECU. | • Power source circuit of steering control ECU<br>• One side of CAN branch wire of other systems<br>• Steering control ECU<br>• Steering control ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

#### 2.CHECK FOR OPEN IN CAN BUS WIRE (STEERING CONTROL ECU BRANCH WIRE)

a. Disconnect the E84 steering control ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Steering Control ECU)




NG → REPAIR OR REPLACE STEERING CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

**3.CHECK HARNESS AND CONNECTOR (STEERING CONTROL ECU - BATTERY AND BODY GROUND)**

a. 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).

b. Disconnect the E82 and E83 steering control ECU connectors.

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

**Standard Resistance:**

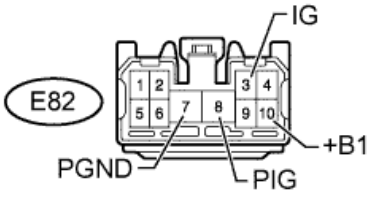
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E82-7 (PGND) - Body ground | Always | Below 1 Ω |
| E83-8 (PGD2) - Body ground | | |

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

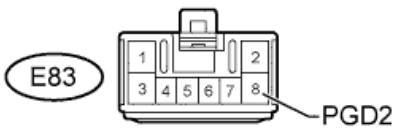
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E82-10 (+B1) - Body ground | Always | 11 to 14 V |
| E82-8 (PIG) - Body ground | | |
| E82-3 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector:
(to Steering Control ECU)




Front view of wire harness connector:
(to Steering Control ECU)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE STEERING CONTROL ECU (Click here)

## DTC U110B Lost Communication with Parking Assist Control Module "B"

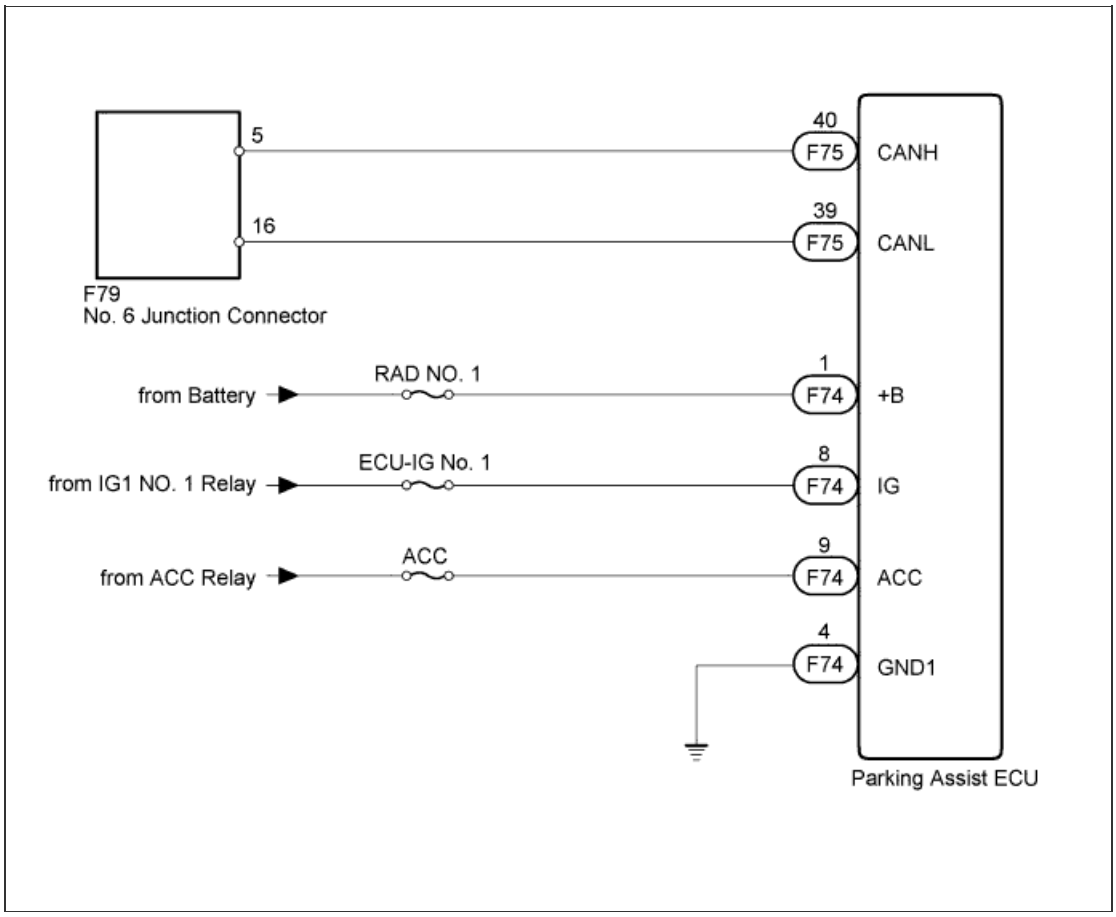
**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U110B | There is no communication from the parking assist ECU. | • Power source circuit of parking assist ECU<br>• Parking assist ECU CAN branch wire or connector<br>• Parking assist ECU |

For vehicles with the side monitor system.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (PARKING ASSIST ECU CAN BRANCH WIRE)

a. Disconnect the F75 parking assist ECU connector.

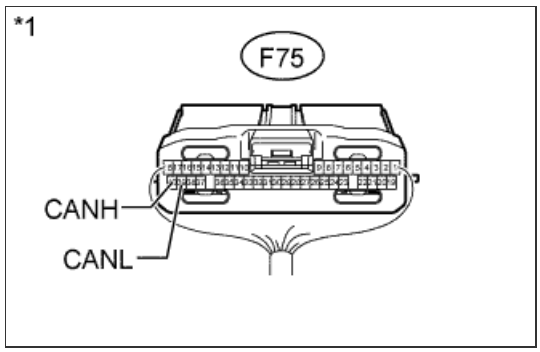
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F75-40 (CANH) - F75-39 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Parking Assist ECU) |




**NG** → **REPAIR OR REPLACE PARKING ASSIST ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)**

**OK**

## 4.CHECK HARNESS AND CONNECTOR (PARKING ASSIST ECU - BATTERY AND BODY GROUND)

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

**NOTICE:**

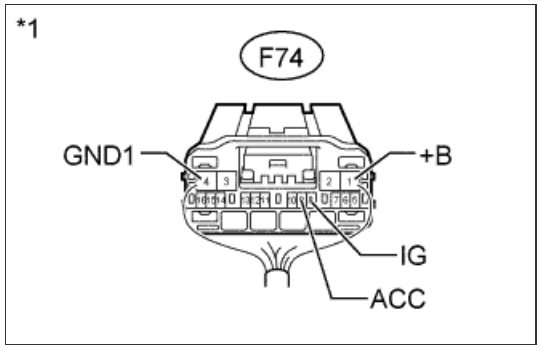
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Disconnect the F74 parking assist ECU connector.

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F74-1 (+B) - Body ground | Always | 11 to 14 V |
| F74-9 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| F74-8 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




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

**Standard Resistance:**

| | | Specified |
|---|---|---|

| Tester Connection | Condition | Condition |
|---|---|---|
| F74-4 (GND1) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Parking Assist ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE PARKING ASSIST ECU (Click here)

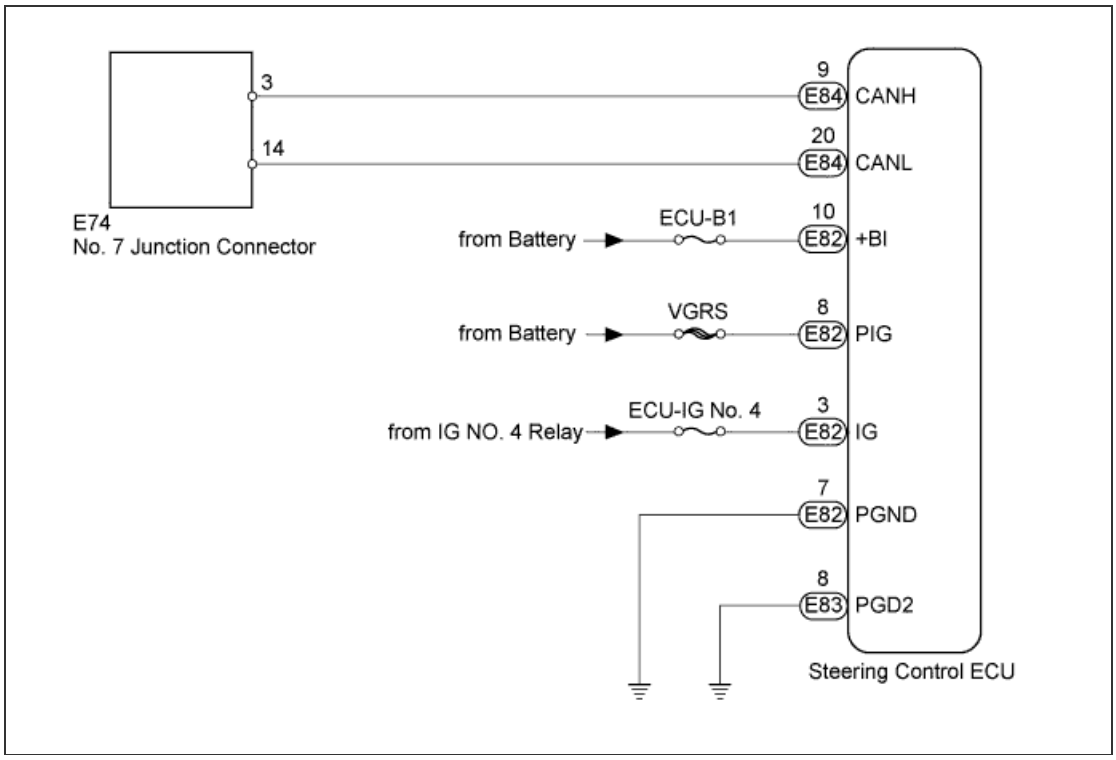
## DTC U0130 Lost Communication with Steering Effort Control Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0130 | There is no communication from the steering control ECU. | • Power source circuit of steering control ECU<br>• Steering control ECU CAN branch wire or connector<br>• Steering control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

**NEXT**

#### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (STEERING CONTROL ECU CAN BRANCH WIRE)

a. Disconnect the E84 steering control ECU connector.

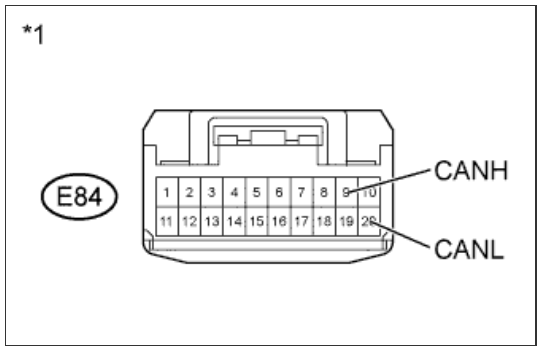
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Steering Control ECU) |




NG → REPAIR OR REPLACE STEERING CONTROL ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (STEERING CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E82 and E83 steering control ECU connectors.

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

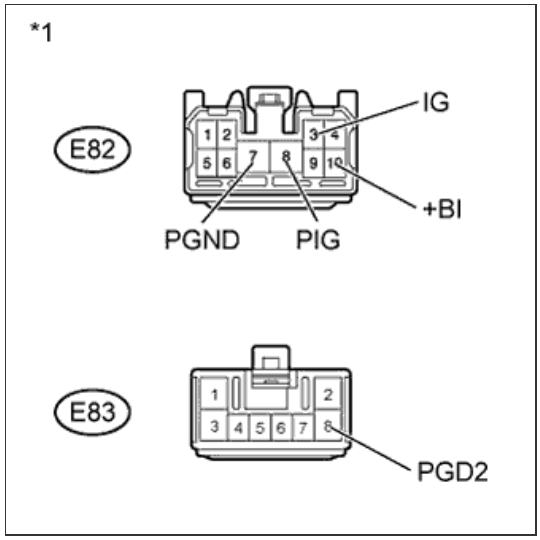
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E82-10 (+BI) - Body ground | Always | 11 to 14 V |
| E82-8 (PIG) - Body ground | Always | 11 to 14 V |
| E82-3 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E82-7 (PGND) - Body ground | Always | Below 1 Ω |
| E83-8 (PGD2) - Body ground | Always | Below 1 Ω |



**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Steering Control ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE STEERING CONTROL ECU (Click here)

# DTC U1110 Lost Communication with Clearance Sonar Module

**for Preparation** Click here

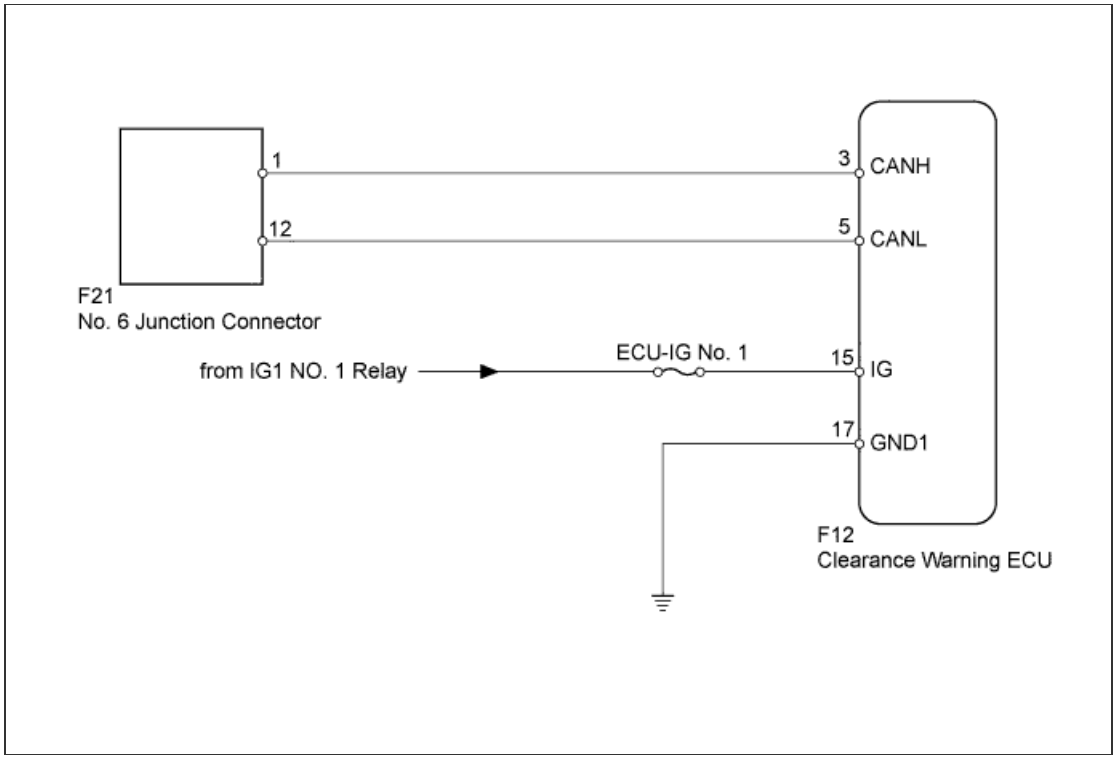
## DESCRIPTION

| DTC Code | DTC Detection Condition | Specified Condition |
|---|---|---|
| U1110 | There is no communication from the clearance warning ECU. | • Power source circuit of clearance warning ECU<br>• Clearance warning ECU<br>• Clearance warning ECU branch wire or connector |

**HINT:**

For vehicles with the LEXUS parking assist-sensor system only.

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

### 2.CHECK FOR OPEN IN CAN BUS WIRE (CLEARANCE WARNING ECU BRANCH WIRE)

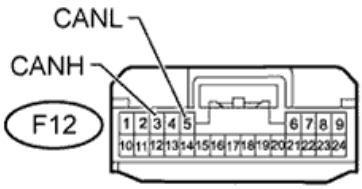
a. Disconnect the F12 clearance warning ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F12-3 (CANH) - F12-5 (CANL) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Clearance Warning ECU)




NG → REPAIR OR REPLACE CLEARANCE WARNING ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

**3.CHECK HARNESS AND CONNECTOR (CLEARANCE WARNING ECU - BATTERY AND BODY GROUND)**

a. 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).

b. Disconnect the F12 clearance warning ECU connector.

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

**Standard Resistance:**

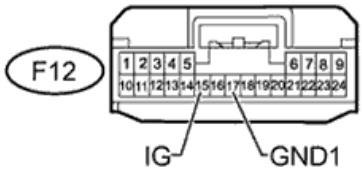
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F12-17 (GND1) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F12-15 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector:
(to Clearance Warning ECU)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CLEARANCE WARNING ECU ASSEMBLY (Click here)

# DTC U0132 Lost Communication with Suspension Control ECU

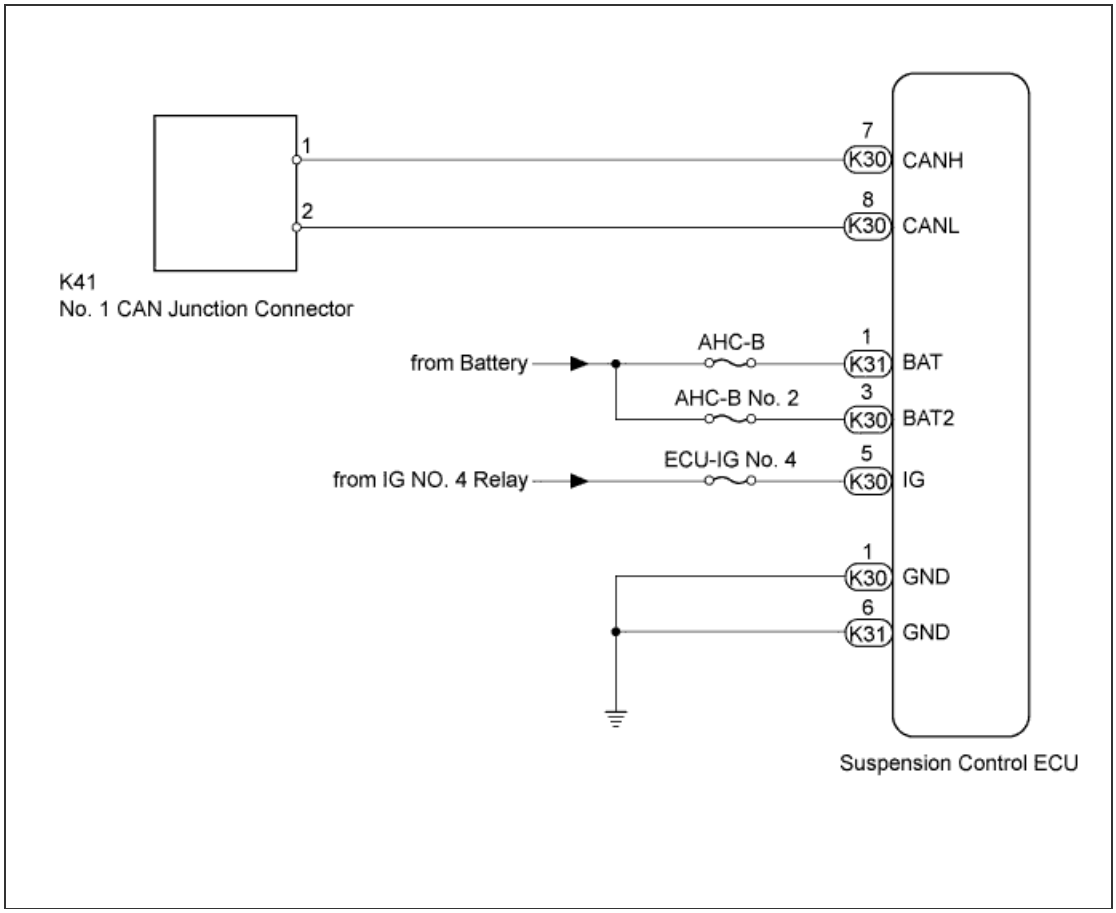
**for Preparation** Click here

## DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0132 | There is no communication with the suspension control ECU. | • Power source of suspension control ECU<br>• One side of CAN branch wire of other systems<br>• Suspension control ECU<br>• Suspension control ECU branch wire or connector |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

## 2.CHECK FOR OPEN IN CAN BUS WIRE (SUSPENSION CONTROL ECU)

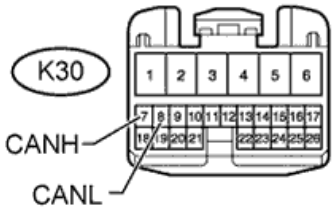
a. Disconnect the K30 suspension control ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | Engine switch on (IG) | 54 to 69 Ω |

Front view of wire harness connector:
(to Suspension Control ECU)




NG → REPAIR OR REPLACE SUSPENSION CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (SUSPENSION CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the K30 and K31 suspension control ECU connectors.

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

**Standard Resistance:**

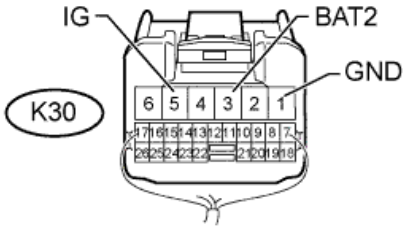
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K30-1 (GND) - Body ground | Always | Below 1 Ω |
| K31-6 (GND) - Body ground | | |

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

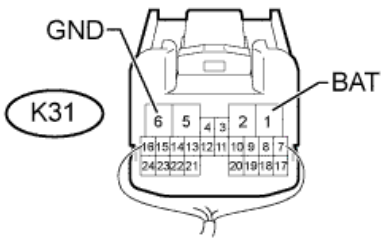
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K30-3 (BAT2) - Body ground | Always | 11 to 14 V |
| K31-1 (BAT) - Body ground | | |
| K30-5 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

Rear view of wire harness connector:
(to Suspension Control ECU)




Rear view of wire harness connector:
(to Suspension Control ECU)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE SUSPENSION CONTROL ECU (Click here)

## DTC U1110 Lost Communication with Clearance Sonar Module

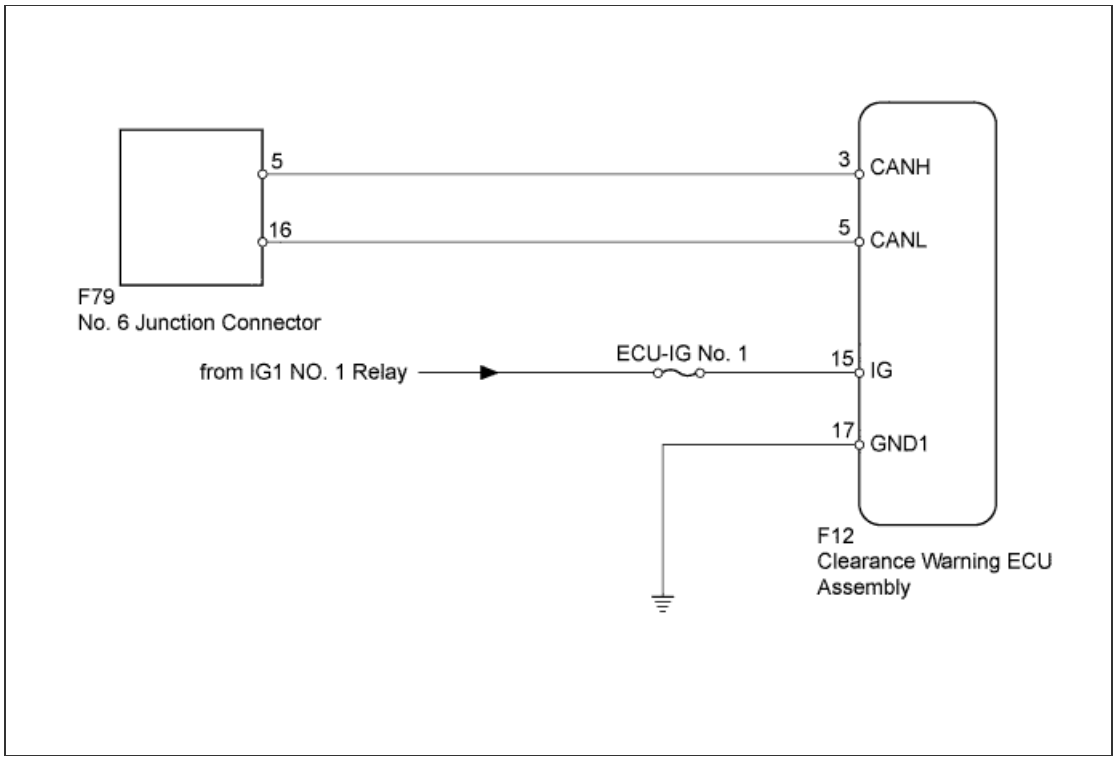
**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Specified Condition |
|---|---|---|
| U1110 | There is no communication from the clearance warning ECU assembly. | • Power source circuit of clearance warning ECU assembly<br>• Clearance warning ECU assembly CAN branch wire or connector<br>• Clearance warning ECU assembly |

For vehicles with the LEXUS parking assist-sensor system and without the side monitor system.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

#### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (CLEARANCE WARNING ECU ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the F12 clearance warning ECU assembly connector.

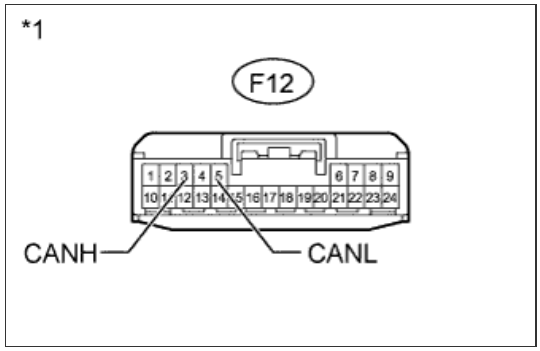
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F12-3 (CANH) - F12-5 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Clearance Warning ECU Assembly) |




NG → REPAIR OR REPLACE CLEARANCE WARNING ECU ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (CLEARANCE WARNING ECU ASSEMBLY - BATTERY AND BODY GROUND)

a. 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).

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F12-15 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

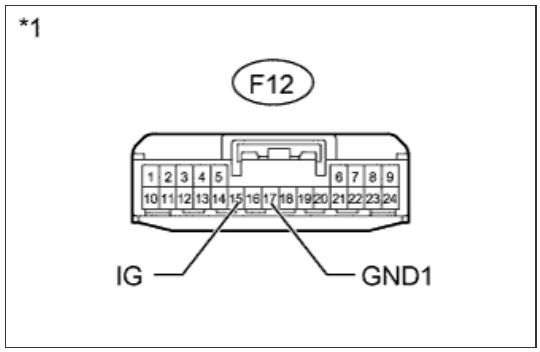
c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F12-17 (GND1) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *a | Front view of wire harness connector (to Clearance Warning ECU Assembly) |



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CLEARANCE WARNING ECU ASSEMBLY (Click here)

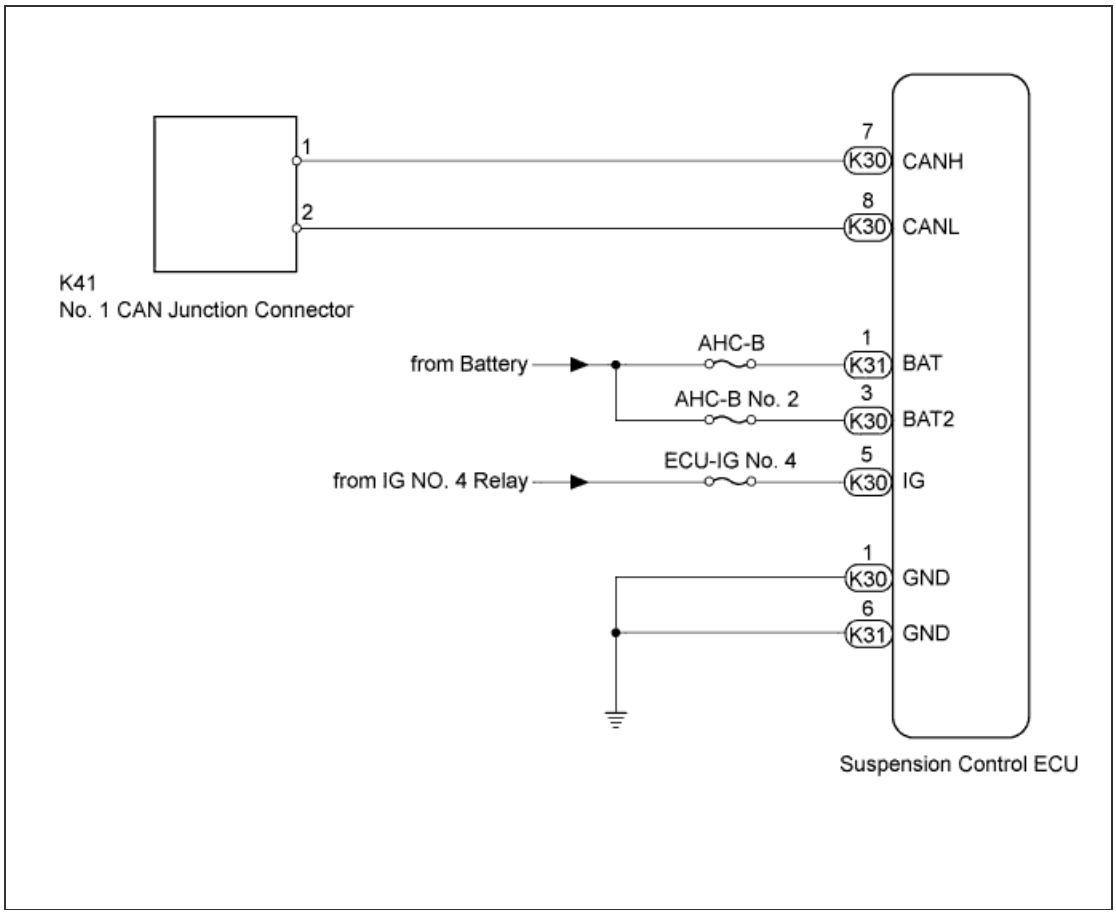
## DTC U0132 Lost Communication with Suspension Control ECU

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0132 | There is no communication with the suspension control ECU. | • Power source of suspension control ECU<br>• Suspension control ECU CAN branch wire or connector<br>• Suspension control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (SUSPENSION CONTROL ECU CAN BRANCH WIRE)

a. Disconnect the K30 suspension control ECU connector.

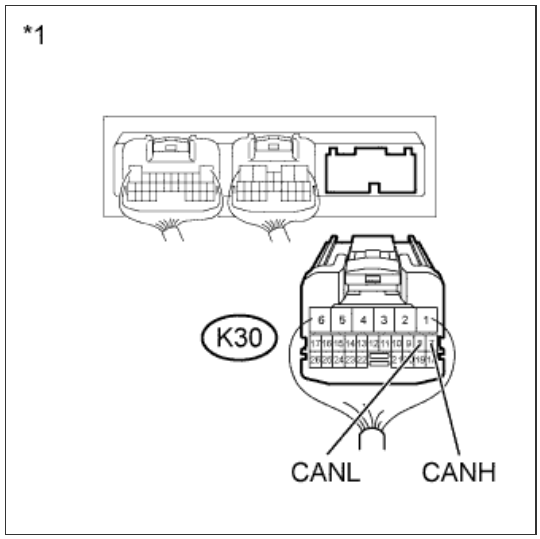
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Suspension Control ECU) |




**NG** → REPAIR OR REPLACE SUSPENSION CONTROL ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

**OK**

## 4.CHECK HARNESS AND CONNECTOR (SUSPENSION CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the K31 suspension control ECU connector.

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

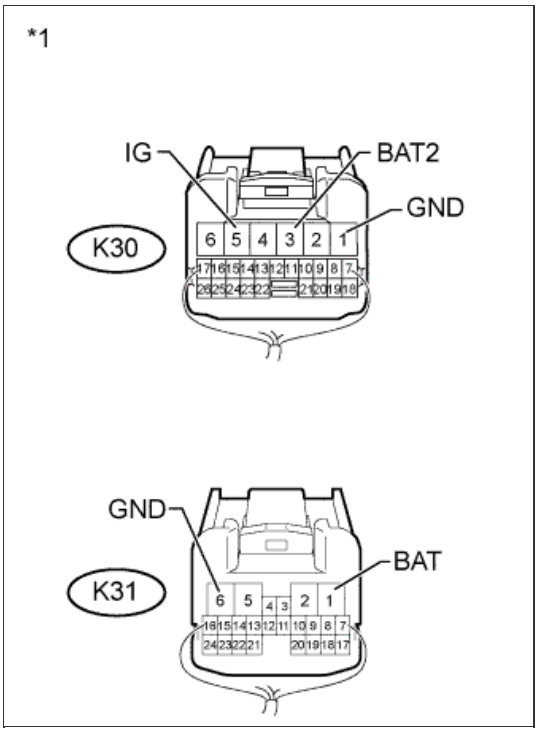
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K30-3 (BAT2) - Body ground | Always | 11 to 14 V |
| K31-1 (BAT) - Body ground | Always | 11 to 14 V |
| K30-5 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K30-1 (GND) - Body ground | Always | Below 1 Ω |
| K31-6 (GND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Suspension Control ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE SUSPENSION CONTROL ECU (Click here)

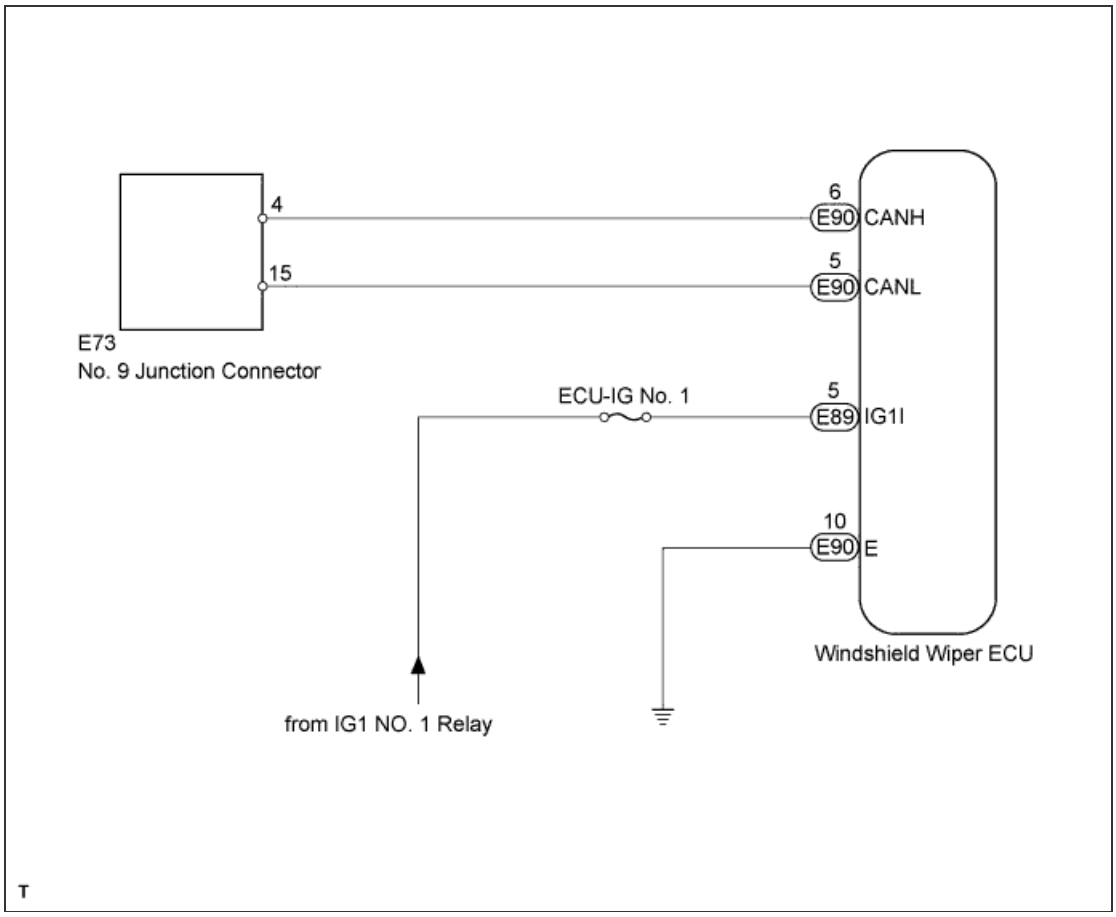
## DTC U1111 Lost Communication with Body No. 5 Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1111 | There is no communication from the windshield wiper ECU. | • Power source circuit of windshield wiper ECU<br>• Windshield wiper ECU<br>• Windshield wiper ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

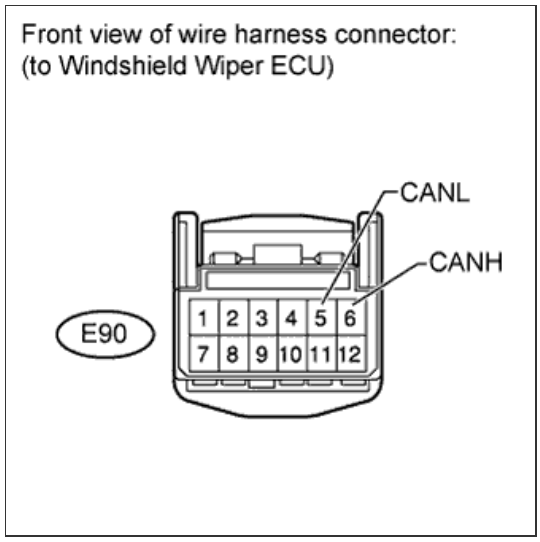
**2.CHECK FOR OPEN IN CAN BUS WIRE (WINDSHIELD WIPER ECU BRANCH WIRE)**

a. Disconnect the E90 windshield wiper ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE WINDSHIELD WIPER ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (WINDSHIELD WIPER ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E89 and E90 windshield wiper ECU connectors.

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

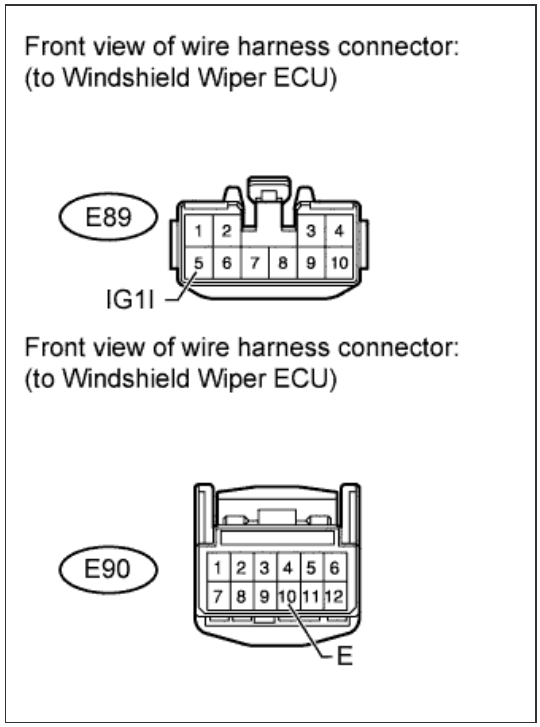
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E90-10 (E) - Body ground | Always | Below 1 Ω |

d. 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 |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE WINDSHIELD WIPER ECU (Click here)

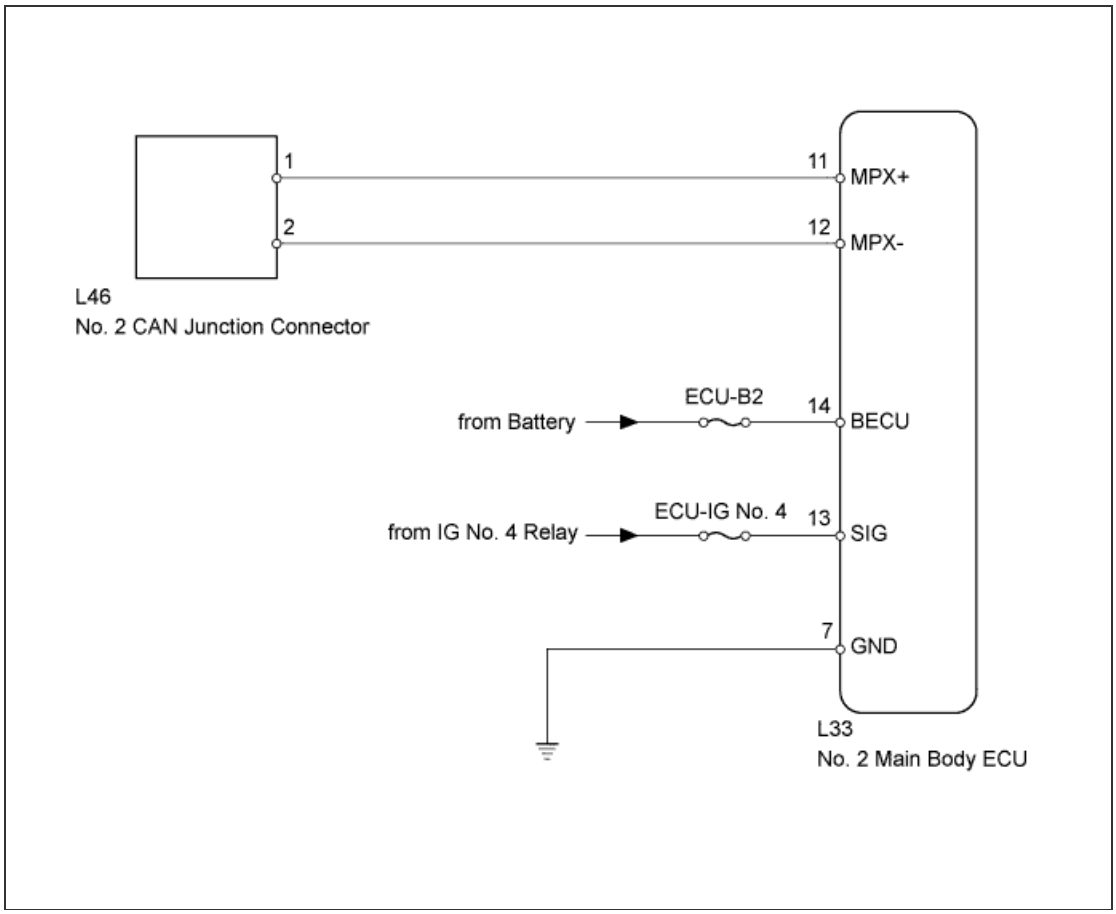
## DTC U0141 Lost Communication with Body Control Module "A"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0141 | There is no communication from the No. 2 main body ECU. | • Power source circuit of No. 2 main body ECU<br>• No. 2 main body ECU<br>• No. 2 main body ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

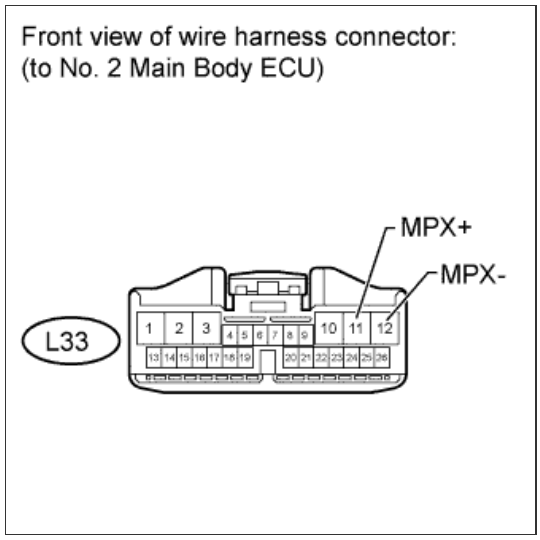
#### 2.CHECK FOR OPEN IN CAN BUS WIRE (REAR JUNCTION BLOCK BRANCH WIRE)

a. Disconnect the L33 No. 2 main body ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE NO. 2 MAIN BODY ECU BRANCH WIRE OR CONNECTOR (MPX+, MPX-)

OK

**3.CHECK HARNESS AND CONNECTOR (NO. 2 MULTIPLEX NETWORK BODY ECU - BATTERY AND BODY GROUND)**

a. 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).

b. Disconnect the L33 No. 2 main body ECU connector.

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

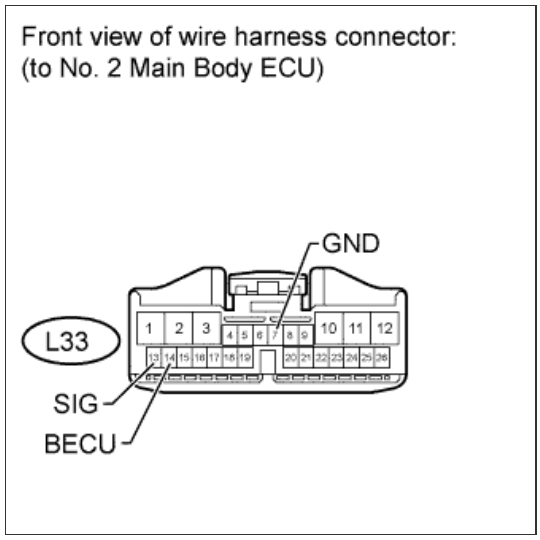
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-7 (GND) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L33-14 (BECU) - Body ground | Always | 11 to 14 V |
| L33-13 (SIG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

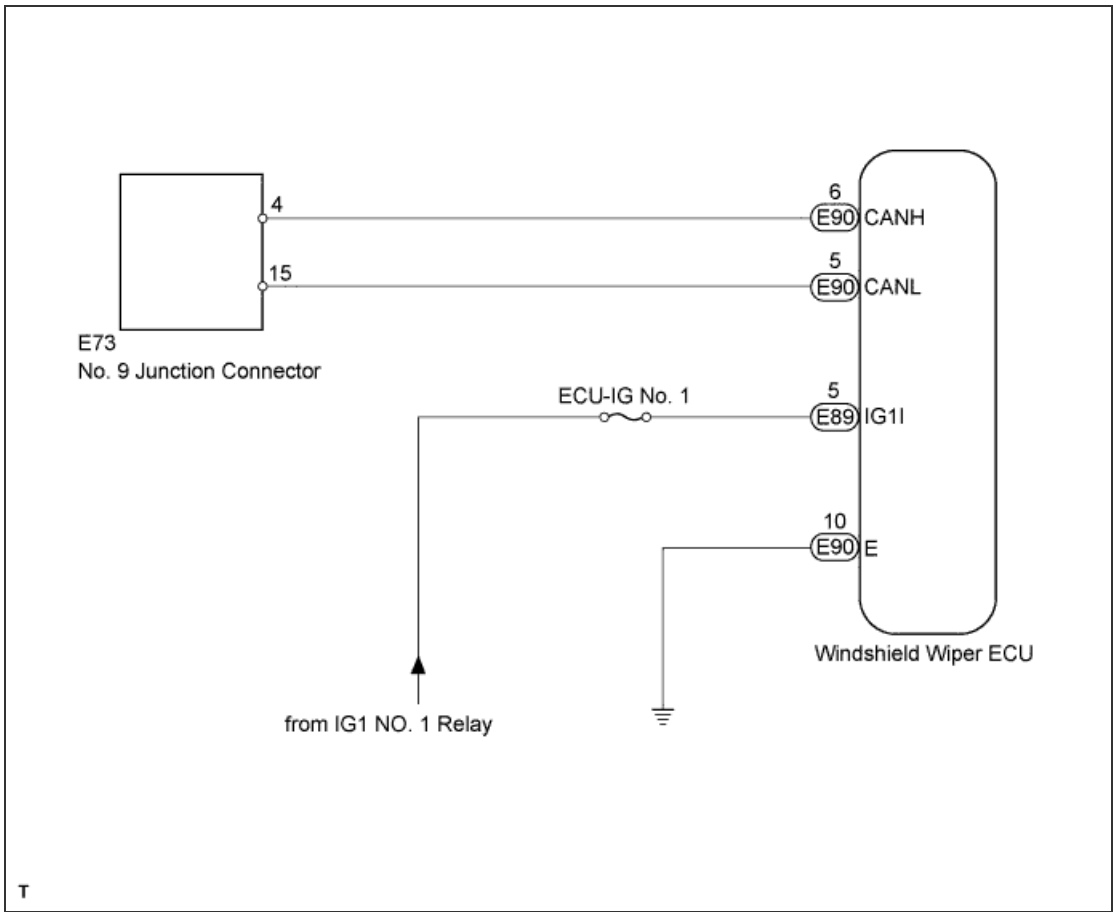
## DTC U1111 Lost Communication with Body No. 5 Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1111 | There is no communication from the windshield wiper ECU. | • Power source circuit of windshield wiper ECU<br>• Windshield wiper ECU CAN branch wire or connector<br>• Windshield wiper ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

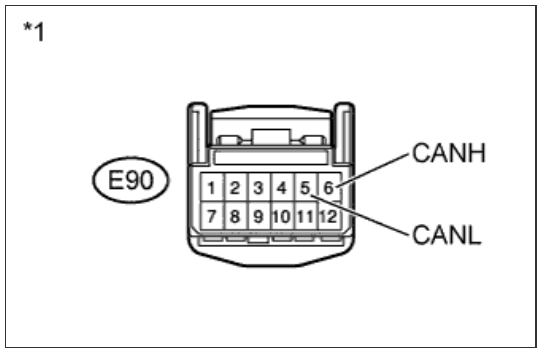
## 3.CHECK FOR OPEN IN CAN BUS WIRE (WINDSHIELD WIPER ECU CAN BRANCH WIRE)

a. Disconnect the E90 windshield wiper ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | Engine switch off | 54 to 69 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Windshield Wiper ECU) |

NG → REPAIR OR REPLACE WINDSHIELD WIPER ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (WINDSHIELD WIPER ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E89 windshield wiper ECU connector.

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

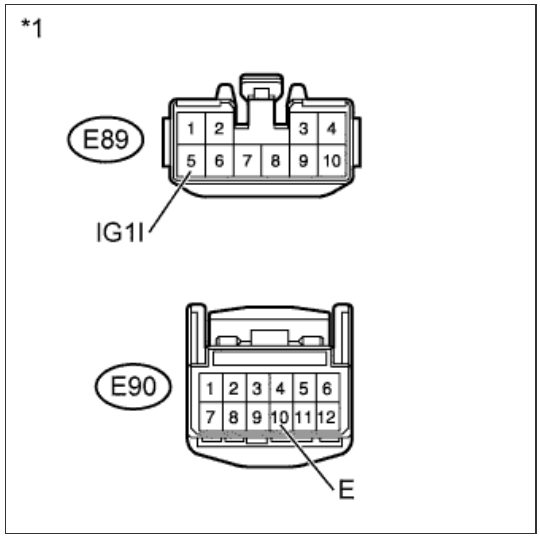
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E89-5 (IG1I) - Body ground | Engine switch on (IG) | 11 to 14 V |

d. 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 |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Windshield Wiper ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

REPLACE WINDSHIELD WIPER ECU (Click here)

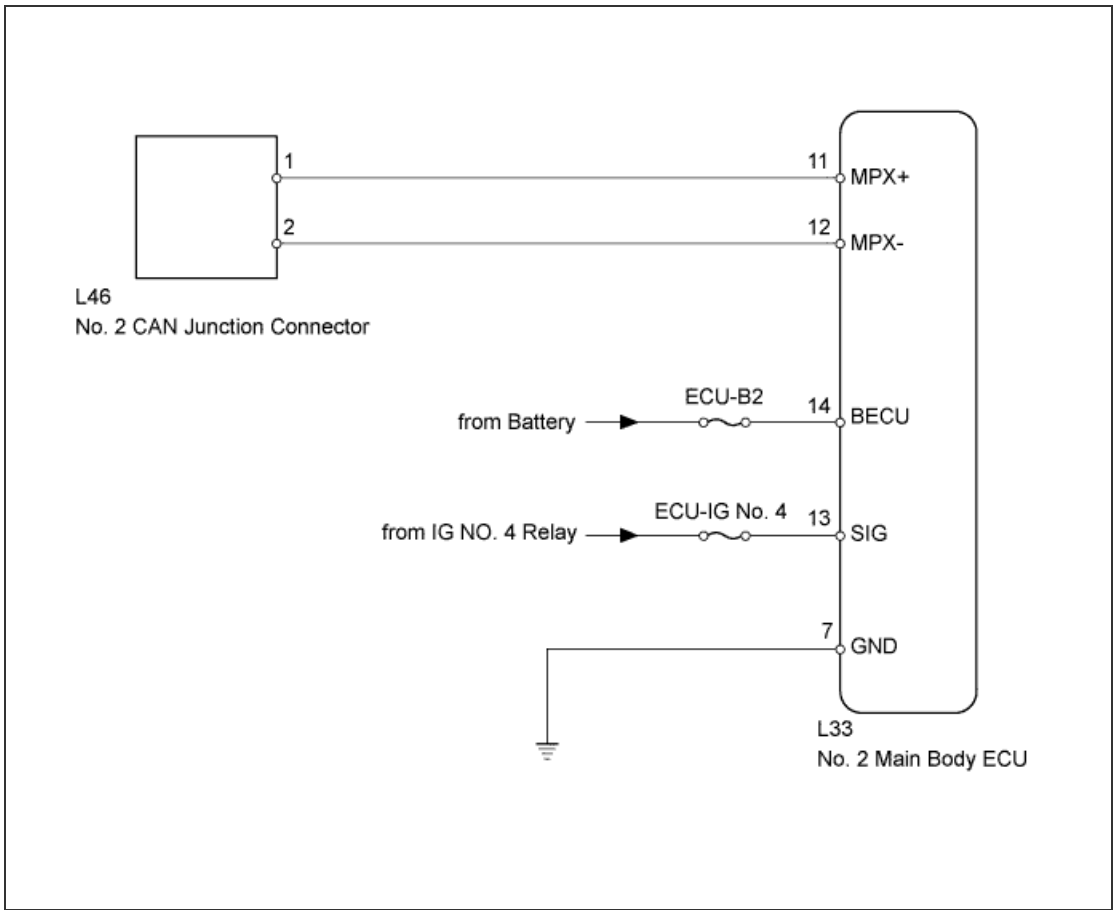
## DTC U0141 Lost Communication with Body Control Module "A"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0141 | There is no communication from the No. 2 main body ECU. | • Power source circuit of No. 2 main body ECU<br>• No. 2 main body ECU CAN branch wire or connector<br>• No. 2 main body ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (REAR JUNCTION BLOCK CAN BRANCH WIRE)

a. Disconnect the L33 No. 2 main body ECU connector.

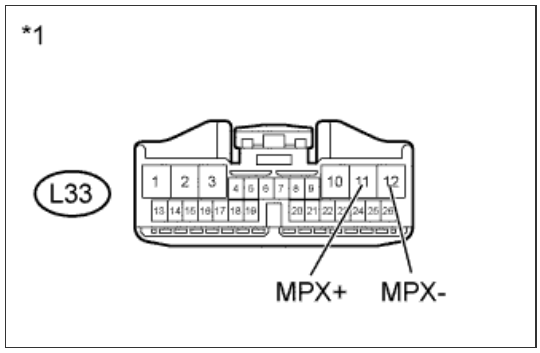
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to No. 2 Main Body ECU) |




NG → REPAIR OR REPLACE NO. 2 MAIN BODY ECU CAN BRANCH WIRE OR CONNECTOR (MPX+, MPX-)

OK

## 4.CHECK HARNESS AND CONNECTOR (NO. 2 MAIN BODY ECU - BATTERY AND BODY GROUND)

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

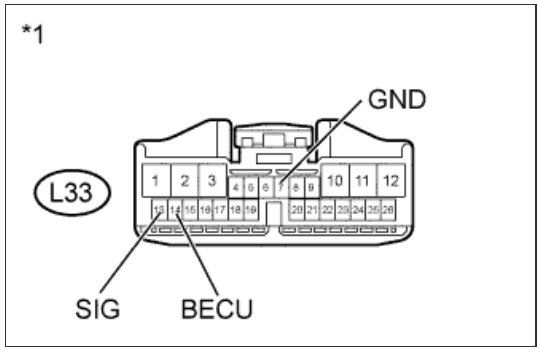
**NOTICE:**

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

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-14 (BECU) - Body ground | Always | 11 to 14 V |
| L33-13 (SIG) - 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 |
|---|---|---|
| L33-7 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to No. 2 Main Body ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

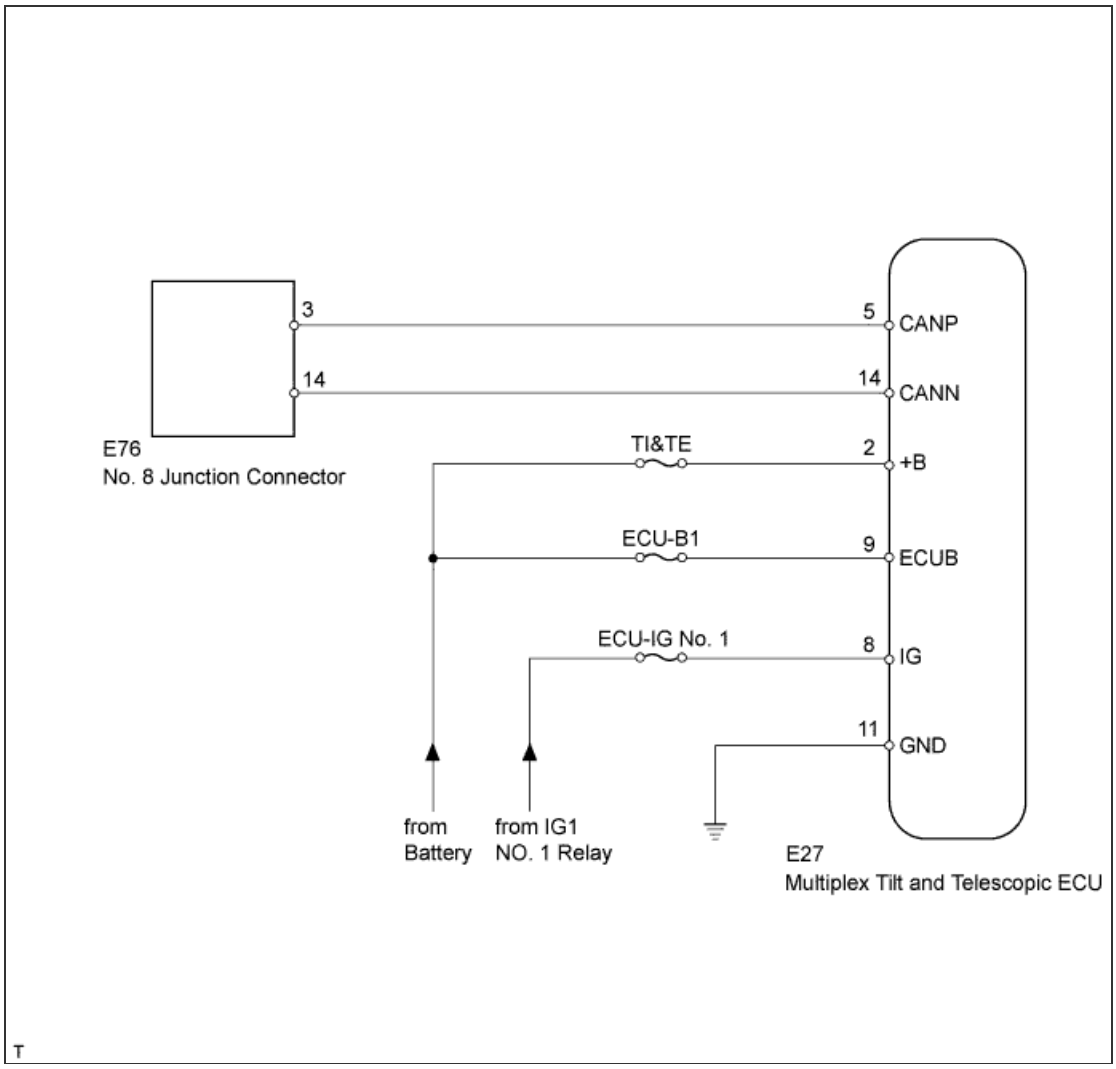
## DTC U1115 Lost Communication with Tilt and Telescopic Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1115 | There is no communication from the multiplex tilt and telescopic ECU. | • Power source circuit of multiplex tilt and telescopic ECU<br>• Multiplex tilt and telescopic ECU<br>• Multiplex tilt and telescopic ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

## 2.CHECK FOR OPEN IN CAN BUS WIRE (MULTIPLEX TILT AND TELESCOPIC ECU BRANCH WIRE)

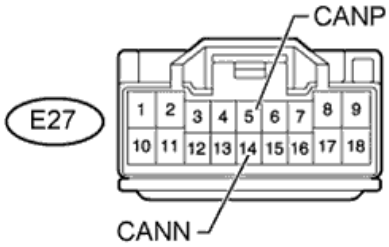
a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Multiplex Tilt and Telescopic ECU)




NG → REPAIR OR REPLACE MULTIPLEX TILT AND TELESCOPIC ECU BRANCH WIRE OR CONNECTOR (CANP, CANN)

OK

## 3.CHECK HARNESS AND CONNECTOR (MULTIPLEX TILT AND TELESCOPIC ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E27 multiplex tilt and telescopic ECU connector.

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

**Standard Resistance:**

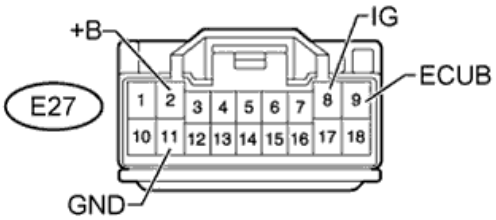
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E27-11 (GND) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E27-2 (+B) - Body ground | Always | 11 to 14 V |
| E27-9 (ECUB) - Body ground | Always | 11 to 14 V |
| E27-8 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector:
(to Multiplex Tilt and Telescopic ECU)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MULTIPLEX TILT AND TELESCOPIC ECU (Click here)

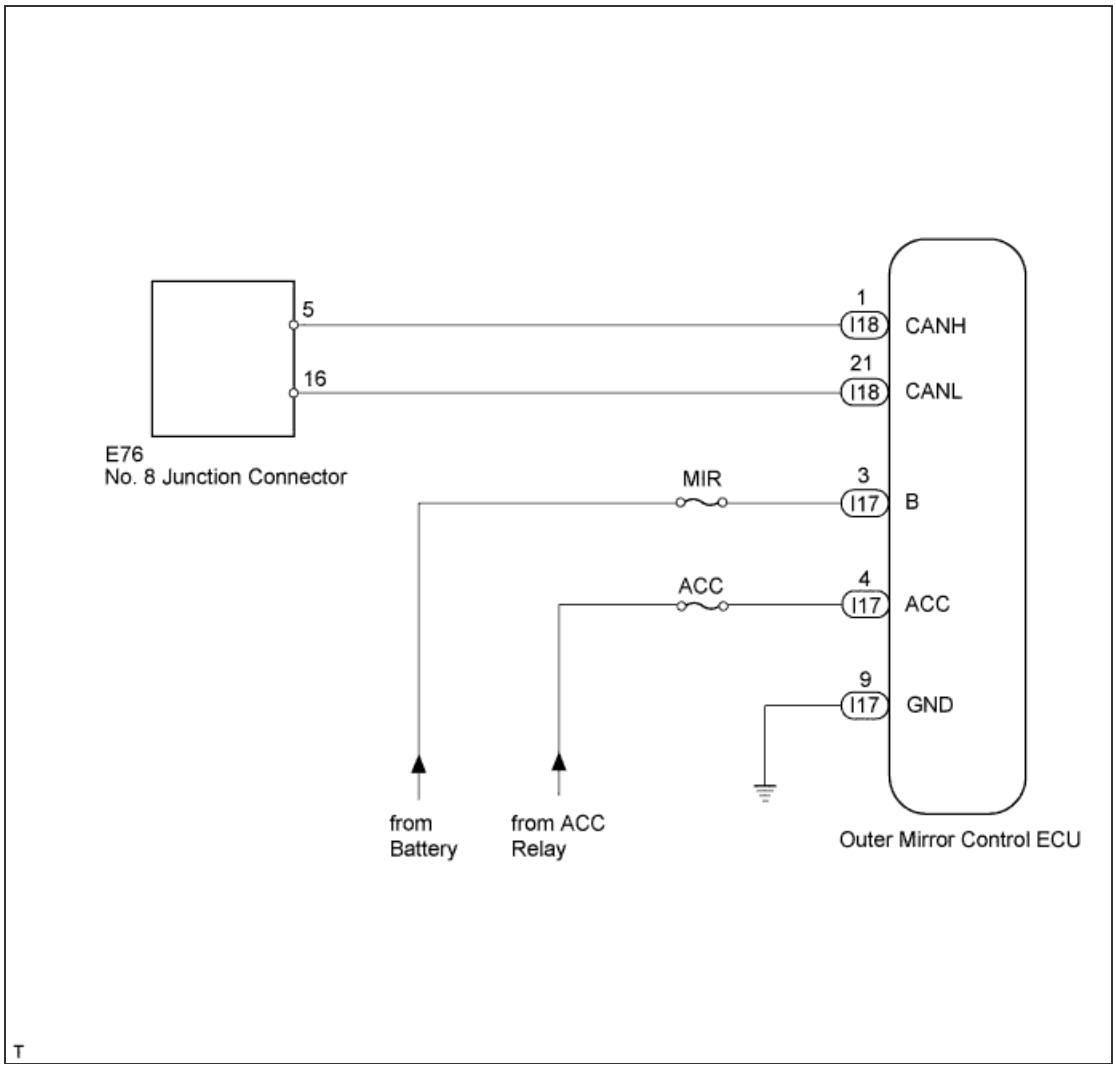
## DTC U0199 Lost Communication with "Door Control Module A"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0199 | There is no communication from the outer mirror control ECU. | • Power source circuit of outer mirror control ECU assembly<br>• Outer mirror control ECU assembly<br>• Outer mirror control ECU branch wire or connector assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

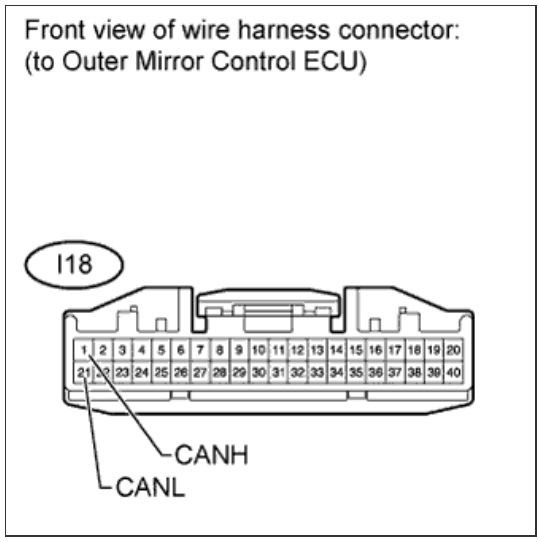
## 2.CHECK FOR OPEN IN CAN BUS WIRE (OUTER MIRROR CONTROL ECU BRANCH WIRE)

a. Disconnect the I18 outer mirror control ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I18-1 (CANH) - I18-21 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE OUTER MIRROR CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (OUTER MIRROR CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the I17 outer mirror control ECU connector.

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

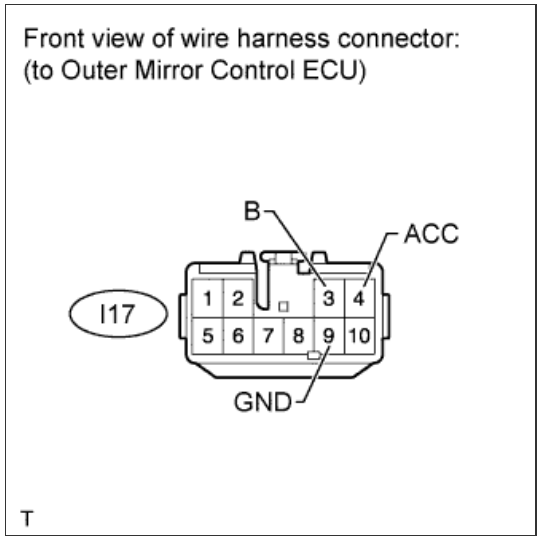
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I17-9 (GND) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I17-3 (B) - Body ground | Always | 11 to 14 V |
| I17-4 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE OUTER MIRROR CONTROL ECU ASSEMBLY (Click here)

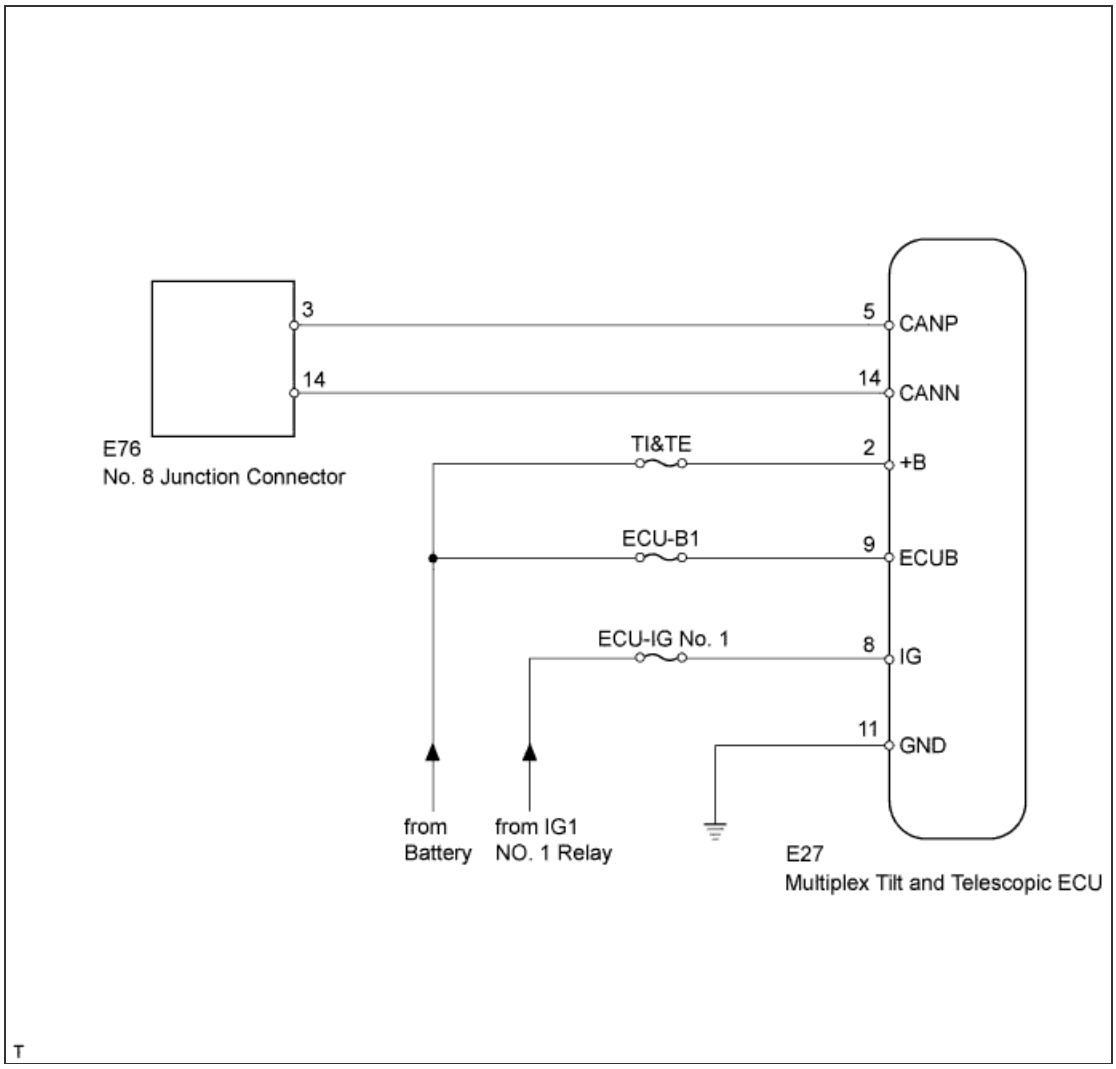
## DTC U1115 Lost Communication with Tilt and Telescopic Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1115 | There is no communication from the multiplex tilt and telescopic ECU. | • Power source circuit of multiplex tilt and telescopic ECU<br>• Multiplex tilt and telescopic ECU CAN branch wire or connector<br>• Multiplex tilt and telescopic ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (MULTIPLEX TILT AND TELESCOPIC ECU CAN BRANCH WIRE)

a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

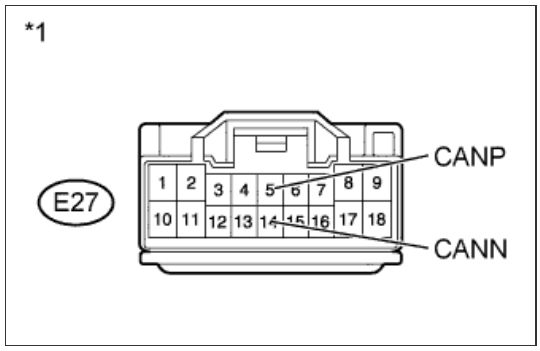
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Multiplex Tilt and Telescopic ECU) |




NG → REPAIR OR REPLACE MULTIPLEX TILT AND TELESCOPIC ECU CAN BRANCH WIRE OR CONNECTOR (CANP, CANN)

OK

## 4.CHECK HARNESS AND CONNECTOR (MULTIPLEX TILT AND TELESCOPIC ECU - BATTERY AND BODY GROUND)

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

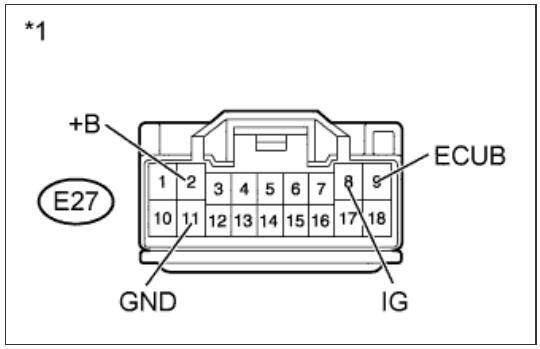
**NOTICE:**

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

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E27-2 (+B) - Body ground | Always | 11 to 14 V |
| E27-9 (ECUB) - Body ground | Always | 11 to 14 V |
| E27-8 (IG) - 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 |
|---|---|---|
| E27-11 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Multiplex Tilt and Telescopic ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MULTIPLEX TILT AND TELESCOPIC ECU (Click here)

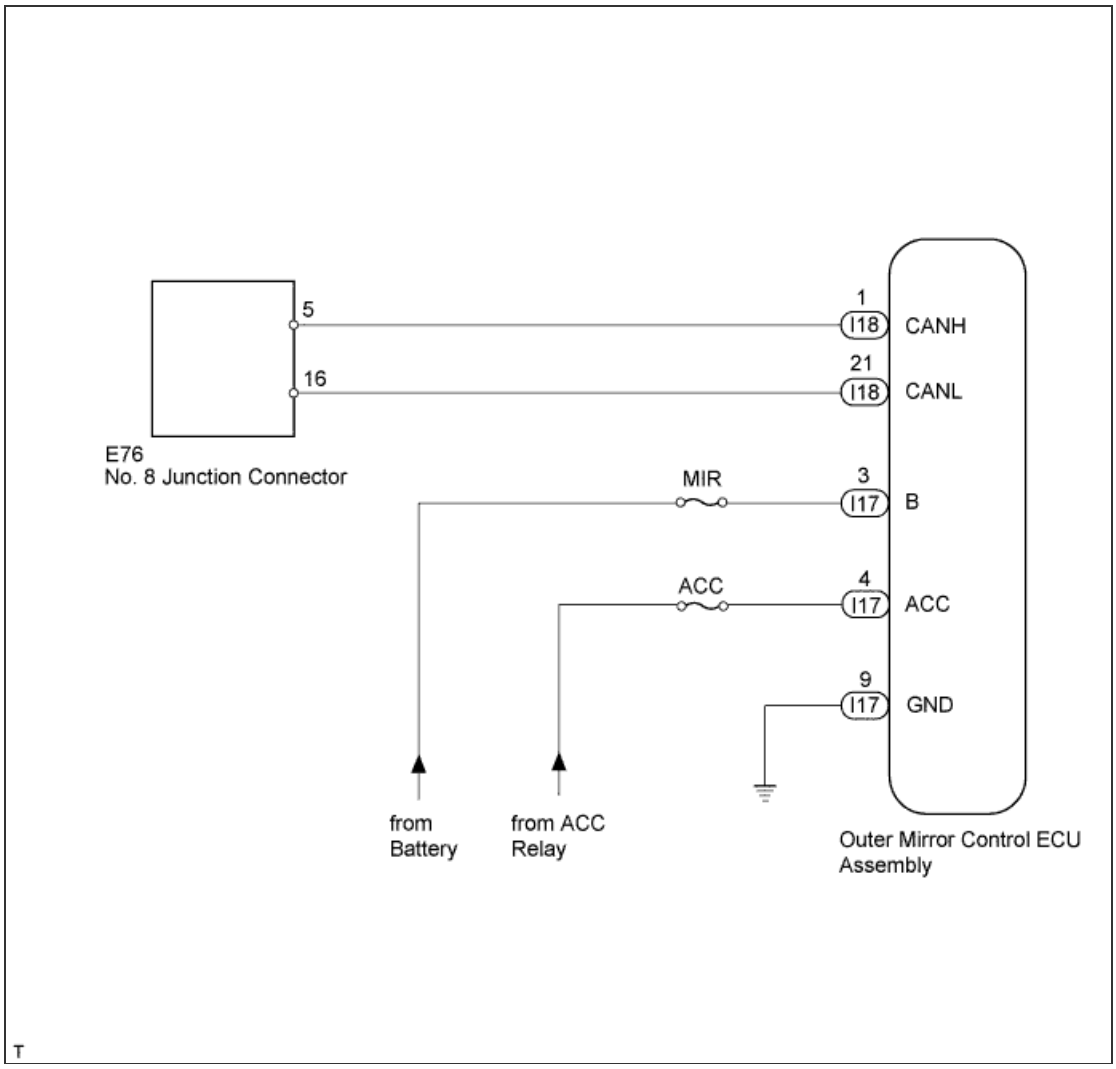
## DTC U0199 Lost Communication with "Door Control Module A"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0199 | There is no communication from the outer mirror control ECU assembly. | • Power source circuit of outer mirror control ECU assembly<br>• Outer mirror control ECU assembly CAN branch wire or connector<br>• Outer mirror control ECU assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (OUTER MIRROR CONTROL ECU ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the I18 outer mirror control ECU assembly connector.

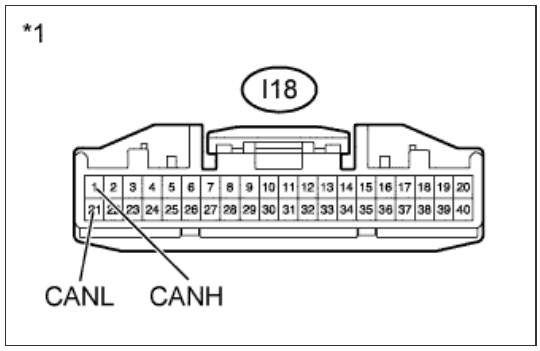
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I18-1 (CANH) - I18-21 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Outer Mirror Control ECU Assembly) |




NG → REPAIR OR REPLACE OUTER MIRROR CONTROL ECU ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (OUTER MIRROR CONTROL ECU ASSEMBLY - BATTERY AND BODY GROUND)

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

**NOTICE:**

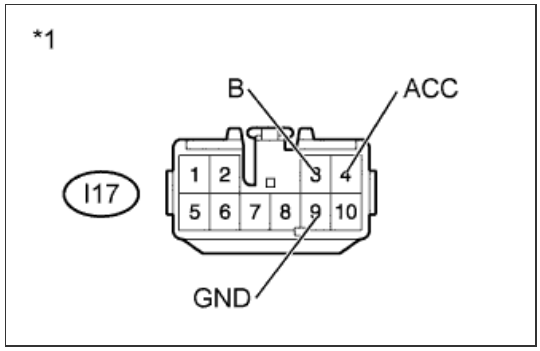
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Disconnect the I17 outer mirror control ECU assembly connector.

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I17-3 (B) - Body ground | Always | 11 to 14 V |
| I17-4 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |



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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I17-9 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Outer Mirror Control ECU Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE OUTER MIRROR CONTROL ECU ASSEMBLY (Click here)

## DTC U1126 Lost Communication with Parking Assist ECU

**for Preparation** Click here

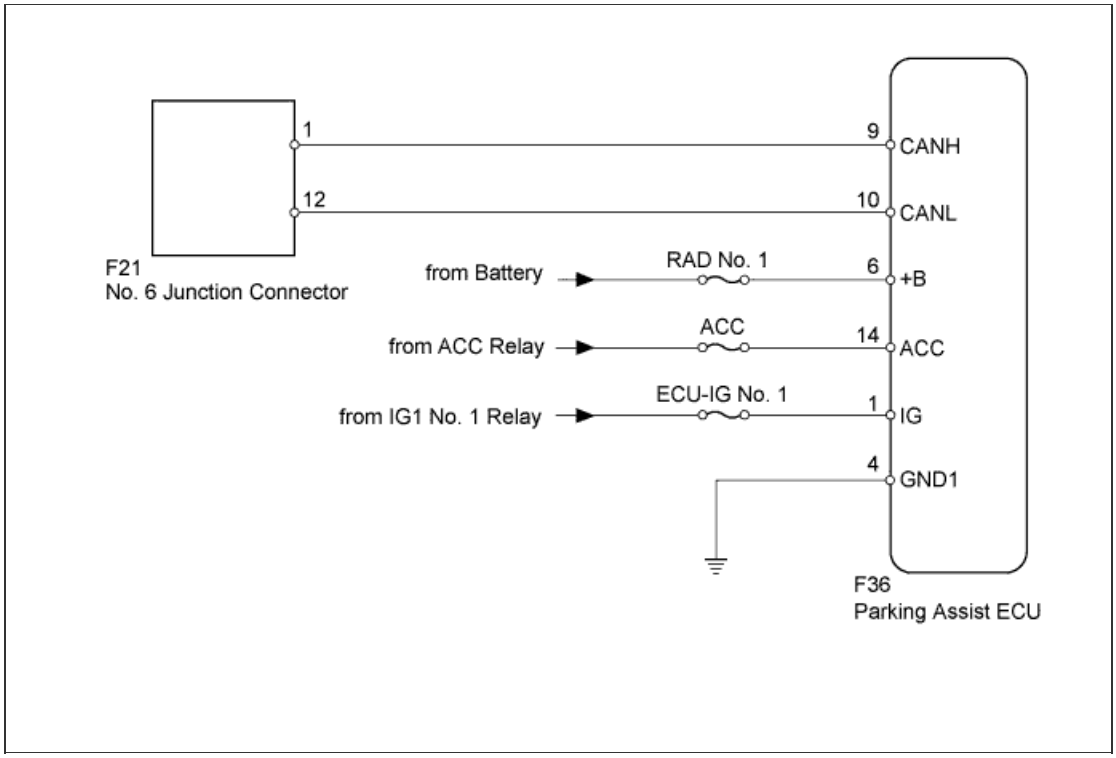
### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1126 | There is no communication from the parking assist ECU. | • Power source circuit of parking assist ECU<br>• Parking assist ECU<br>• Parking assist ECU branch wire or connector |

**HINT:**

For vehicles with the parking assist monitor system only.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

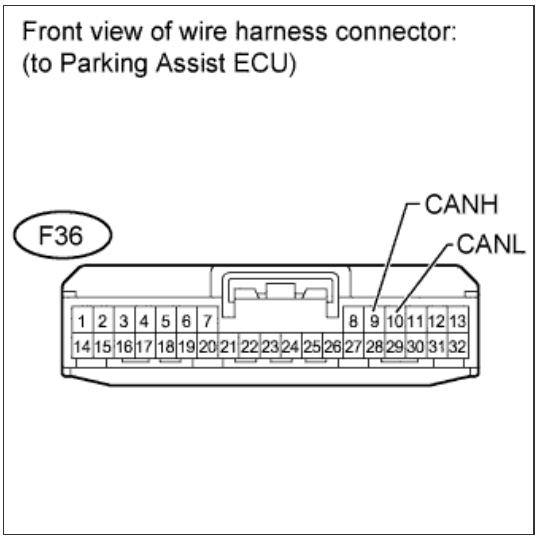
**2.CHECK FOR OPEN IN CAN BUS WIRE (PARKING ASSIST ECU BRANCH WIRE)**

a. Disconnect the F36 parking assist ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F36-9 (CANH) - F36-10 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE PARKING ASSIST ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

**3.CHECK HARNESS AND CONNECTOR (PARKING ASSIST ECU - BATTERY AND BODY GROUND)**

a. 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).

b. Disconnect the F36 parking assist ECU connector.

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

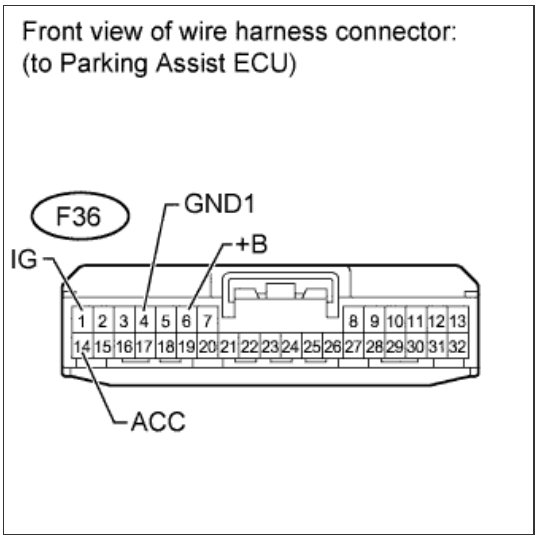
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F36-4 (GND1) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F36-6 (+B) - Body ground | Always | 11 to 14 V |
| F36-14 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| F36-1 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE PARKING ASSIST ECU (Click here)

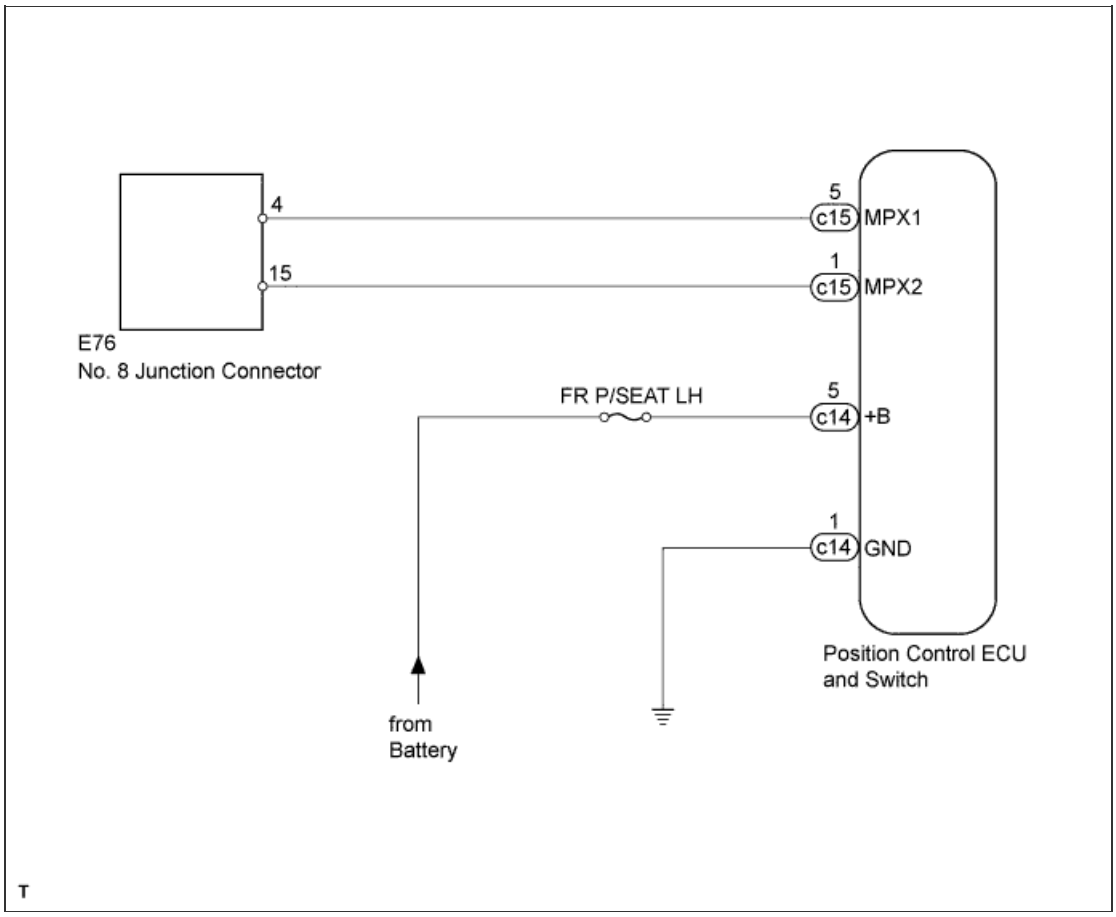
## DTC U0208 Lost Communication with "Seat Control Module A"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0208 | There is no communication from the position control ECU and switch. | • Power source circuit of position control ECU and switch assembly<br>• Position control ECU and switch assembly<br>• Position control ECU and switch branch wire or connector assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

**2.CHECK FOR OPEN IN CAN BUS WIRE (POSITION CONTROL ECU AND SWITCH BRANCH WIRE)**

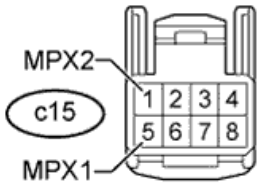
a. Disconnect the c15 position control ECU and switch connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| c15-5 (MPX1) - c15-1 (MPX2) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Position Control ECU and Switch)




NG → REPAIR OR REPLACE POSITION CONTROL ECU AND SWITCH BRANCH WIRE OR CONNECTOR (MPX1, MPX2)

OK

## 3.CHECK HARNESS AND CONNECTOR (POSITION CONTROL ECU AND SWITCH - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the c14 position control ECU and switch connector.

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

**Standard Resistance:**

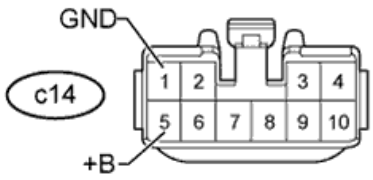
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c14-1 (GND) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c14-5 (+B) - Body ground | Always | 11 to 14 V |

Front view of wire harness connector:
(to Position Control ECU and Switch)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

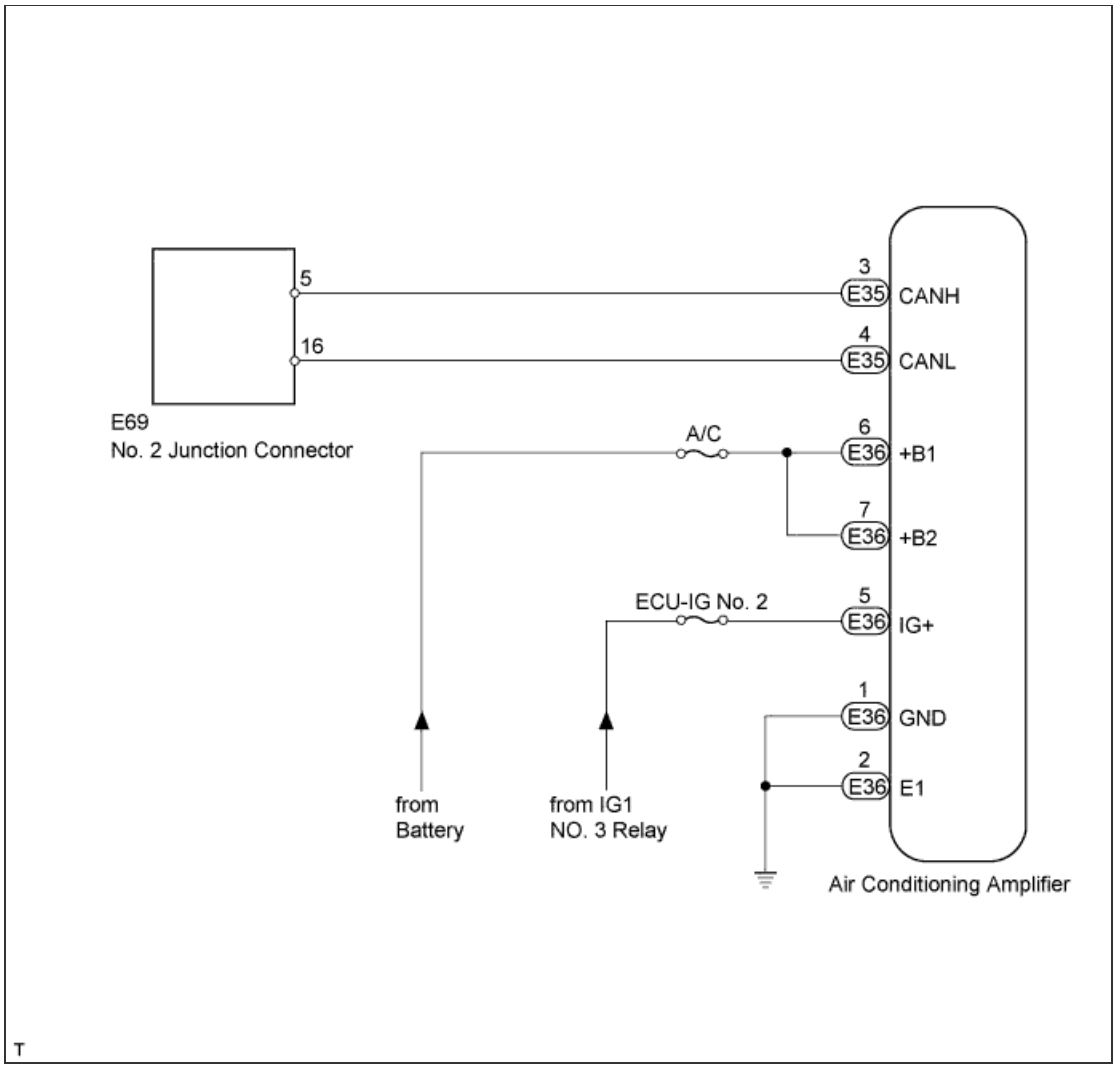
REPLACE POSITION CONTROL ECU AND SWITCH ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Air Conditioning Amplifier Communication Stop Mode | When either condition below is met:<br>• "Air Conditioner" is not displayed on "Bus Check".<br>• Applies to "Air Conditioning Amplifier Communication Stop Mode" in "DTC Combination Table". | • Power source or inside air conditioning amplifier assembly<br>• Air conditioning amplifier branch wire or connector<br>• Air conditioning amplifier assembly |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

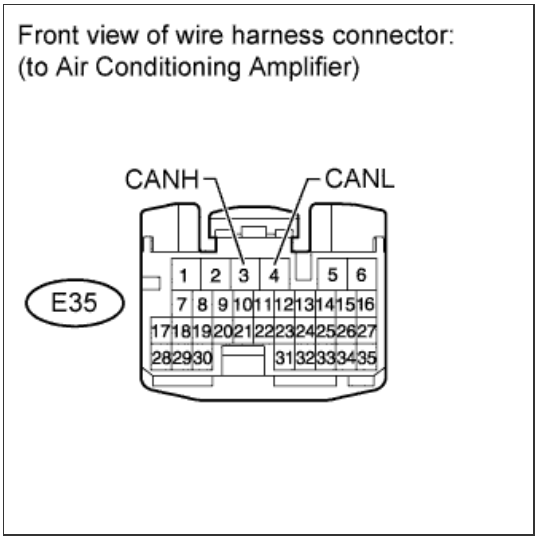
## 2.CHECK FOR OPEN IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER BRANCH WIRE)

a. Disconnect the E35 air conditioning amplifier connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE AIR CONDITIONING AMPLIFIER BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E36 air conditioning amplifier connector.

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

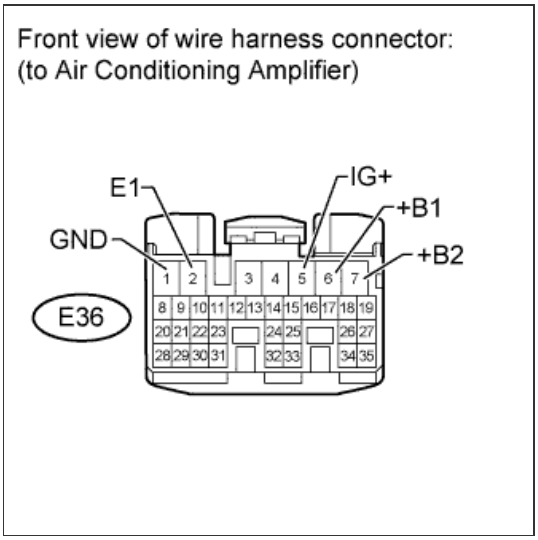
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-1 (GND) - Body ground | Always | Below 1 Ω |
| E36-2 (E1) - Body ground | | |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E36-6 (+B1) - Body ground | Always | 11 to 14 V |
| E36-7 (+B2) - Body ground | | |
| E36-5 (IG+) - Body | Engine switch on | |



| | | |
|---|---|---|
| ground | (IG) | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

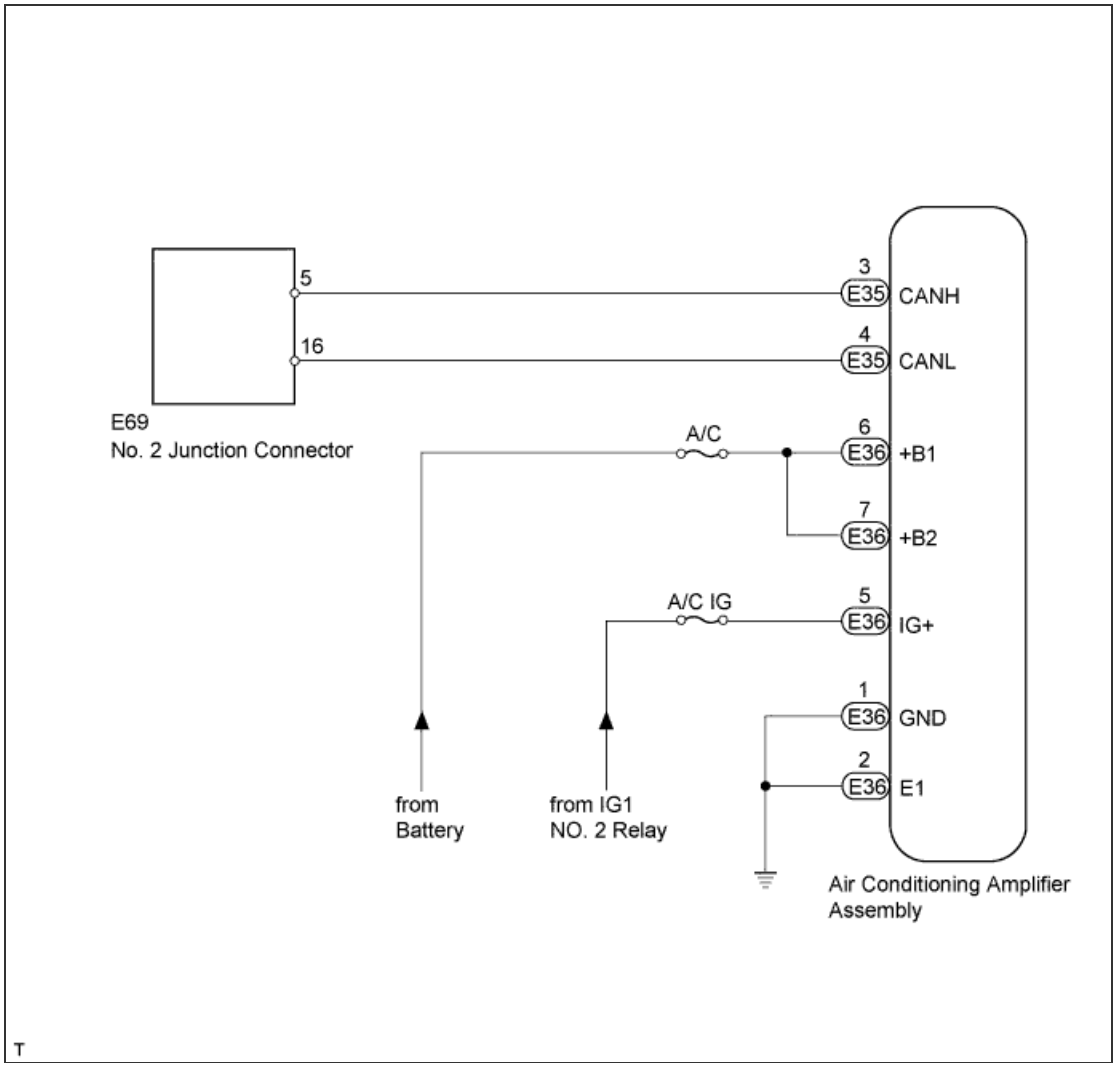
REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Air Conditioning Amplifier Communication Stop Mode | When either condition below is met:<br>• "Air Conditioning Amplifier" is not displayed on "CAN Bus Check".<br>• Applies to "Air Conditioning Amplifier Communication Stop Mode" in "DTC Combination Table". | • Power source or inside air conditioning amplifier assembly<br>• Air conditioning amplifier assembly<br>• Air conditioning amplifier assembly CAN branch wire or connector |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

**NOTICE:**

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

### 1.PRECAUTION

**NOTICE:**

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

**NEXT**

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the E35 air conditioning amplifier assembly connector.

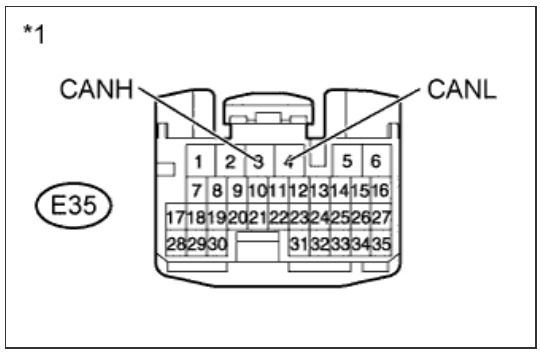
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Air Conditioning Amplifier Assembly) |




**NG** → **REPAIR OR REPLACE AIR CONDITIONING AMPLIFIER CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)**

**OK**

## 4.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER ASSEMBLY - BATTERY AND BODY GROUND)

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

**NOTICE:**

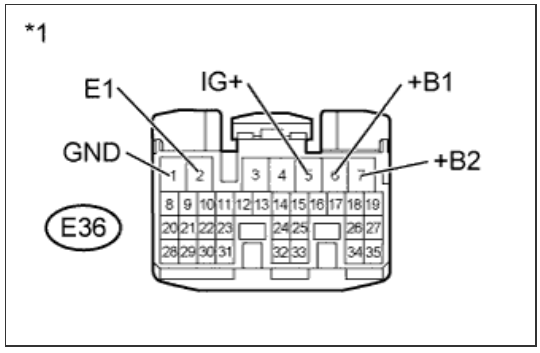
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Disconnect the E36 air conditioning amplifier assembly connector.

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-6 (+B1) - Body ground | Always | 11 to 14 V |
| E36-7 (+B2) - Body ground | Always | 11 to 14 V |



| | | |
|---|---|---|
| E36-5 (IG+) - Body ground | Engine switch on (IG) | 11 to 14 V |

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-1 (GND) - Body ground | Always | Below 1 Ω |
| E36-2 (E1) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Air Conditioning Amplifier Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

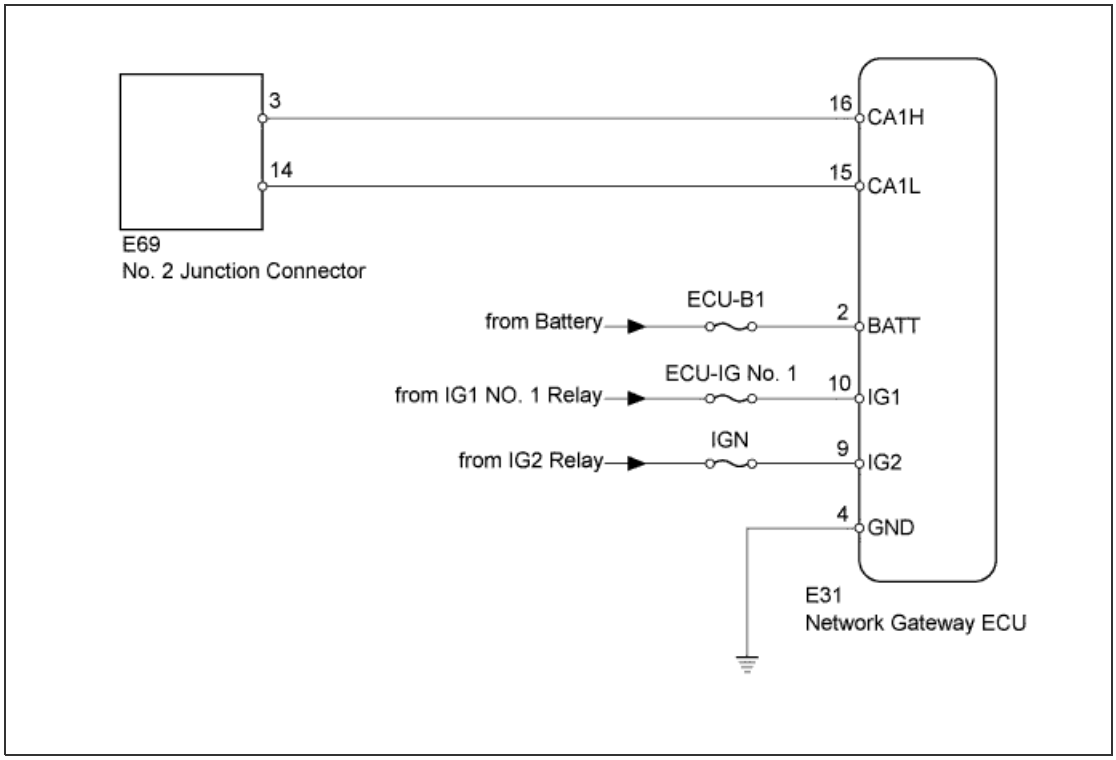
REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Gateway ECU Communication Stop Mode | When either condition below is met:<br>• "CAN Gateway" is not displayed on "Bus Check".<br>• Applies to "Gateway Communication Stop Mode" in "DTC Combination Table". | • Power source or inside network gateway ECU<br>• Network gateway ECU main wire or connector<br>• Network gateway ECU |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

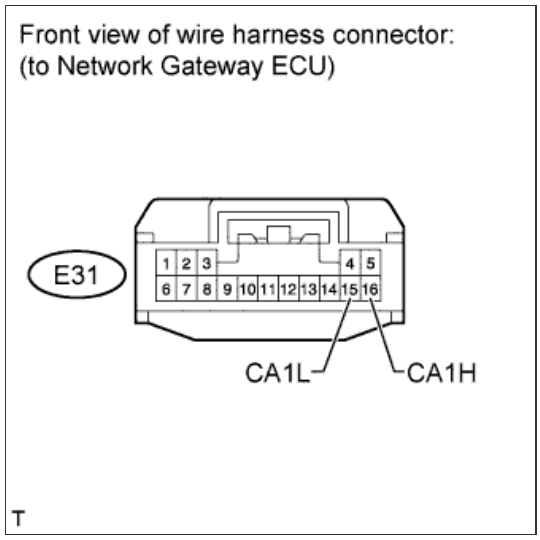
### 2.CHECK FOR OPEN IN CAN BUS WIRE (NETWORK GATEWAY ECU BRANCH WIRE)

a. Disconnect the E31 network gateway ECU connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE NETWORK GATEWAY ECU BRANCH WIRE OR CONNECTOR (CA1H, CA1L)

OK

## 3.CHECK HARNESS AND CONNECTOR (NETWORK GATEWAY ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E31 network gateway ECU connector.

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

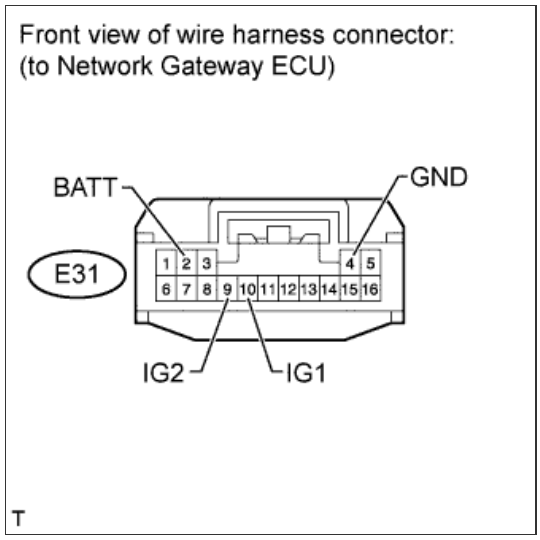
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E31-4 (GND) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-2 (BATT) - Body ground | Always | 11 to 14 V |
| E31-10 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |
| E31-9 (IG2) - Body ground | | |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

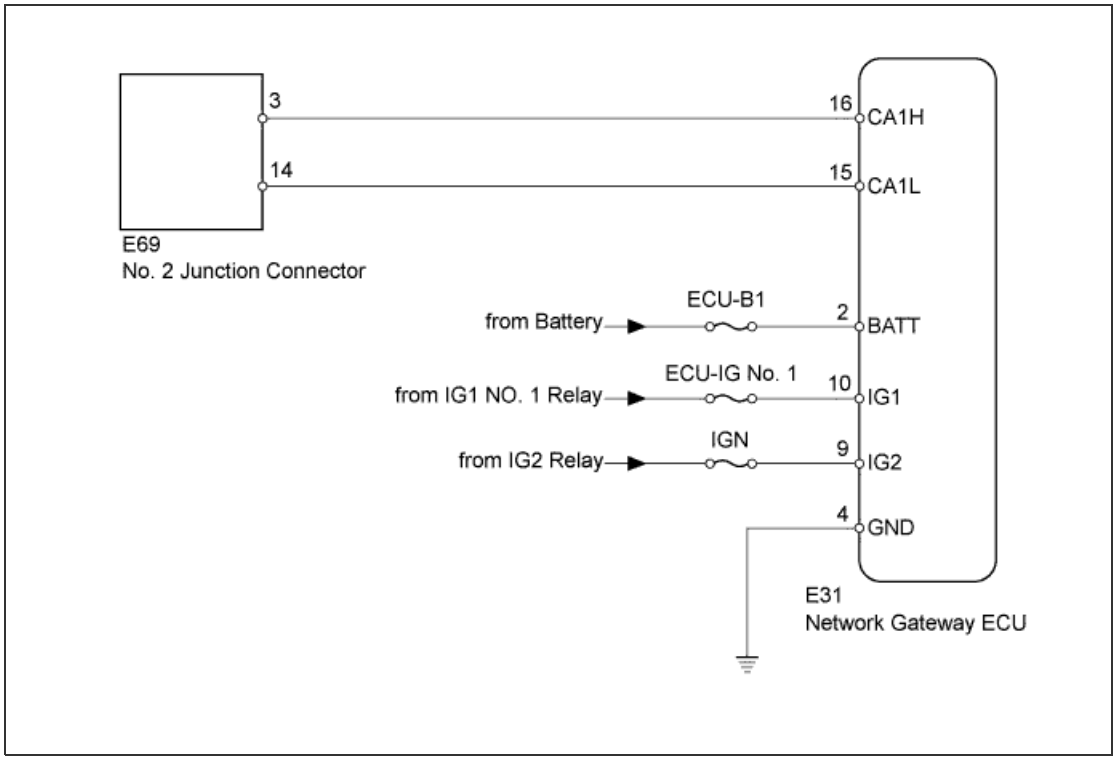
REPLACE NETWORK GATEWAY ECU (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Gateway ECU Communication Stop Mode | When either condition below is met:<br>• "CAN Gateway" is not displayed on "CAN Bus Check".<br>• Applies to "Gateway Communication Stop Mode" in "DTC Combination Table". | • Power source or inside network gateway ECU<br>• Network gateway ECU CAN branch wire or connector<br>• Network gateway ECU |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

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

**NEXT**

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (NETWORK GATEWAY ECU CAN BRANCH WIRE)

a. Disconnect the E31 network gateway ECU connector.

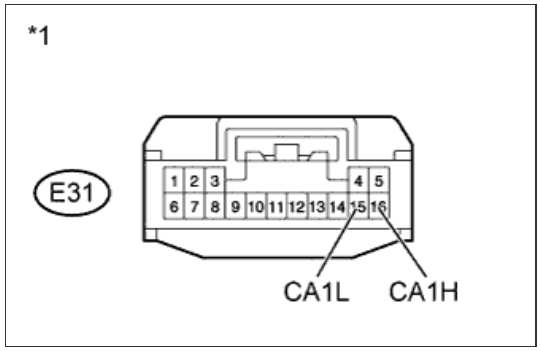
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Network Gateway ECU) |




NG → REPAIR OR REPLACE NETWORK GATEWAY ECU CAN BRANCH WIRE OR CONNECTOR (CA1H, CA1L)

OK

## 4.CHECK HARNESS AND CONNECTOR (NETWORK GATEWAY ECU - BATTERY AND BODY GROUND)

a. 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).

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

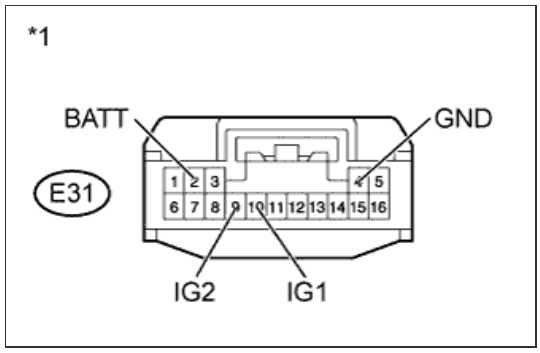
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E31-2 (BATT) - Body ground | Always | 11 to 14 V |
| E31-10 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |
| E31-9 (IG2) - 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 |
|---|---|---|
| E31-4 (GND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Network Gateway ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

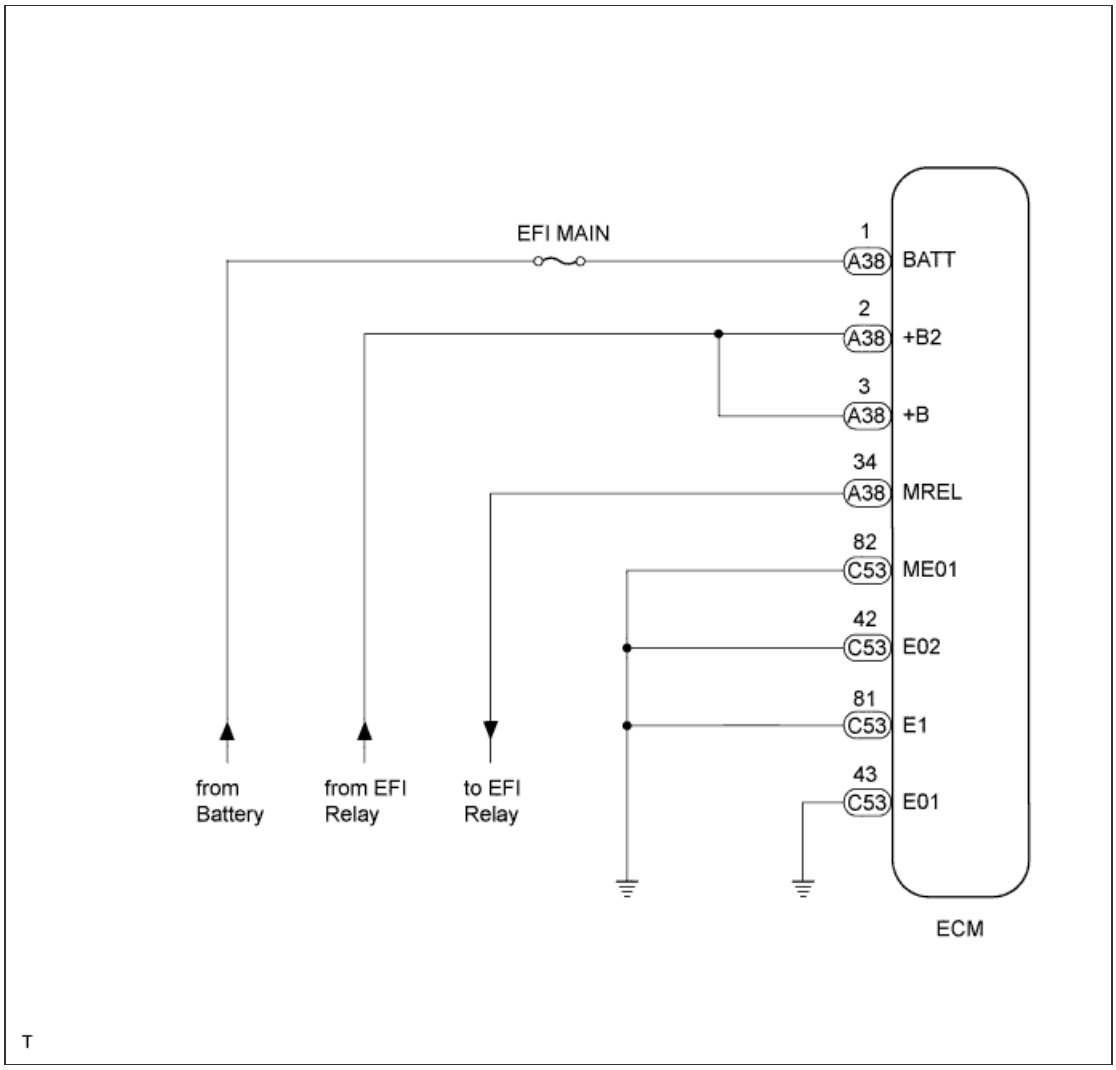
REPLACE NETWORK GATEWAY ECU (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| ECM Communication Stop Mode | When either condition below is met:<br>• "Engine" is not displayed on "Bus Check".<br>• Applies to "ECM Communication Stop Mode" in "DTC Combination Table". | • Power source or ECM<br>• ECM main wire or connector<br>• ECM |

## WIRING DIAGRAM

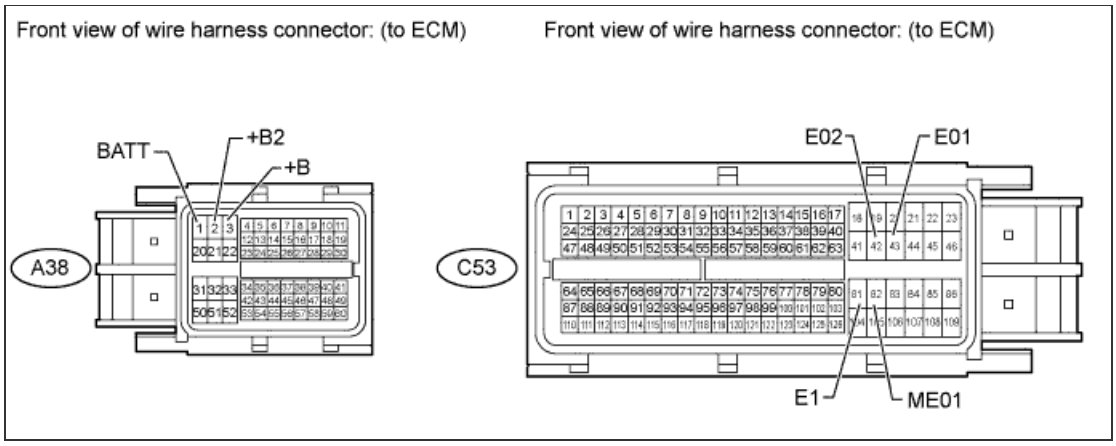



## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.CHECK HARNESS AND CONNECTOR (ECM - BATTERY AND BODY GROUND)




a. Disconnect the A38 and C53 ECU connectors.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| C53-81 (E1) - Body ground | Always | Below 1 Ω |
| C53-42 (E02) - Body ground | | |
| C53-43 (E01) - Body ground | | |
| C53-82 (ME01) - Body ground | | |

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A38-1 (BATT) - Body ground | Always | 11 to 14 V |
| A38-2 (+B2) - Body ground | When battery positive (+) voltage is applied to terminal A38-34 (MREL) | |
| A38-3 (+B) - Body ground | | |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

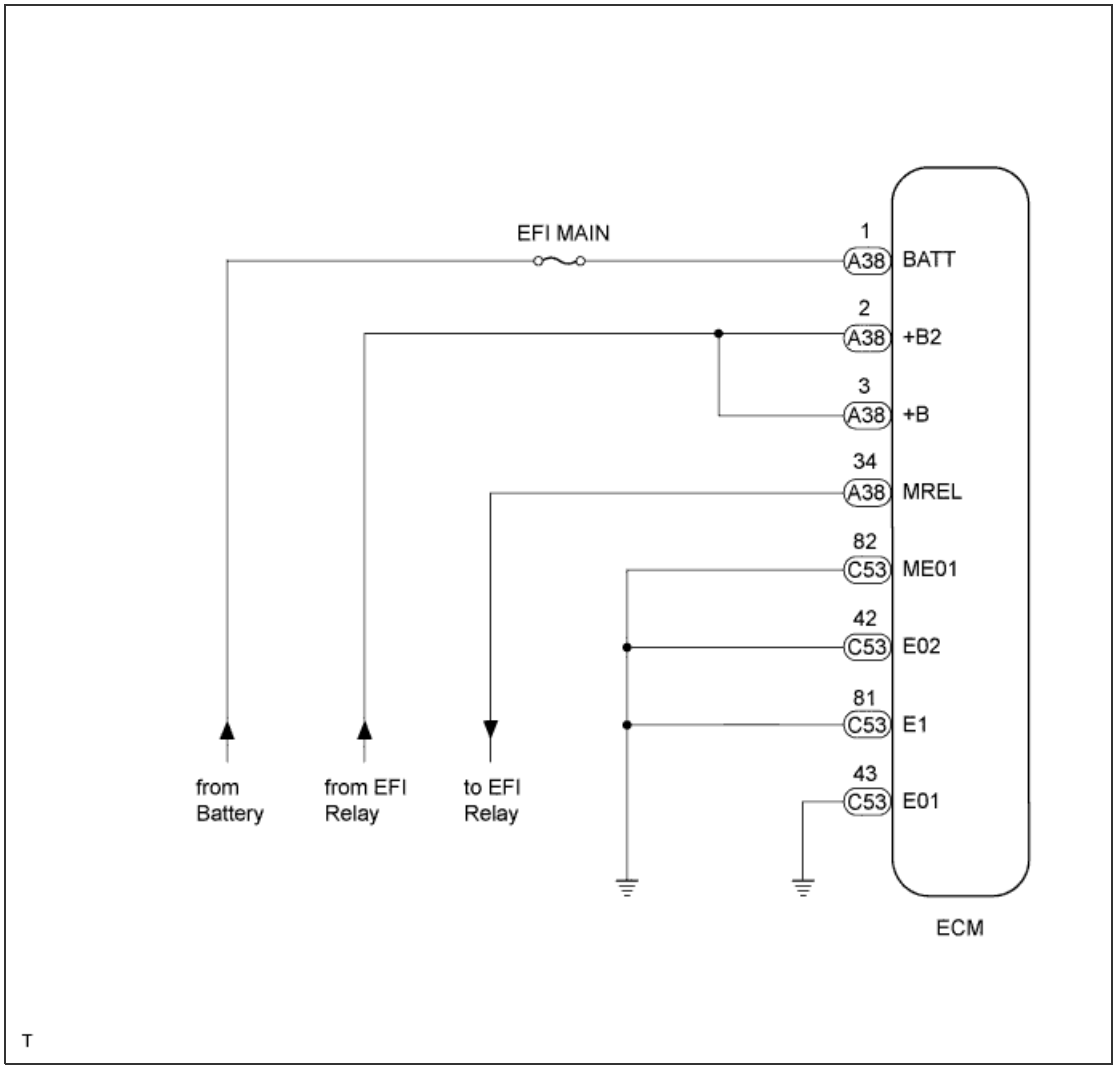
REPLACE ECM (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| ECM Communication Stop Mode | When either condition below is met:<br>• "ECM (Engine)" is not displayed on "CAN Bus Check".<br>• Applies to "ECM Communication Stop Mode" in "DTC Combination Table". | • Power source or ECM<br>• ECM |

## WIRING DIAGRAM



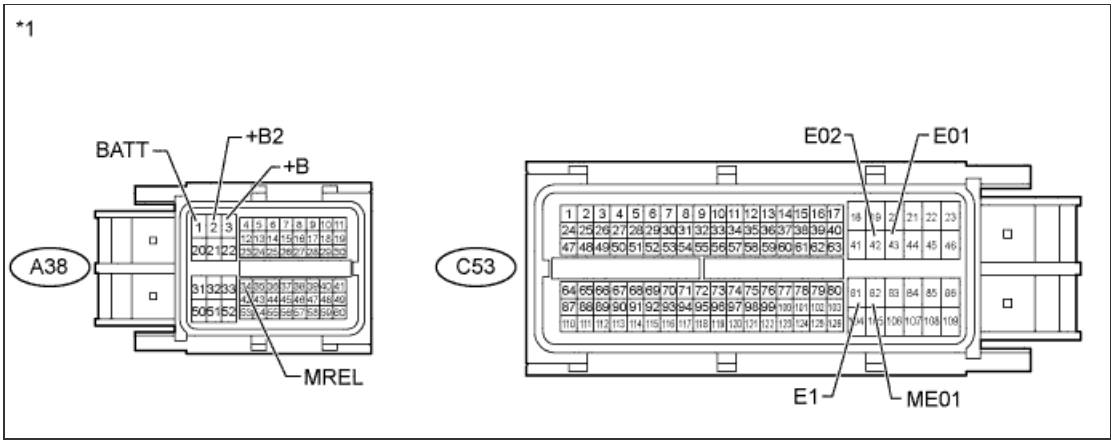

## INSPECTION PROCEDURE

**NOTICE:**

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

### 1.CHECK HARNESS AND CONNECTOR (ECM - BATTERY AND BODY GROUND)

a. Disconnect the A38 and C53 ECM connectors.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Front view of wire harness connector (to ECM) | - | - |

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A38-1 (BATT) - Body ground | Always | 11 to 14 V |
| A38-2 (+B2) - Body ground | When battery positive (+) voltage is applied to terminal A38-34 (MREL) | 11 to 14 V |
| A38-3 (+B) - Body ground | When battery positive (+) voltage is applied to terminal A38-34 (MREL) | 11 to 14 V |

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| C53-81 (E1) - Body ground | Always | Below 1 Ω |
| C53-42 (E02) - Body ground | Always | Below 1 Ω |
| C53-43 (E01) - Body ground | Always | Below 1 Ω |
| C53-82 (ME01) - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

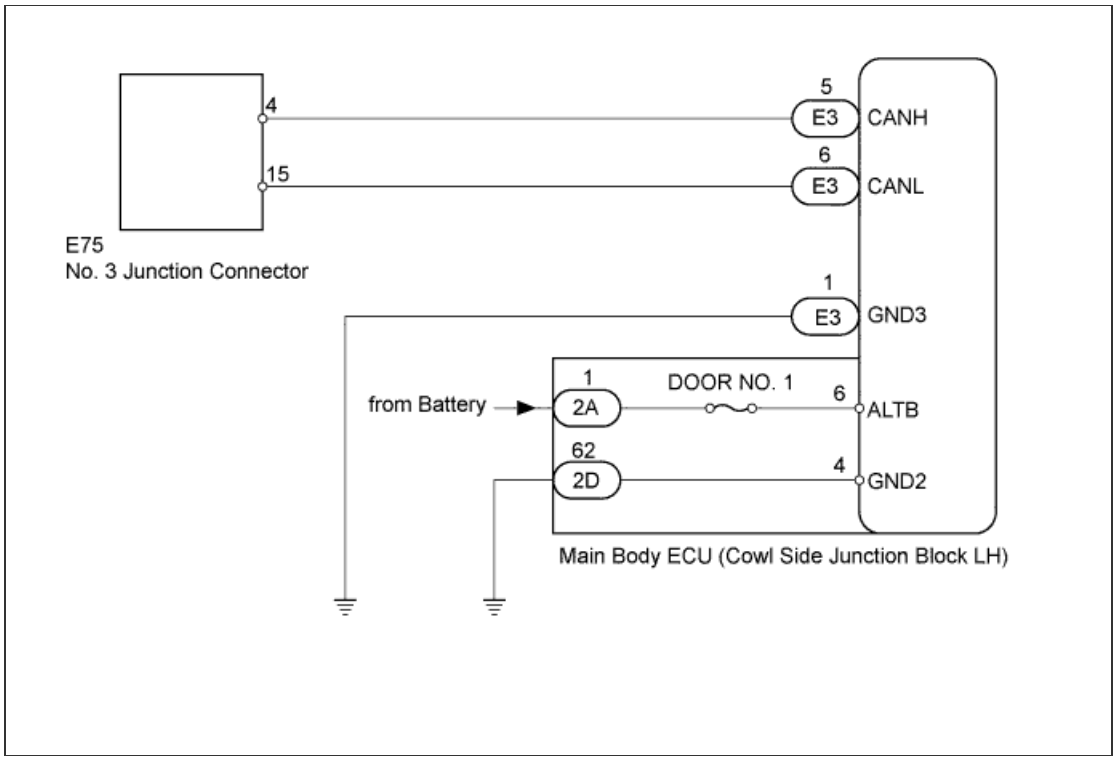
REPLACE ECM (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Main Body ECU Communication Stop Mode | When either condition below is met:<br>• "Main Body" is not displayed on "Bus Check".<br>• Applies to "Main Body ECU Communication Stop Mode" in "DTC Combination Table" | • Power source or inside main body ECU (cowl side junction block LH)<br>• Main body ECU (cowl side junction block LH) branch wire or connector<br>• Main body ECU (cowl side junction block LH) |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

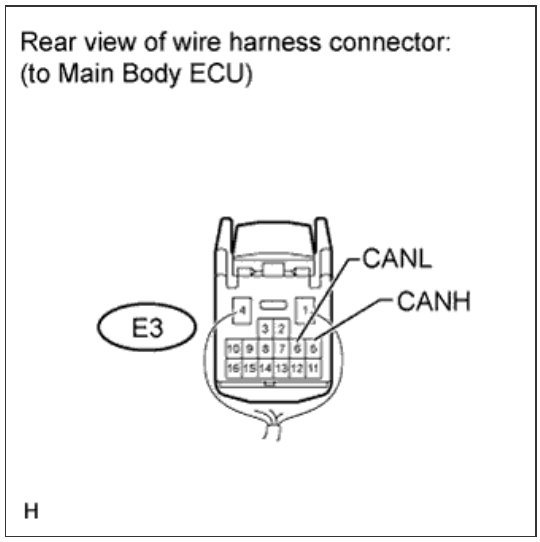
### 2.CHECK FOR OPEN IN CAN BUS WIRE (MAIN BODY ECU BRANCH WIRE)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-5 (CANH) - E3-6 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE MAIN BODY ECU BRANCH WIRE OR CONNECTOR (COWL SIDE JUNCTION BLOCK) (CANH, CANL)

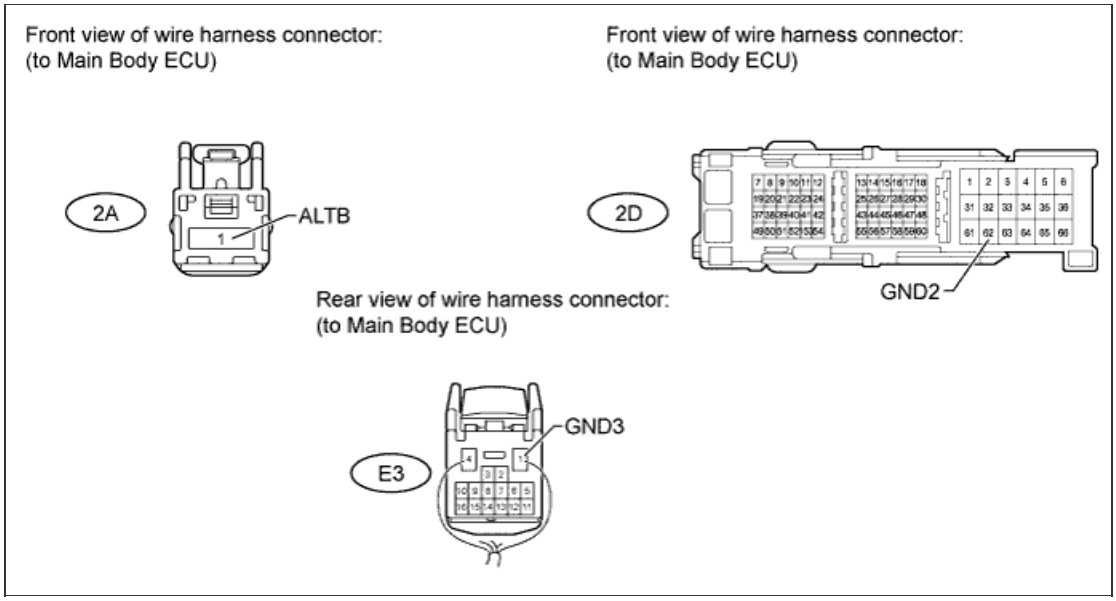
OK

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

a. 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).




b. Disconnect the 2A and 2D main body ECU (cowl side junction block LH) connectors.

c. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |
| E3-1 (GND3) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

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

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

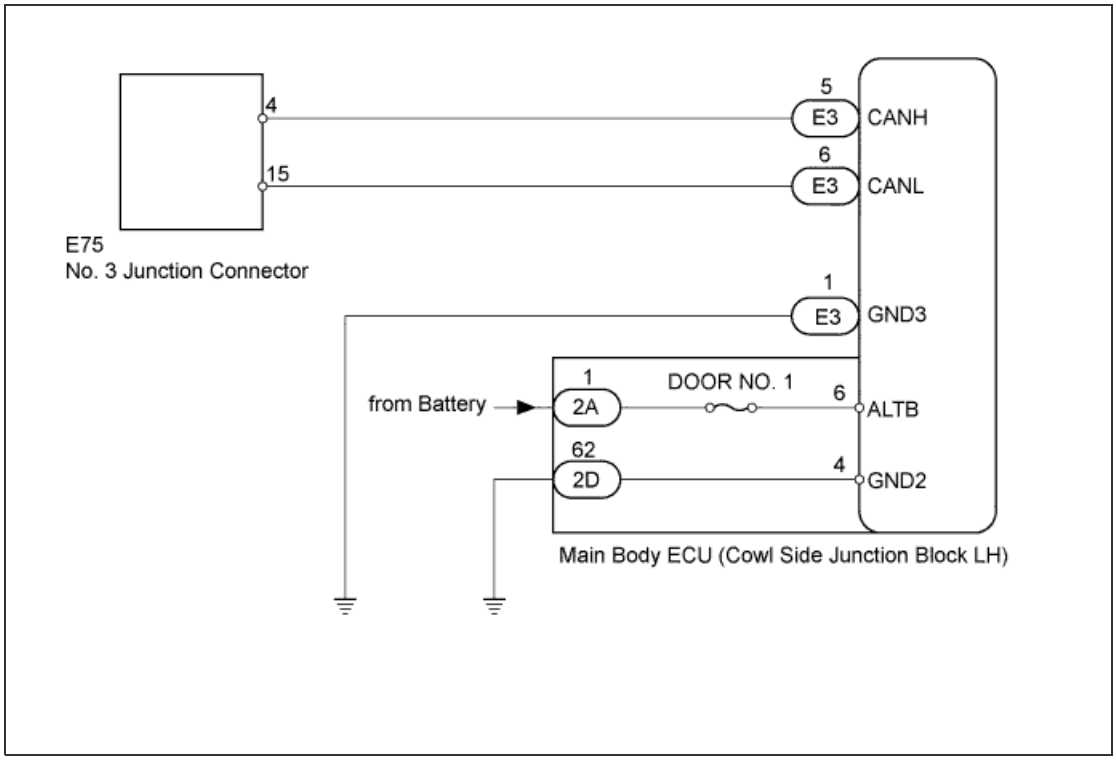
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Main Body ECU Communication Stop Mode | When either condition below is met:<br>• "Main Body" is not displayed on "CAN Bus Check".<br>• Applies to "Main Body ECU Communication Stop Mode" in "DTC Combination Table" | • Power source or inside main body ECU (cowl side junction block LH)<br>• Main body ECU (cowl side junction block LH) branch wire or connector<br>• Main body ECU (cowl side junction block LH) |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

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

**NEXT**

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

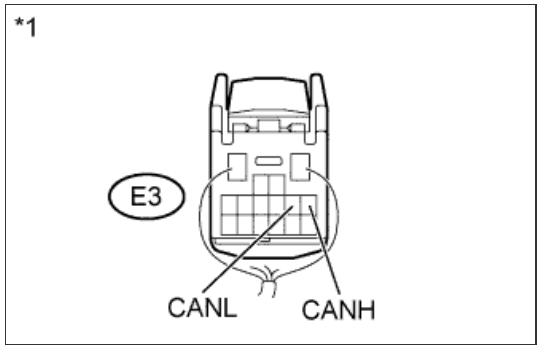
### 3.CHECK FOR OPEN IN CAN BUS WIRE (MAIN BODY ECU CAN BRANCH WIRE)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-5 (CANH) - E3-6 (CANL) | Engine switch off | 54 to 69 Ω |




**Text in Illustration**

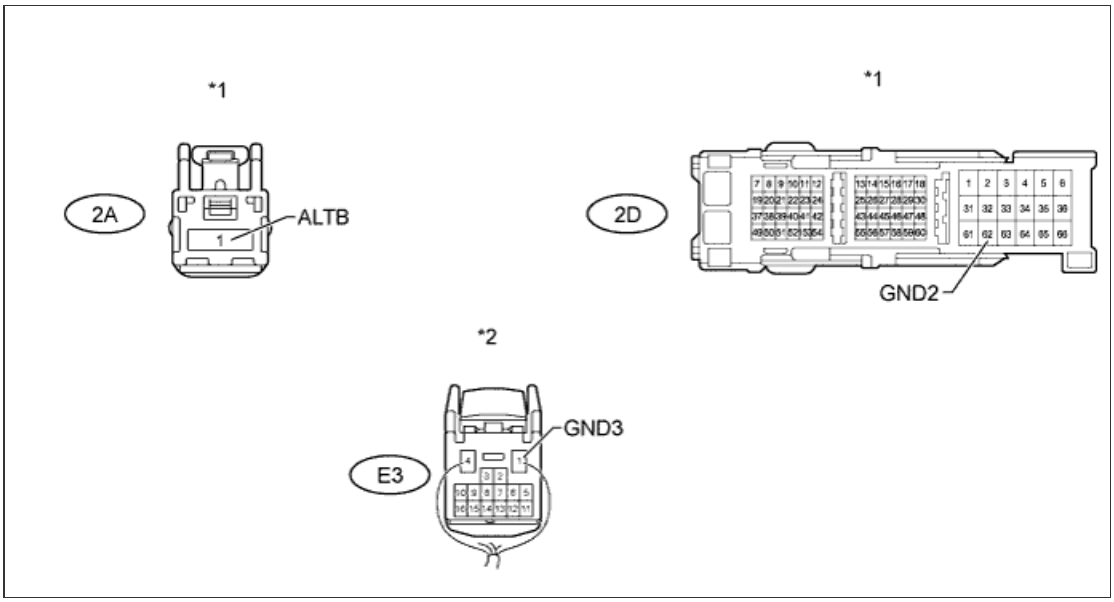
| | |
|---|---|
| *1 | Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) |

NG → REPAIR OR REPLACE MAIN BODY ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

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

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




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Front view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) | *2 | Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) |

**NOTICE:**

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

b. Disconnect the 2A, 2D and E3 main body ECU (cowl side junction block LH) connectors.

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

**Standard Voltage:**

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

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |
| E3-1 (GND3) - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

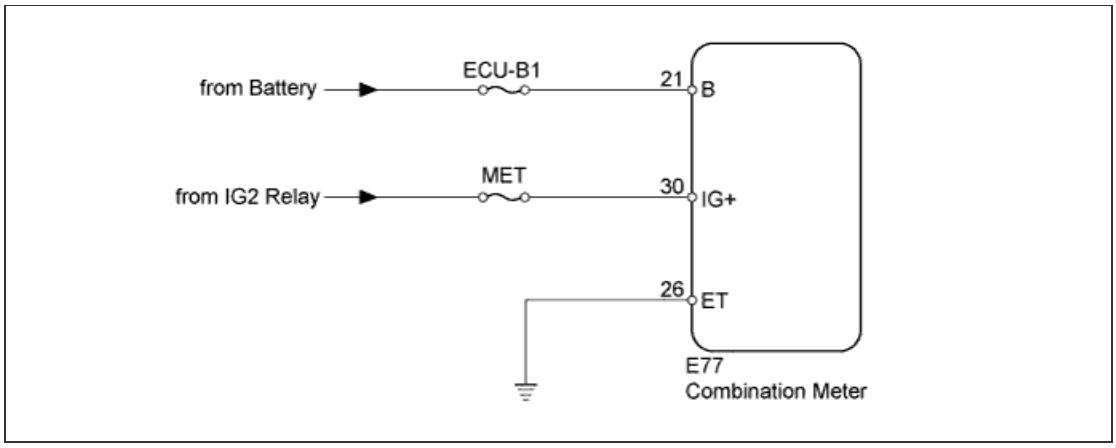
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Combination Meter ECU Communication Stop Mode | When either condition below is met:<br>• "Combination Meter" is not displayed on "Bus Check".<br>• Applies to "Combination Meter ECU Communication Stop Mode" in "DTC Combination Table". | • Power source or inside combination meter assembly<br>• Combination meter assembly |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.CHECK HARNESS AND CONNECTOR (COMBINATION METER - BATTERY AND BODY GROUND)

a. Disconnect the E77 combination meter connector.

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

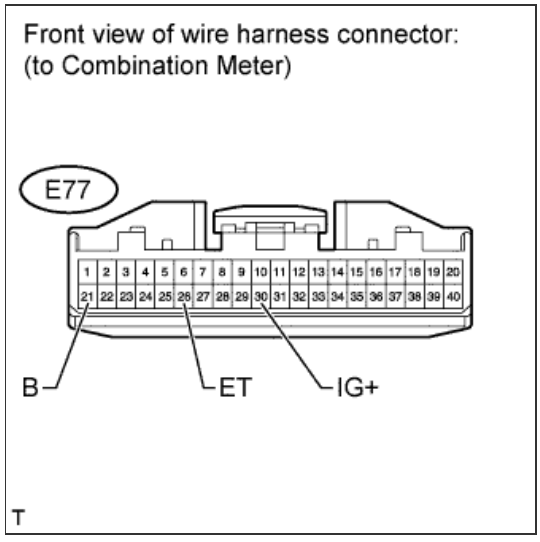
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E77-26 (ET) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-21 (B) - Body ground | Always | 11 to 14 V |
| E77-30 (IG+) - Body ground | Engine switch on (IG) | 11 to 14 V |



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

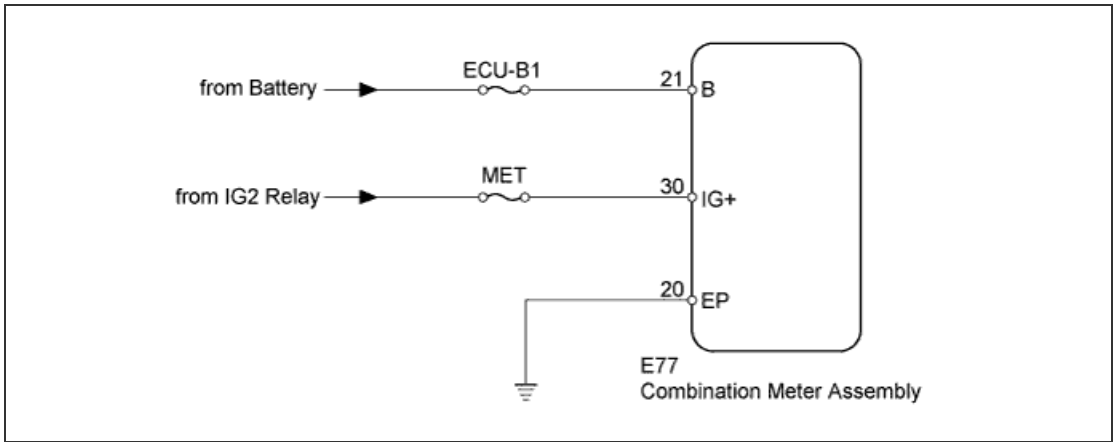
REPLACE COMBINATION METER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Combination Meter ECU Communication Stop Mode | When either condition below is met:<br>• "Combination Meter" is not displayed on "CAN Bus Check".<br>• Applies to "Combination Meter ECU Communication Stop Mode" in "DTC Combination Table". | • Power source or inside combination meter assembly<br>• Combination meter assembly |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

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

### 1.CHECK HARNESS AND CONNECTOR (COMBINATION METER ASSEMBLY - BATTERY AND BODY GROUND)

a. Disconnect the E77 combination meter assembly connector.

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

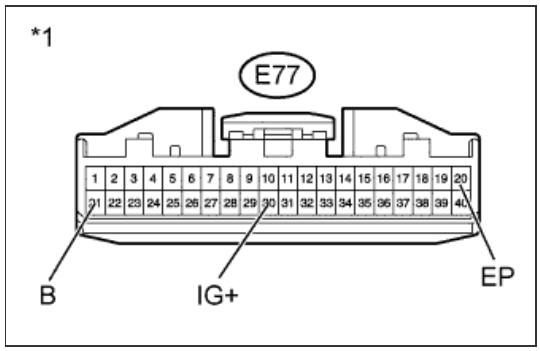
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-21 (B) - Body ground | Always | 11 to 14 V |
| E77-30 (IG+) - 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 |
|---|---|---|
| E77-20 (EP) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Combination Meter Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

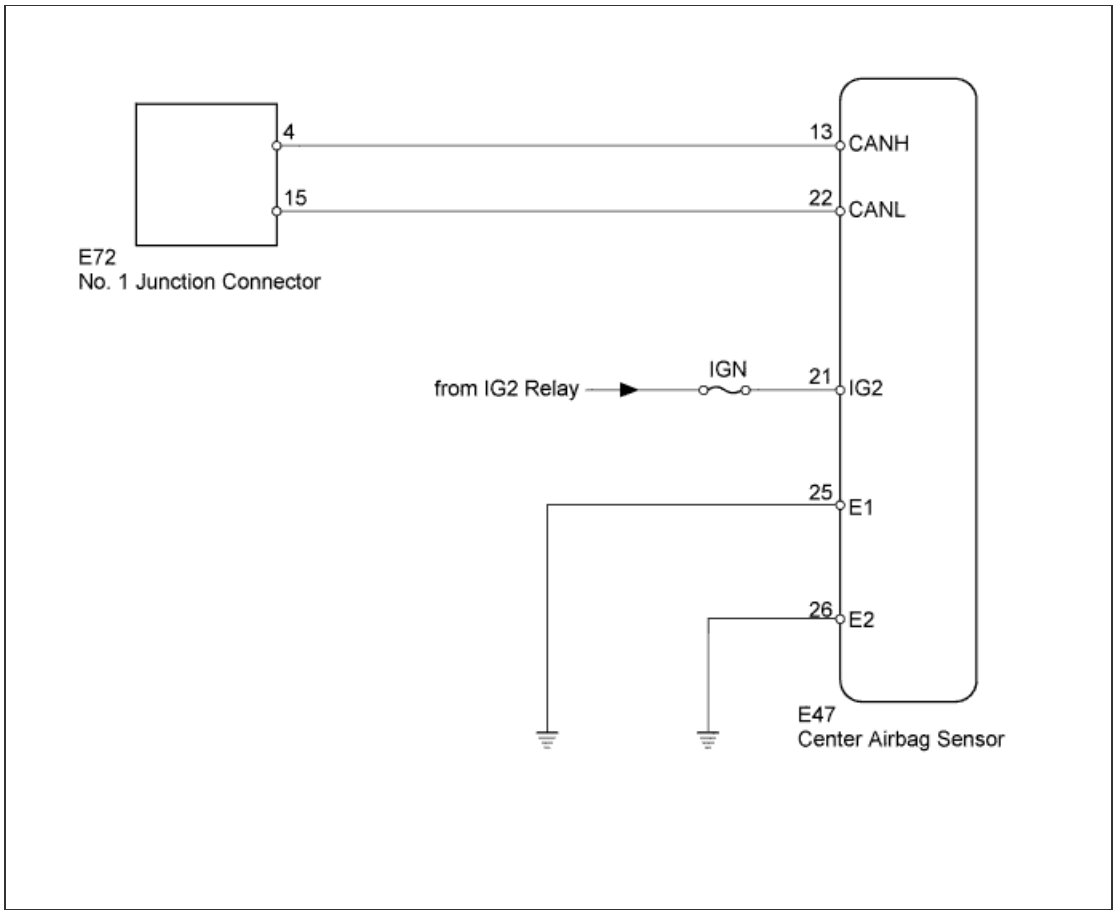
REPLACE COMBINATION METER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Center Airbag Sensor Communication Stop Mode | When either condition below is met:<br>• "SRS Airbag" is not displayed on "Bus Check".<br>• Applies to "Center Airbag Sensor Communication Stop Mode" in "DTC Combination Table". | • Power source or center airbag sensor assembly<br>• Center airbag sensor branch wire or connector<br>• Center airbag sensor assembly |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

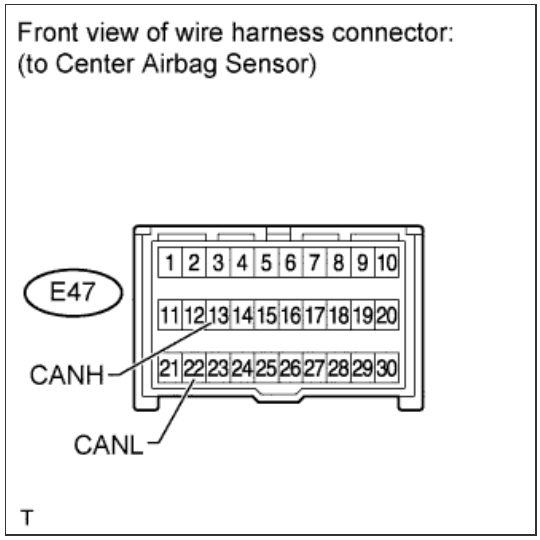
## 2.CHECK FOR OPEN IN CAN BUS WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE CENTER AIRBAG SENSOR BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (CENTER AIRBAG SENSOR - BATTERY AND BODY GROUND)

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

**NOTICE:**

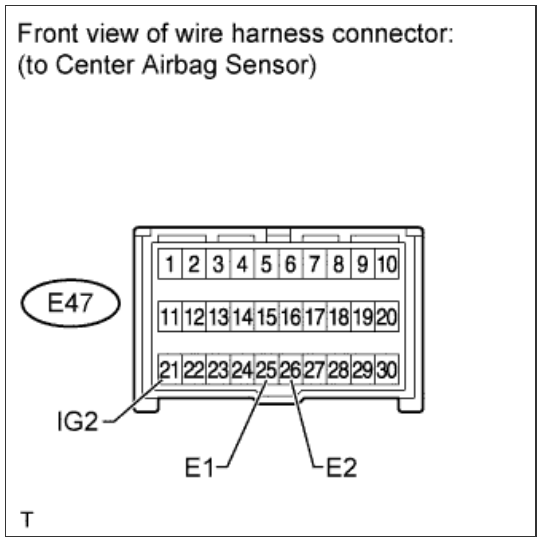
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

b. Disconnect the E47 center airbag sensor connector.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E47-25 (E1) - Body ground | Always | Below 1 Ω |
| E47-26 (E2) - Body ground | | |




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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-21 (IG2) - Body ground | Engine switch on (IG) | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

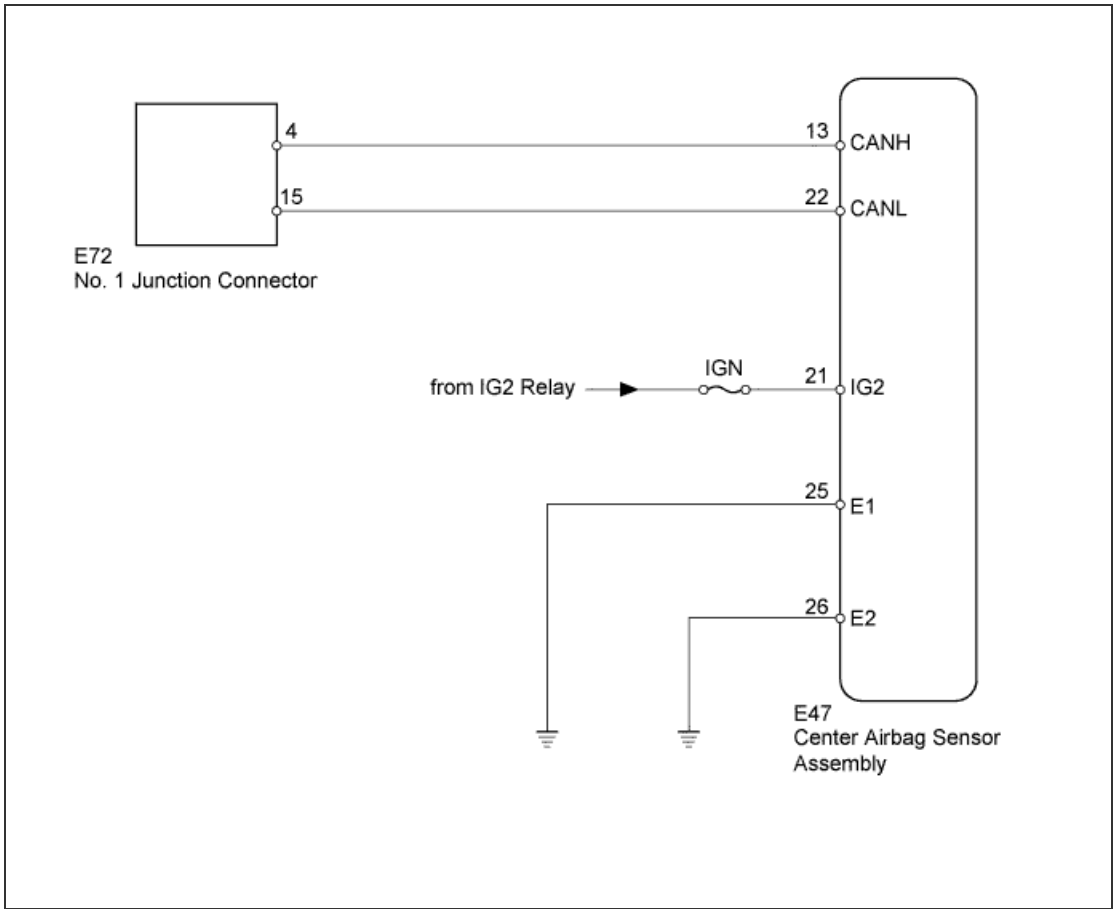
REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Center Airbag Sensor Communication Stop Mode | When either condition below is met:<br>• "Airbag" is not displayed on "CAN Bus Check".<br>• Applies to "Center Airbag Sensor Communication Stop Mode" in "DTC Combination Table". | • Power source or center airbag sensor assembly<br>• Center airbag sensor assembly CAN branch wire or connector<br>• Center airbag sensor assembly |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **Inspect the fuses for circuits related to this system before performing the following inspection procedure.**
- **The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the Precaution in the SRS (Click here).**

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (CENTER AIRBAG SENSOR ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the E47 center airbag sensor assembly connector ( Click here).

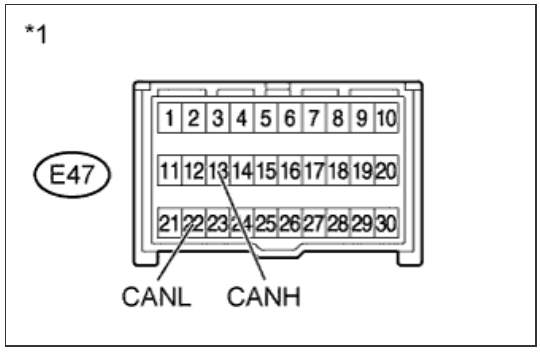
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Center Airbag Sensor Assembly) |




NG → REPAIR OR REPLACE CENTER AIRBAG SENSOR ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (CENTER AIRBAG SENSOR ASSEMBLY - BATTERY AND BODY GROUND)

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

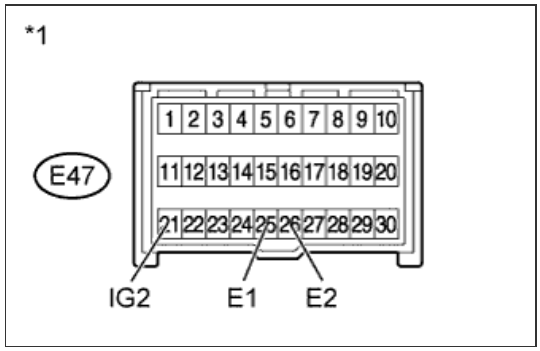
**NOTICE:**

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

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-21 (IG2) - 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 |
|---|---|---|
| E47-25 (E1) - Body ground | Always | Below 1 Ω |

| | | |
|---|---|---|
| E47-26 (E2) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Center Airbag Sensor Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

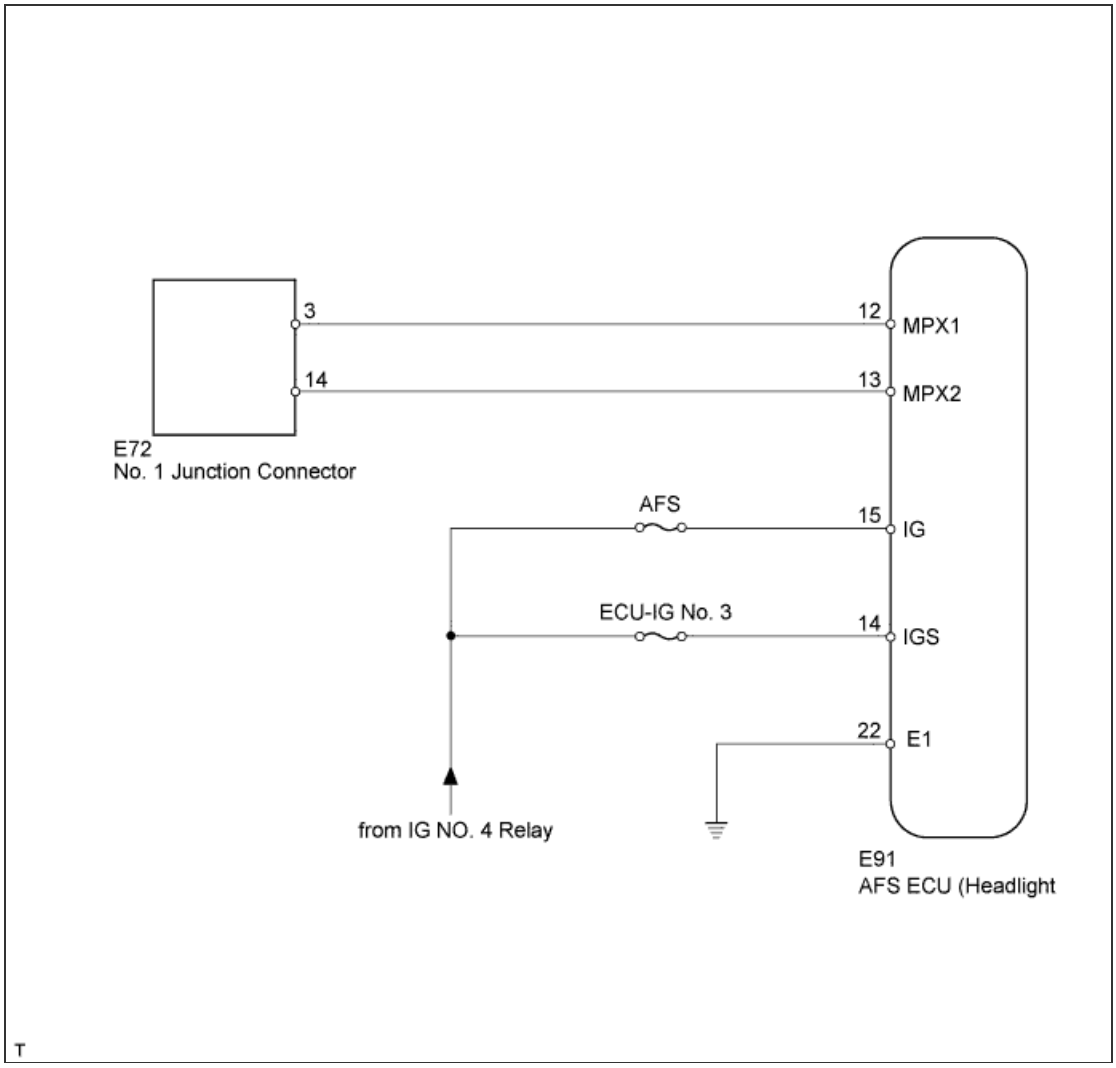
REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| AFS ECU Communication Stop Mode | When either condition below is met:<br>• "AFS/HL AutoLeveling" is not displayed on "Bus Check".<br>• Applies to "AFS ECU Communication Stop Mode" in "DTC Combination Table". | • Power source or inside AFS ECU (headlight swivel ECU assembly)<br>• AFS ECU (headlight swivel ECU assembly) branch wire or connector<br>• AFS ECU (headlight swivel ECU assembly) |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and branch wire.

**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).

**NEXT**

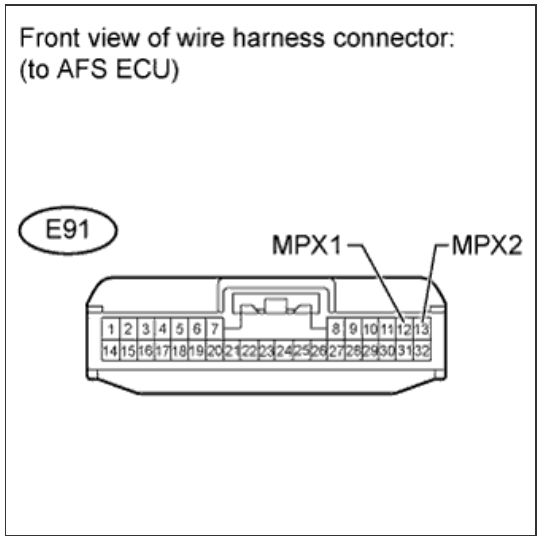
**2.CHECK FOR OPEN IN CAN BUS WIRE (AFS ECU BRANCH WIRE)**

a. Disconnect the E91 AFS ECU (headlight swivel ECU) connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | Engine switch off | 54 to 69 Ω |




**NG** → **REPAIR OR REPLACE AFS ECU BRANCH WIRE OR CONNECTOR (MPX1, MPX2)**

**OK**

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

a. 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).

b. Disconnect the E91 AFS ECU (headlight swivel ECU) connector.

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

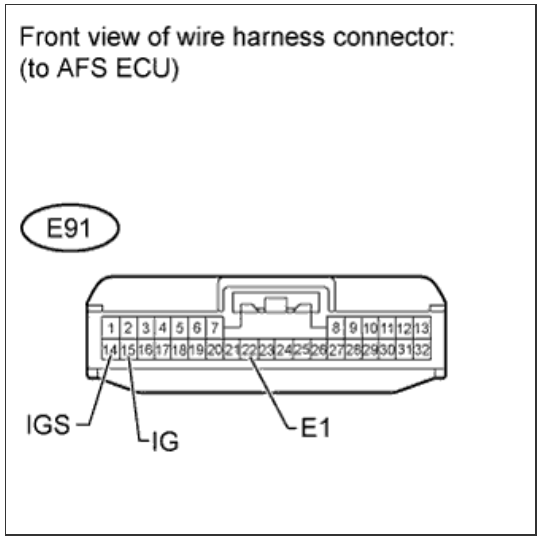
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E91-22 (E1) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-15 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |
| E91-14 (IGS) - Body ground | Engine switch on (IG) | 11 to 14 V |




**NG** → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

**OK**

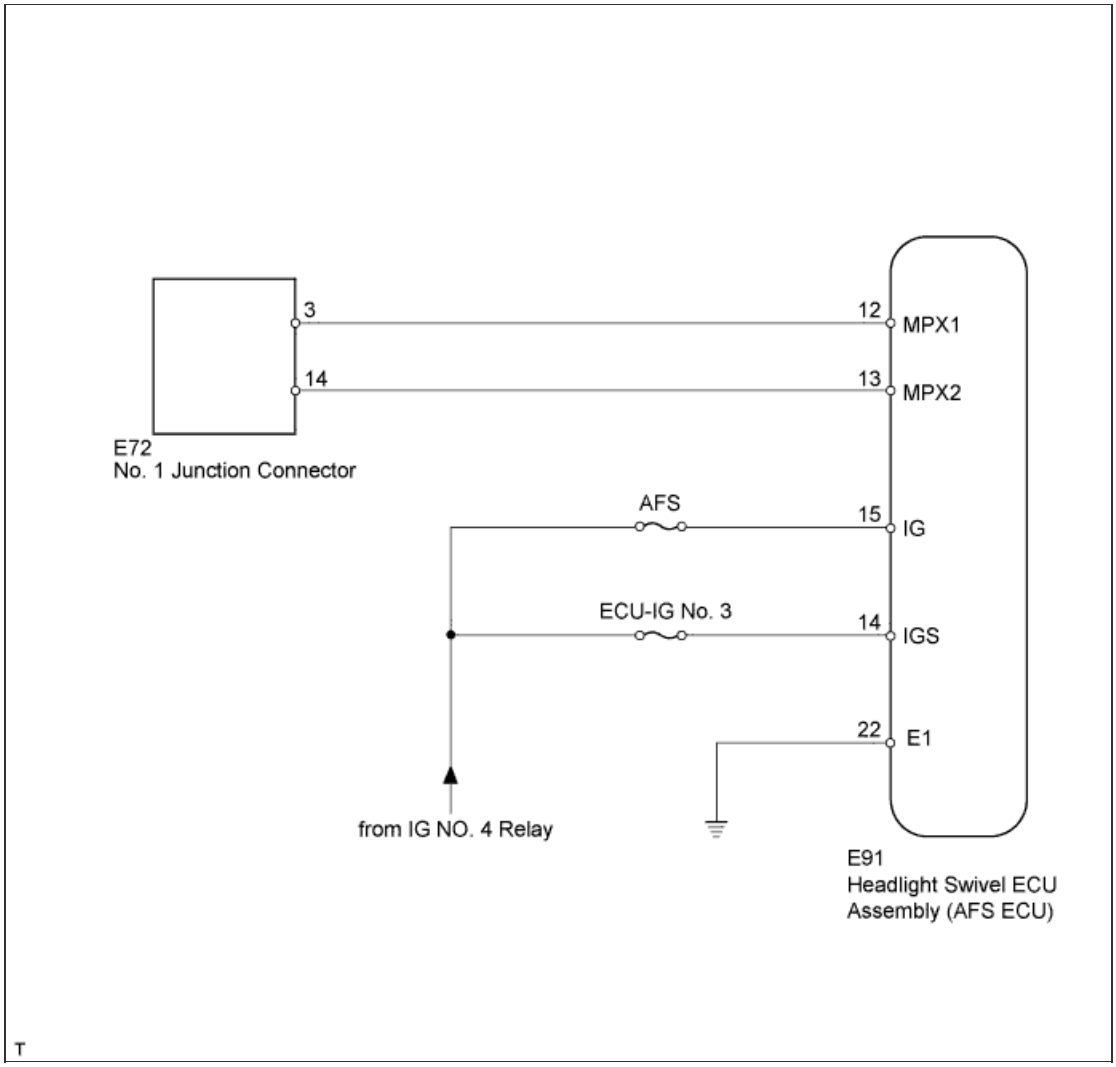
**REPLACE AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (Click here)**

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| AFS ECU Communication Stop Mode | When either condition below is met:<br>• "Headlight swivel (AFS)" is not displayed on "CAN Bus Check".<br>• Applies to "AFS ECU Communication Stop Mode" in "DTC Combination Table". | • Power source or inside headlight swivel ECU assembly (AFS ECU)<br>• Headlight swivel ECU assembly (AFS ECU) CAN branch wire or connector<br>• Headlight swivel ECU assembly (AFS ECU) |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

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

**NEXT**

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (AFS ECU CAN BRANCH WIRE)

a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

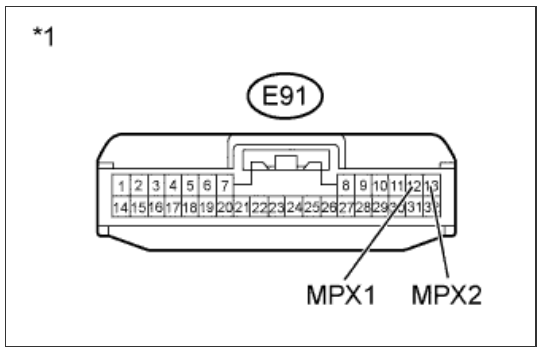
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Headlight Swivel ECU Assembly [AFS ECU]) |




**NG** → **REPAIR OR REPLACE AFS ECU CAN BRANCH WIRE OR CONNECTOR (MPX1, MPX2)**

**OK**

## 4.CHECK HARNESS AND CONNECTOR (AFS ECU - BATTERY AND BODY GROUND)

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

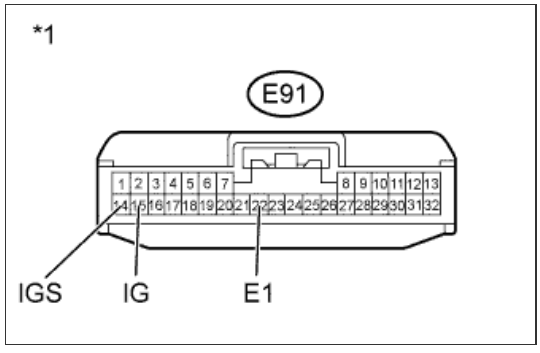
**NOTICE:**

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

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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-15 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |
| 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 |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Headlight Swivel ECU Assembly [AFS ECU]) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

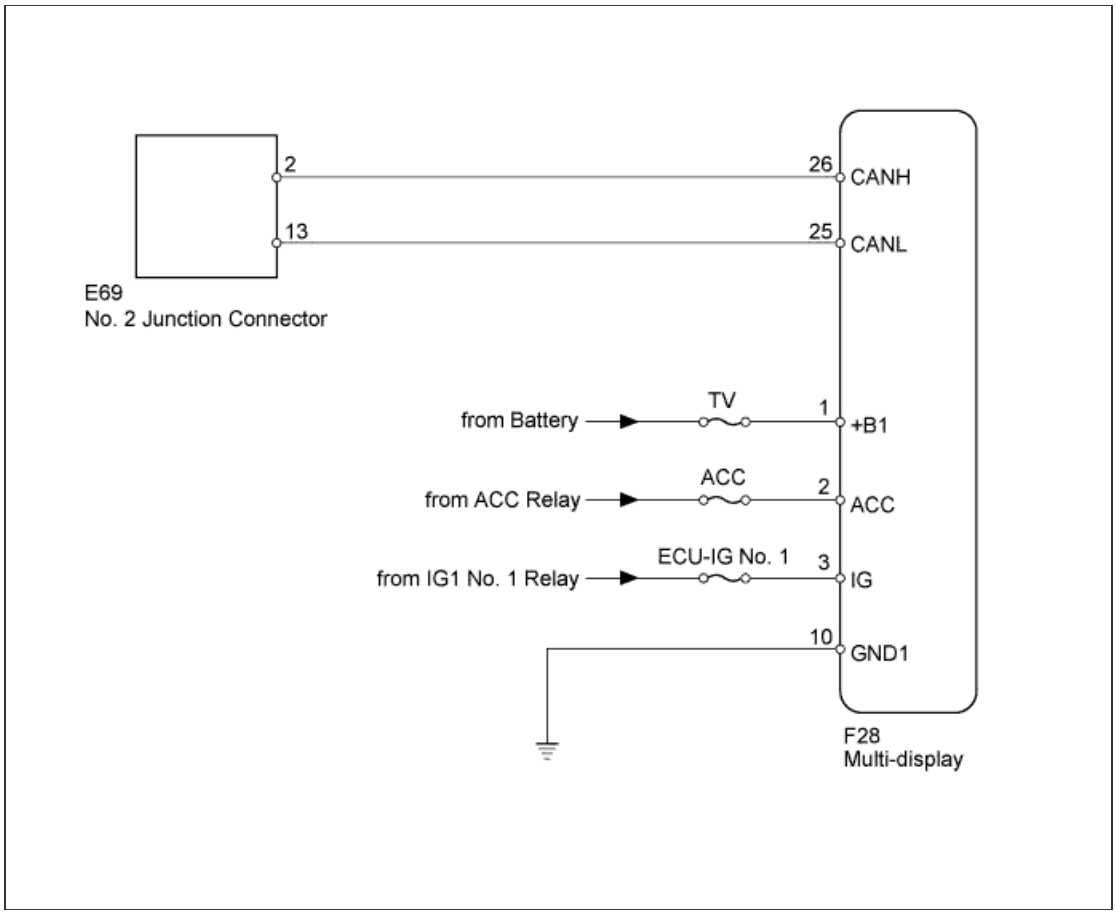
REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) ( Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Display and Navigation Assembly Communication Stop Mode | When either condition below is met:<br>• "AVN" is not displayed on "Bus Check".<br>• Applies to "Display and Navigation Assembly Communication Stop Mode" in "DTC Combination Table". | • Power source or inside display and multi-display<br>• Multi-display branch wire or connector<br>• Multi-display |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

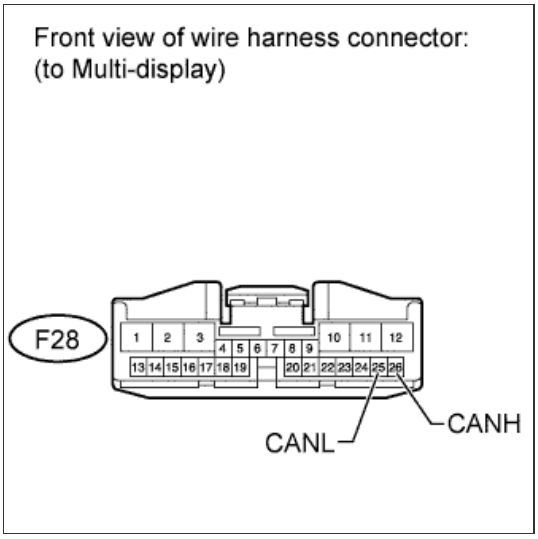
## 2.CHECK FOR OPEN IN CAN BUS WIRE (MULTI-DISPLAY BRANCH WIRE)

a. Disconnect the F28 multi-display connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F28-26 (CANH) - F28-25 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE MULTI-DISPLAY BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (MULTI-DISPLAY - BATTERY AND BODY GROUND)

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

**NOTICE:**

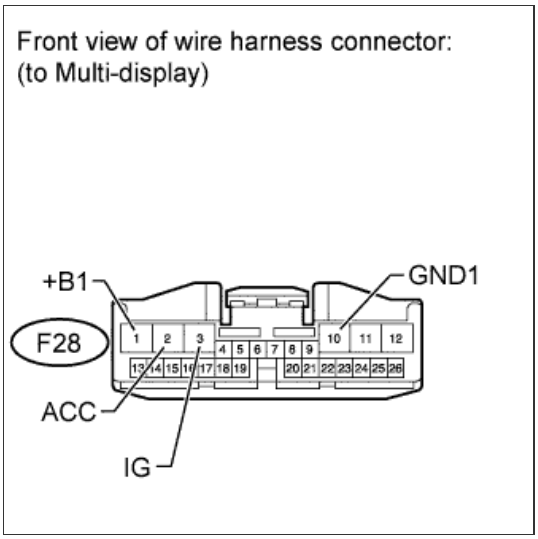
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

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 |
|---|---|---|
| F28-10 (GND1) - Body ground | Always | Below 1 Ω |




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

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F28-1 (+B1) - Body ground | Always | 11 to 14 V |
| F28-2 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| F28-3 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |

| NG | C |
|---|---|

B → REPLACE MULTI-DISPLAY (Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A

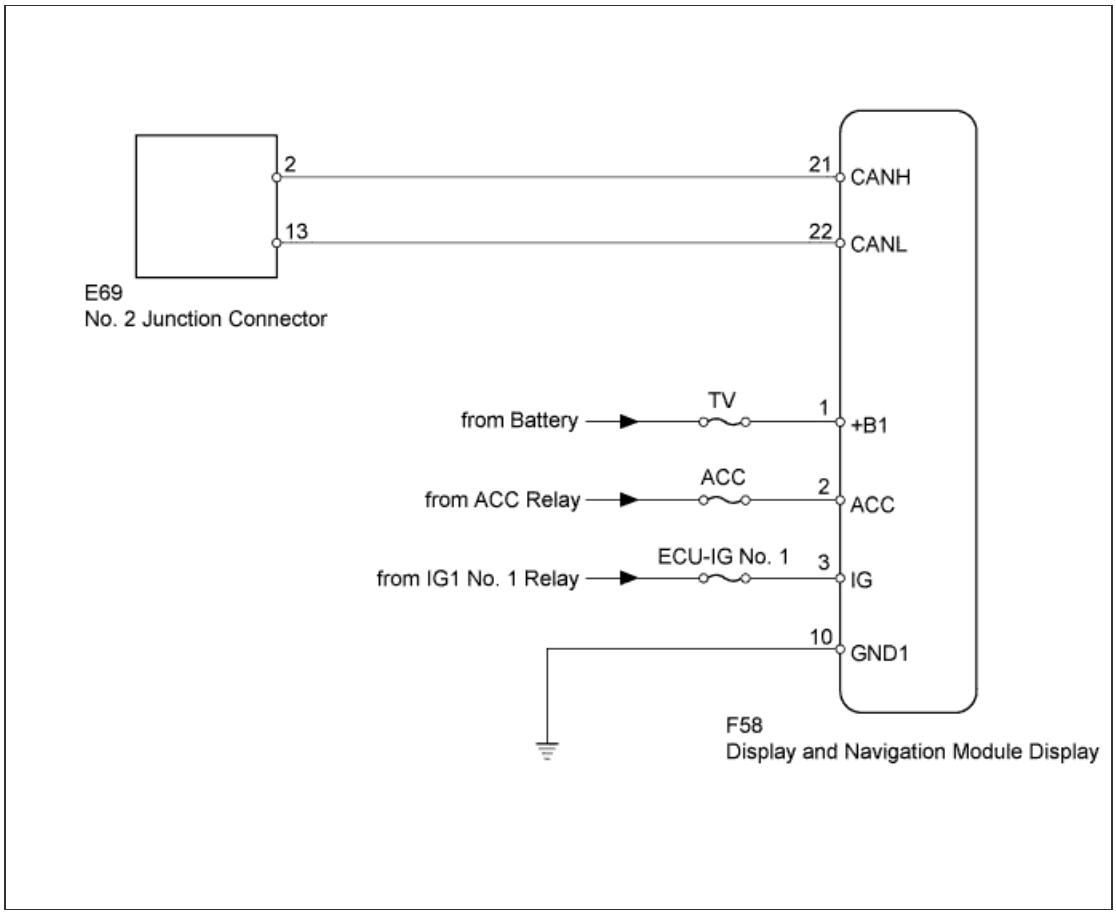
REPLACE MULTI-DISPLAY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Display and Navigation Assembly Communication Stop Mode | When either condition below is met:<br>• "AVN1" is not displayed on "Bus Check".<br>• Applies to "Display and Navigation Assembly Communication Stop Mode" in "DTC Combination Table". | • Power source or inside display and display and navigation module display<br>• Display and navigation module display branch wire or connector<br>• Display and navigation module display |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

**NOTICE:**

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

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

## 2.CHECK FOR OPEN IN CAN BUS WIRE (DISPLAY AND NAVIGATION MODULE DISPLAY BRANCH WIRE)

a. Disconnect the F58 display and navigation module display connector.

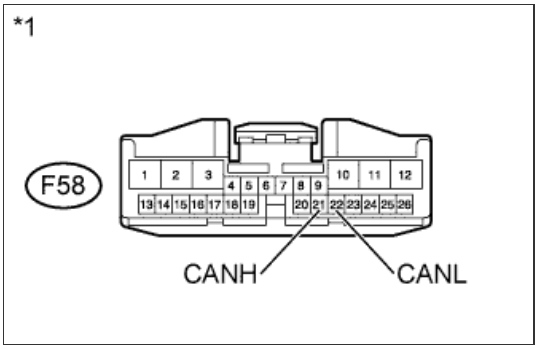
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F58-21 (CANH) - F58-22 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Display and Navigation Module Display) |




NG → REPAIR OR REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (DISPLAY AND NAVIGATION DISPLAY - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the F58 display and navigation module display connector.

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

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F58-10 (GND1) - Body ground | Always | Below 1 Ω |

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

**Standard Voltage:**

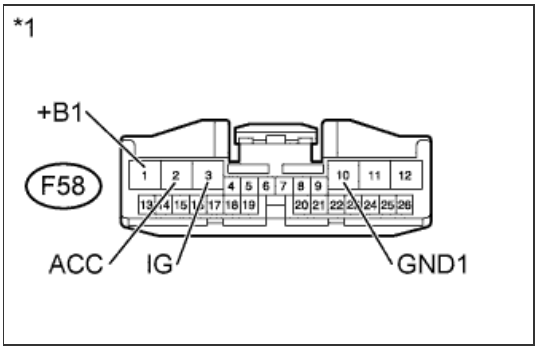
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F58-1 (+B1) - Body ground | Always | 11 to 14 V |
| F58-2 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| F58-3 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Display and Navigation Module Display) |

**Result**

| Result | Proceed to |
|---|---|



| | |
|---|---|
| OK<br>(w/ Navigation System) | A |
| OK<br>(w/o Navigation System) | B |
| NG | C |

B → REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

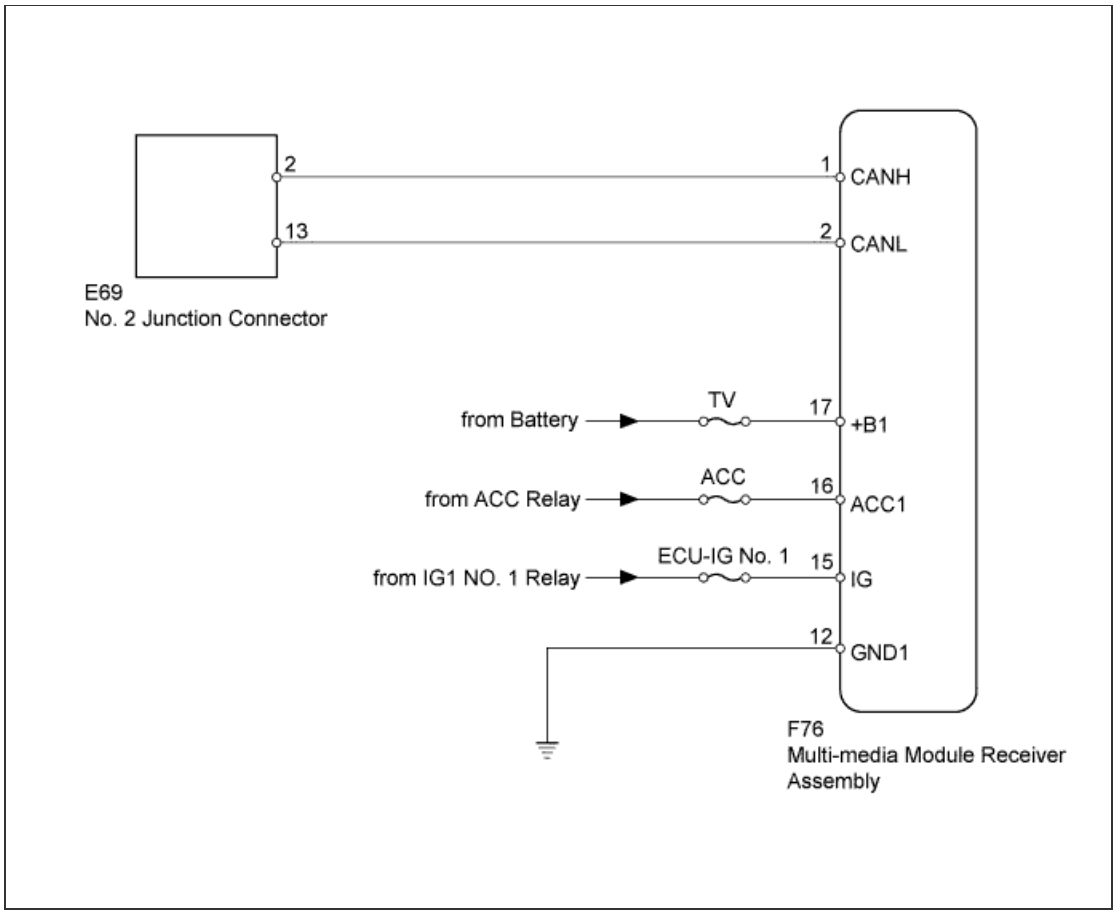
A → REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Multi-media Module Receiver Assembly Communication Stop Mode | When either condition below is met:<br>• "Display and Navigation (AVN)" is not displayed on "CAN Bus Check".<br>• Applies to "Multi-media Module Receiver Assembly Communication Stop Mode" in "DTC Combination Table". | • Power source or inside multi-media module receiver assembly<br>• Multi-media module receiver assembly CAN branch wire or connector<br>• Multi-media module receiver assembly |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

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

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (MULTI-MEDIA MODULE RECEIVER ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the F76 multi-media module receiver assembly connector.

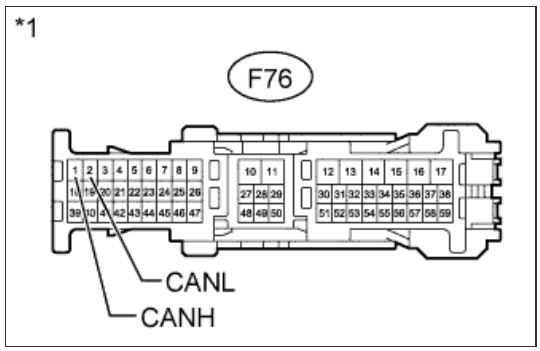
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F76-1 (CANH) - F76-2 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Multi-media Module Receiver Assembly) |




NG → REPAIR OR REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (MULTI-MEDIA MODULE RECEIVER ASSEMBLY - BATTERY AND BODY GROUND)

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

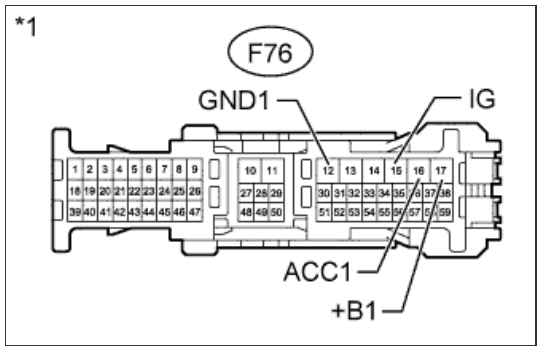
**NOTICE:**

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

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

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F76-17 (+B1) - Body ground | Always | 11 to 14 V |
| F76-16 (ACC1) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| F76-15 (IG) - 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 |
|---|---|---|
| F76-12 (GND1) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Multi-media Module Receiver Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

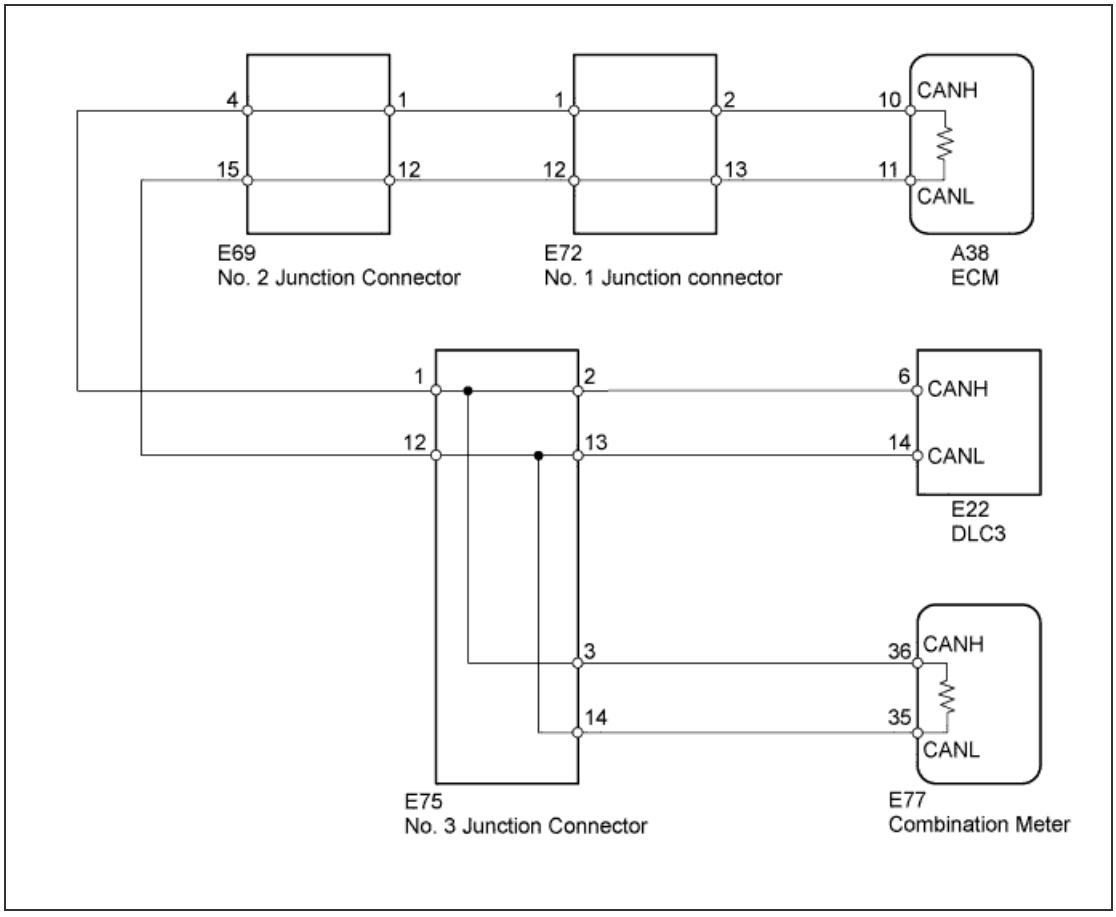
**for Preparation** Click here

## DESCRIPTION

There may be an open circuit in the CAN main wire and/or DLC3 branch wire when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is 69 Ω or higher.

| Symptom | Trouble Area |
|---|---|
| Resistance between terminals 6 (CANH) and 14 (CANL) of DLC3 is 69 Ω or higher. | • CAN main wire and connector<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector<br>• ECM<br>• Combination meter assembly<br>• DLC3 branch wire or connector |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

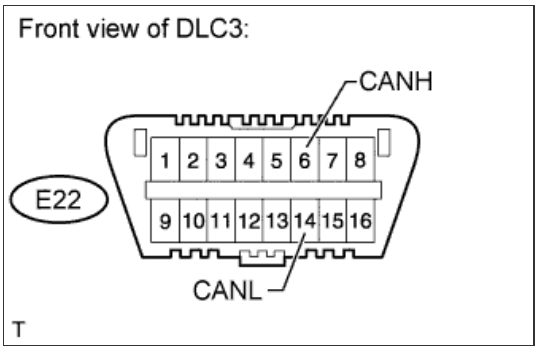
NEXT

## 2.CHECK DLC3

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω | OK |
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 132 Ω or higher | NG |




**NOTICE:**

When the measured value is 132 Ω or higher and a CAN communication system diagnostic trouble code is output, there may be a fault besides disconnection of the DLC3 branch wire. For that reason, troubleshooting should be performed again from "How to Proceed with Troubleshooting" (Click here) after repairing the trouble area.

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

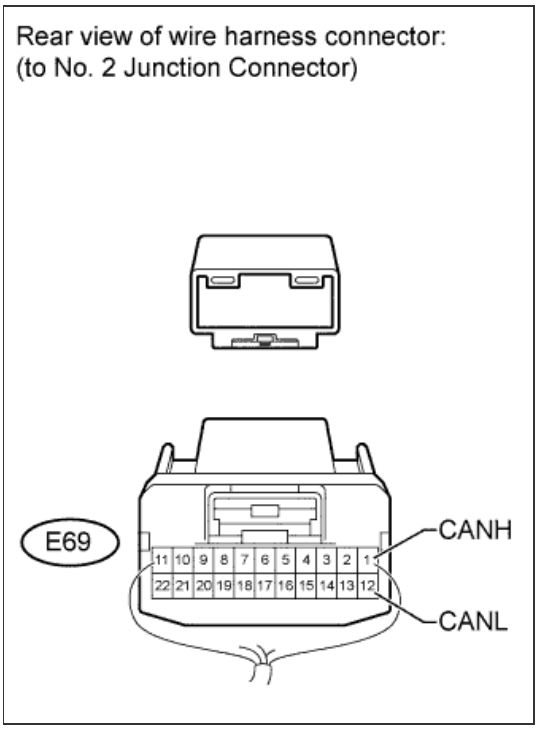
## 3.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - ECM)

a. Disconnect the E69 No. 2 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-1 (CANH) - E69-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 5

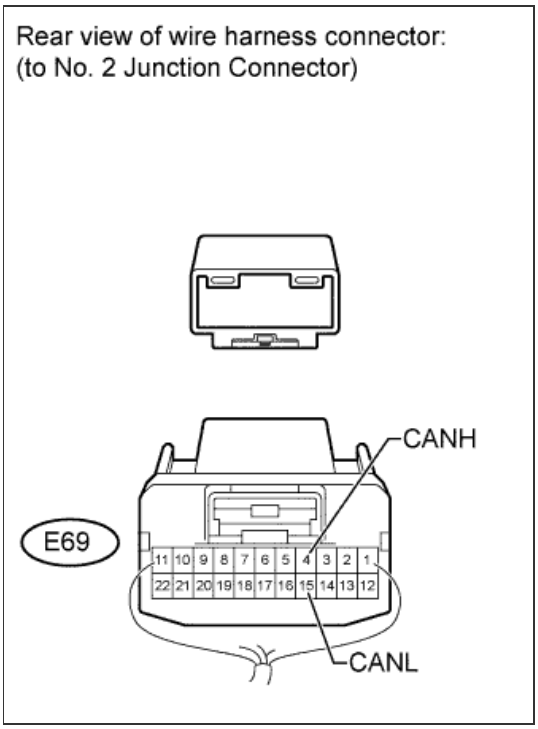
OK

## 4.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - COMBINATION METER)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-4 (CANH) - E69-15 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 10

OK

**REPLACE NO. 2 JUNCTION CONNECTOR**

**5.CONNECT CONNECTOR**

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

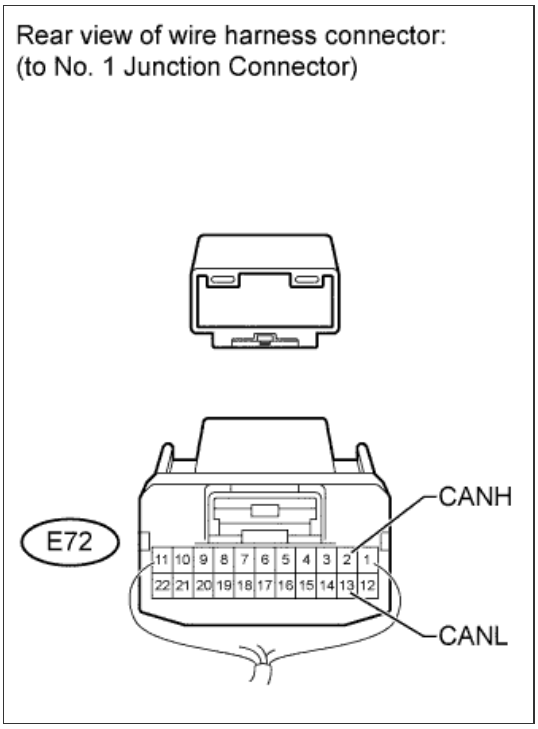
**6.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 JUNCTION CONNECTOR - ECM)**

a. Disconnect the E72 No. 1 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 8

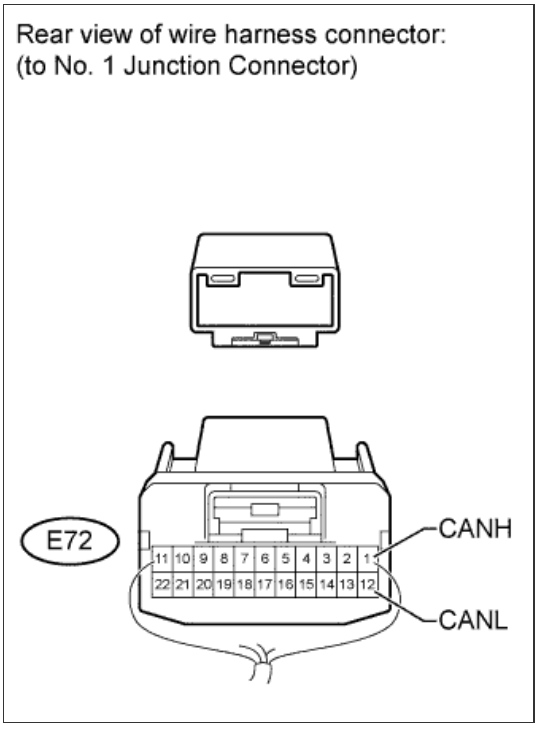
OK

**7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-1 (CANH) - E72-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

REPLACE NO. 1 JUNCTION CONNECTOR

**8.CONNECT CONNECTOR**

a. Reconnect the E72 No. 1 junction connector connector.

NEXT

## 9.CHECK FOR OPEN IN CAN BUS MAIN WIRE (ECM - NO. 1 JUNCTION CONNECTOR)

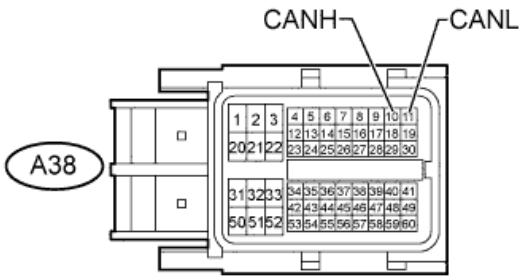
a. Disconnect the A38 ECM connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A38-10 (CANH) - A38-11 (CANL) | Engine switch off | 108 to 132 Ω |

Front view of wire harness connector:
(to ECM)




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (ECM - NO. 1 JUNCTION CONNECTOR)

OK

REPLACE ECM (Click here)

## 10.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

## 11.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

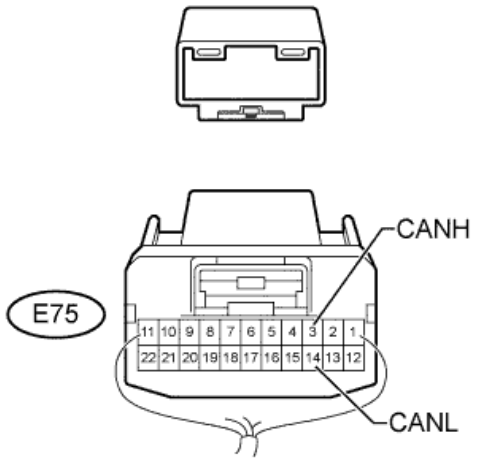
a. Disconnect the E75 No. 3 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 108 to 132 Ω |

Rear view of wire harness connector:
(to No. 3 Junction Connector)



NG → Go to step 13

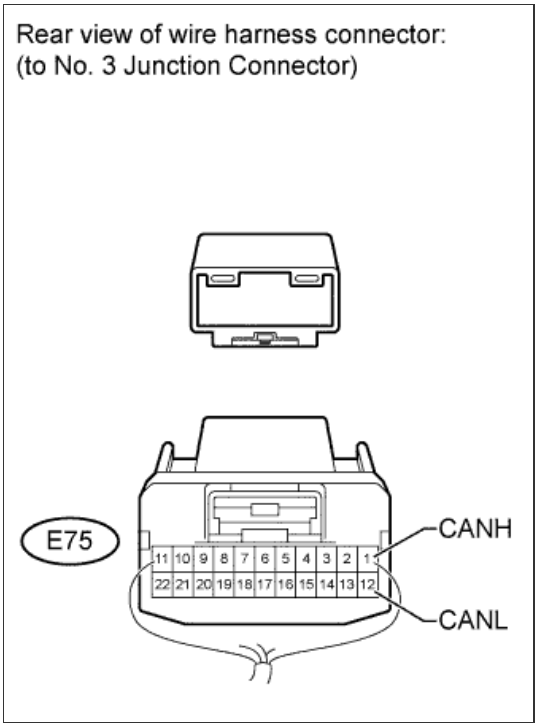
OK

## 12.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E75-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

REPLACE NO. 3 JUNCTION CONNECTOR

## 13.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

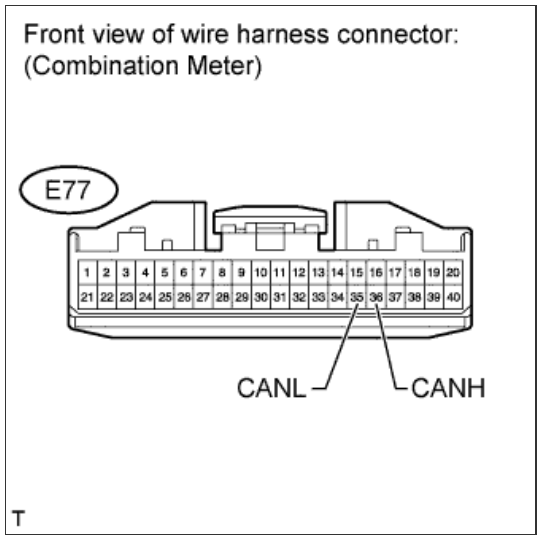
## 14.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E77 combination meter connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-36 (CANH) - E77-35 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (COMBINATION METER - NO. 3 JUNCTION CONNECTOR)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

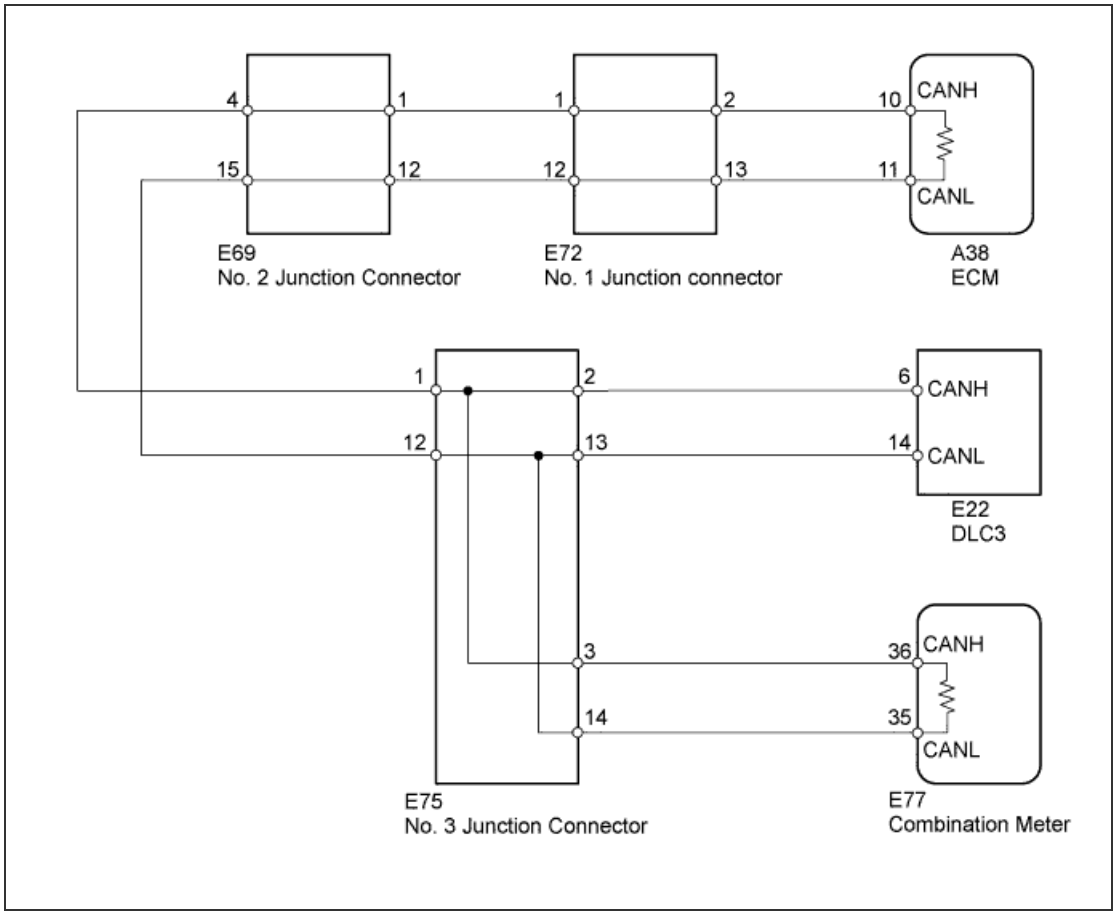
**for Preparation** Click here

## DESCRIPTION

There may be an open circuit in the CAN main wire and/or DLC3 branch wire when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is 69 Ω or higher.

| Symptom | Trouble Area |
|---|---|
| Resistance between terminals 6 (CANH) and 14 (CANL) of DLC3 is 69 Ω or higher. | • CAN main wire and connector<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector<br>• ECM<br>• Combination meter assembly<br>• DLC3 branch wire or connector |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

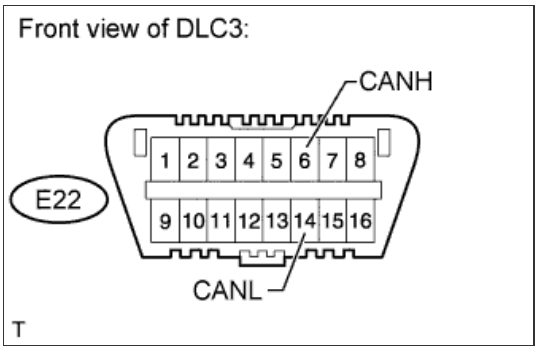
NEXT

## 2.CHECK DLC3

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω | OK |
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 132 Ω or higher | NG |




**NOTICE:**

When the measured value is 132 Ω or higher and a CAN communication system diagnostic trouble code is output, there may be a fault besides disconnection of the DLC3 branch wire. For that reason, troubleshooting should be performed again from "How to Proceed with Troubleshooting" (Click here) after repairing the trouble area.

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

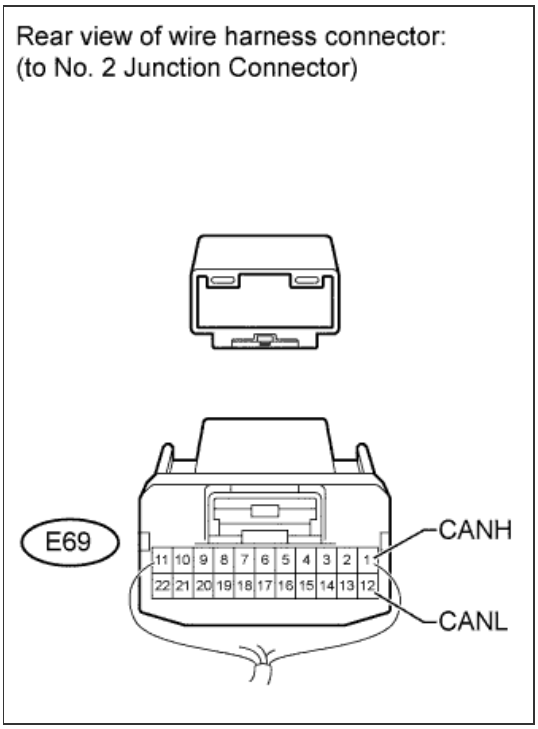
## 3.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - ECM)

a. Disconnect the E69 No. 2 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-1 (CANH) - E69-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 5

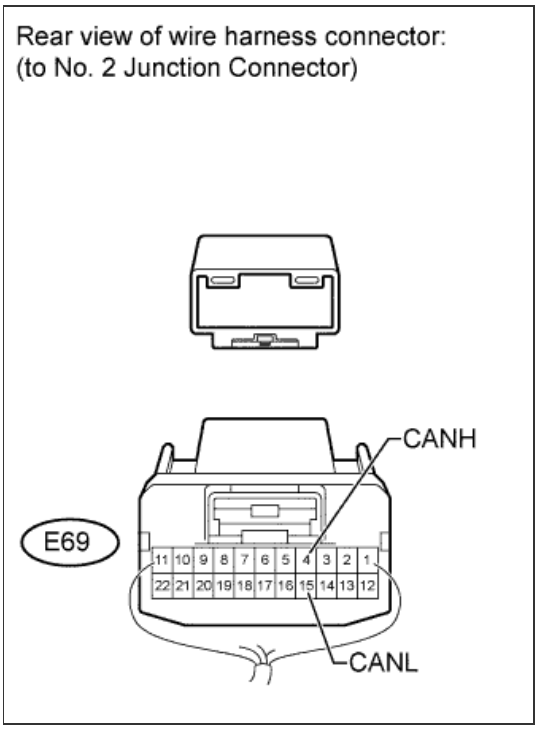
OK

## 4.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - COMBINATION METER)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-4 (CANH) - E69-15 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 10

OK

**REPLACE NO. 2 JUNCTION CONNECTOR**

**5.CONNECT CONNECTOR**

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

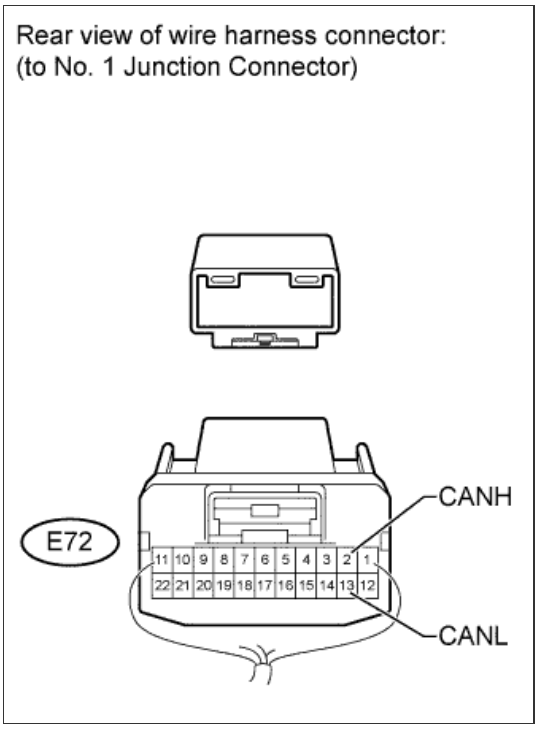
**6.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 JUNCTION CONNECTOR - ECM)**

a. Disconnect the E72 No. 1 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 8

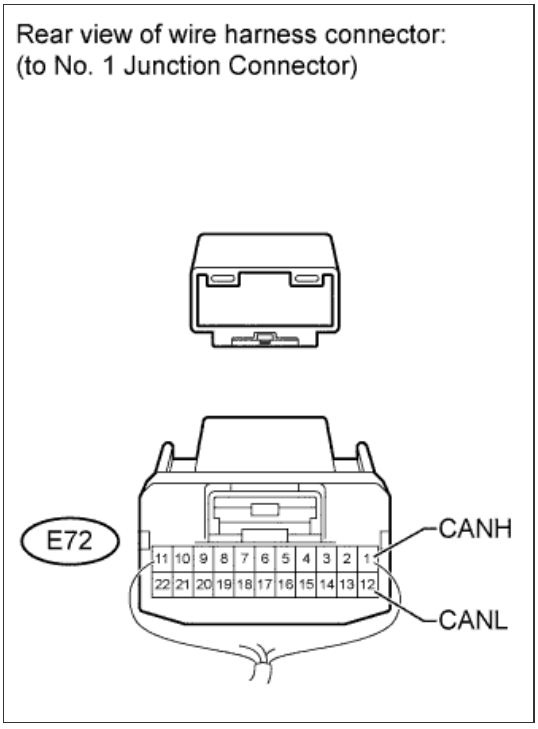
OK

**7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-1 (CANH) - E72-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

REPLACE NO. 1 JUNCTION CONNECTOR

**8.CONNECT CONNECTOR**

a. Reconnect the E72 No. 1 junction connector connector.

NEXT

## 9.CHECK FOR OPEN IN CAN BUS MAIN WIRE (ECM - NO. 1 JUNCTION CONNECTOR)

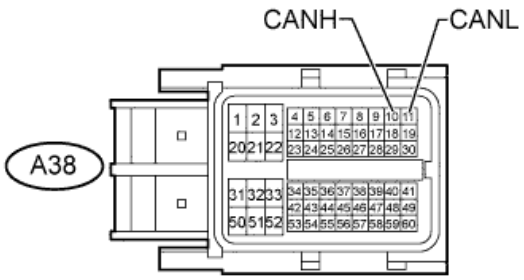
a. Disconnect the A38 ECM connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A38-10 (CANH) - A38-11 (CANL) | Engine switch off | 108 to 132 Ω |

Front view of wire harness connector:
(to ECM)




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (ECM - NO. 1 JUNCTION CONNECTOR)

OK

REPLACE ECM (Click here)

## 10.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

## 11.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

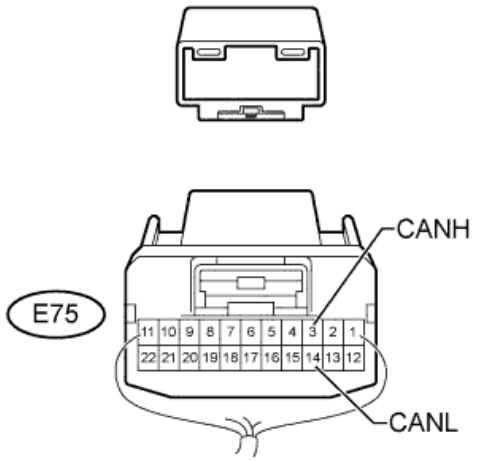
a. Disconnect the E75 No. 3 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 108 to 132 Ω |

Rear view of wire harness connector:
(to No. 3 Junction Connector)



NG → Go to step 13

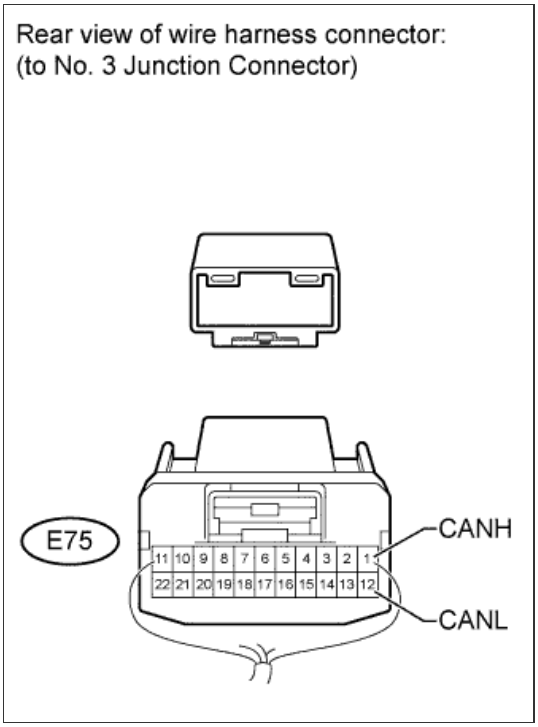
OK

## 12.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E75-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

REPLACE NO. 3 JUNCTION CONNECTOR

## 13.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

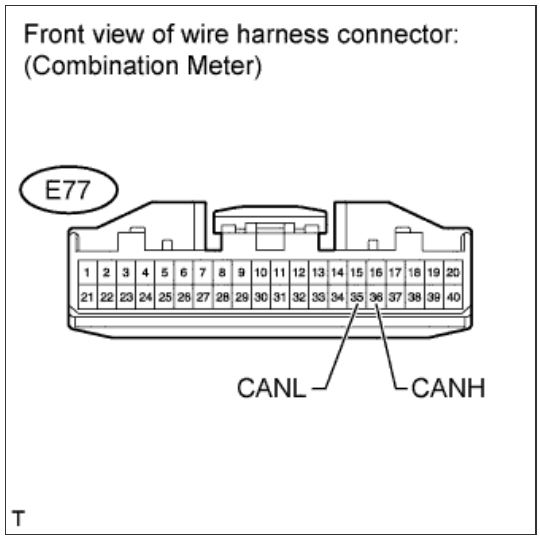
## 14.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E77 combination meter connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-36 (CANH) - E77-35 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (COMBINATION METER - NO. 3 JUNCTION CONNECTOR)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

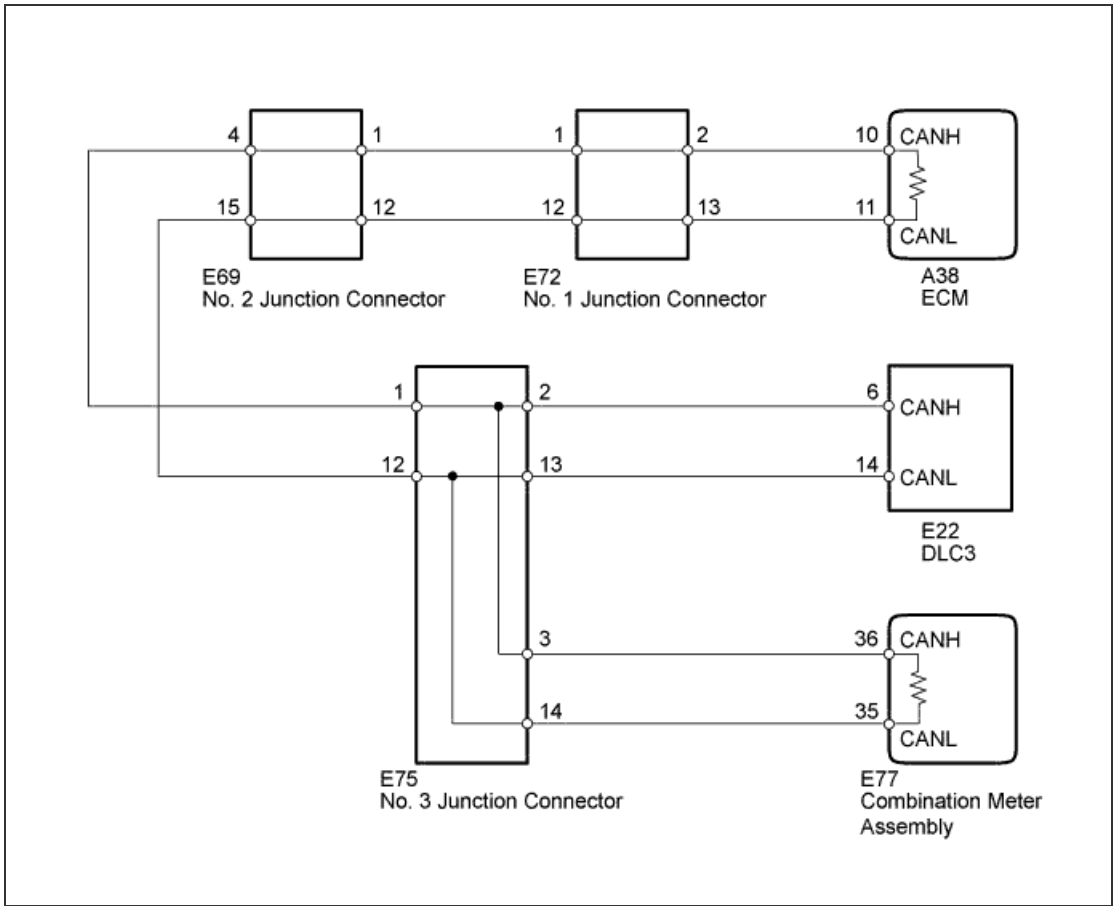
**for Preparation** Click here

## DESCRIPTION

There may be an open circuit in the CAN main wire and/or DLC3 CAN branch wire when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is 69 Ω or higher.

| Symptom | Trouble Area |
|---|---|
| The resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is 69 Ω or higher. | • CAN main wire and connector<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector<br>• ECM<br>• Combination meter assembly<br>• DLC3 CAN branch wire or connector |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

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

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - DLC3)

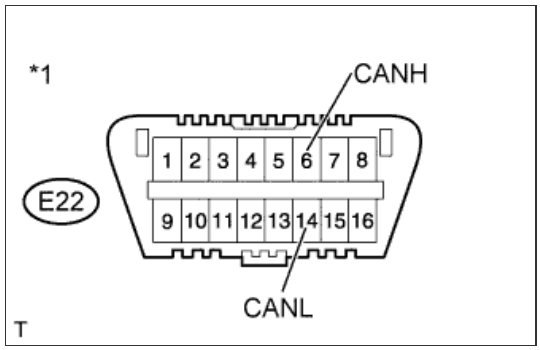
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




**NOTICE:**

When the measured value is 133 Ω or higher and a CAN communication system diagnostic trouble code is output, there may be a fault besides disconnection of the DLC3 branch wire. For that reason, troubleshooting should be performed again from "How to Proceed with Troubleshooting" (Click here) after repairing the trouble area.

**NG** → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

**OK**

## 4.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - ECM)

a. Disconnect the E69 No. 2 junction connector.

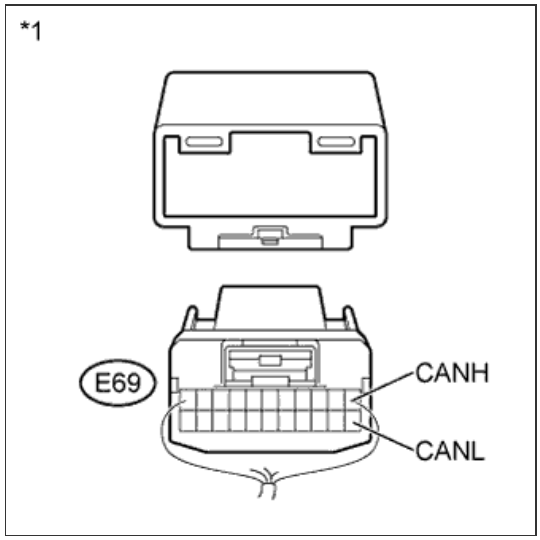
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-1 (CANH) - E69-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




**NG** → Go to step 6

**OK**

## 5.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)

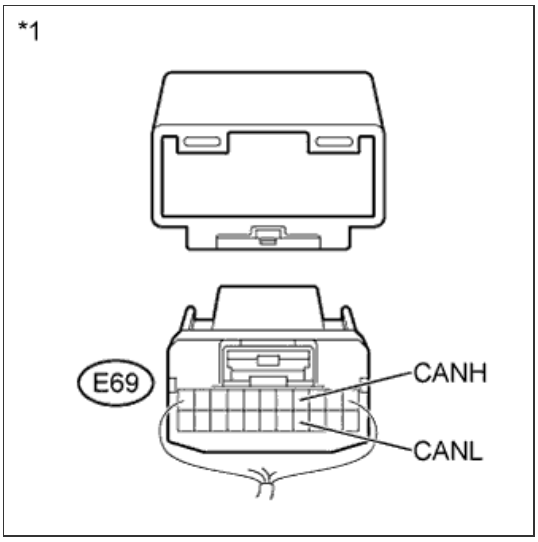
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-4 (CANH) - E69-15 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → Go to step 11

OK

## REPLACE NO. 2 JUNCTION CONNECTOR

## 6.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector.

NEXT

## 7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

a. Disconnect the E72 No. 1 junction connector.

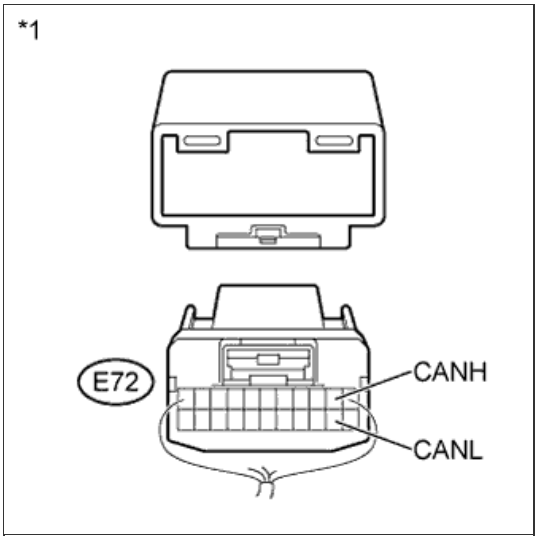
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → Go to step 9

OK

## 8.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

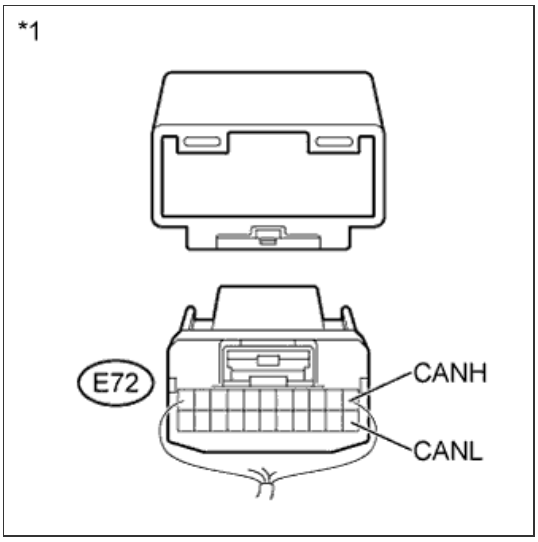
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-1 (CANH) - E72-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

REPLACE NO. 1 JUNCTION CONNECTOR

## 9.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector.

NEXT

## 10.CHECK FOR OPEN IN CAN BUS MAIN WIRE (ECM - NO. 1 JUNCTION CONNECTOR)

a. Disconnect the A38 ECM connector.

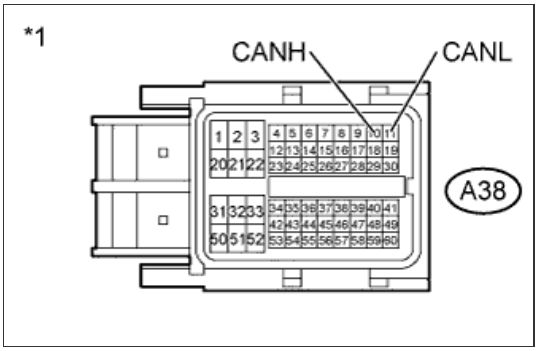
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A38-10 (CANH) - A38-11 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to ECM) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (ECM - NO. 1 JUNCTION CONNECTOR)

OK

REPLACE ECM (Click here)

## 11.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector.

NEXT

## 12.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)

a. Disconnect the E75 No. 3 junction connector.

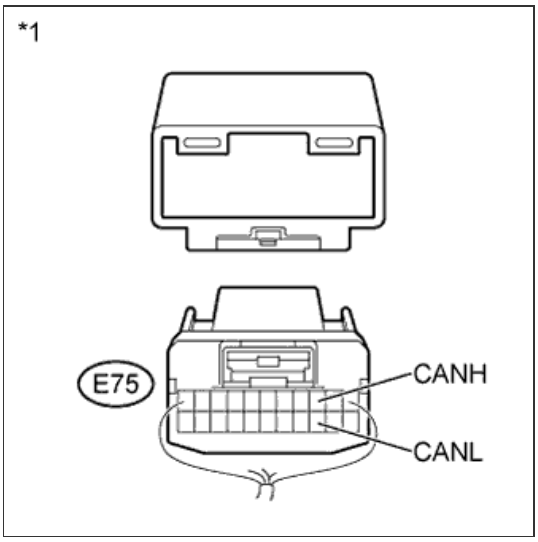
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → Go to step 14

OK

**13.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**

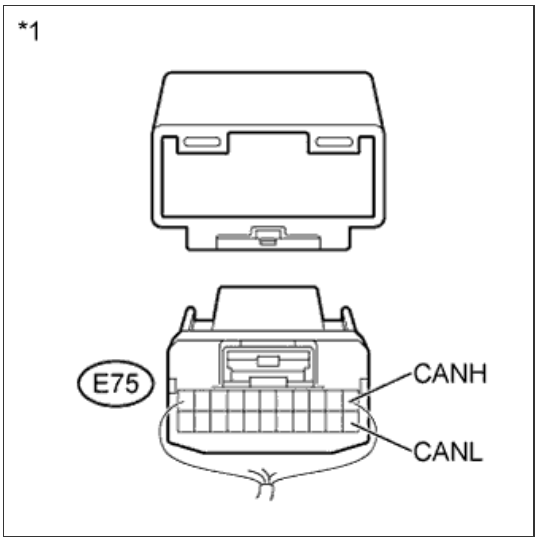
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E75-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

**REPLACE NO. 3 JUNCTION CONNECTOR**

**14.CONNECT CONNECTOR**

a. Reconnect the E75 No. 3 junction connector.

NEXT

**15.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER ASSEMBLY - NO. 3 JUNCTION CONNECTOR)**

a. Disconnect the E77 combination meter assembly connector.

a. Disconnect the E77 combination meter assembly connector.

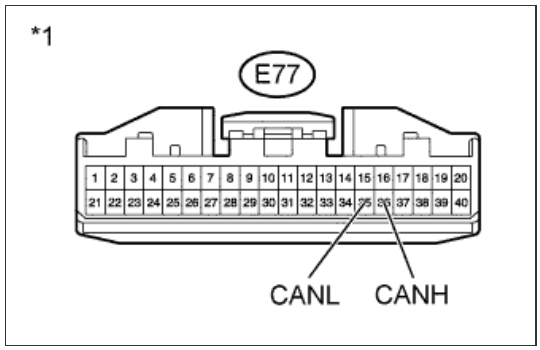
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-36 (CANH) - E77-35 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Combination Meter Assembly) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER ASSEMBLY (COMBINATION METER ASSEMBLY - NO. 3 JUNCTION CONNECTOR)

OK → REPLACE COMBINATION METER ASSEMBLY (Click here)

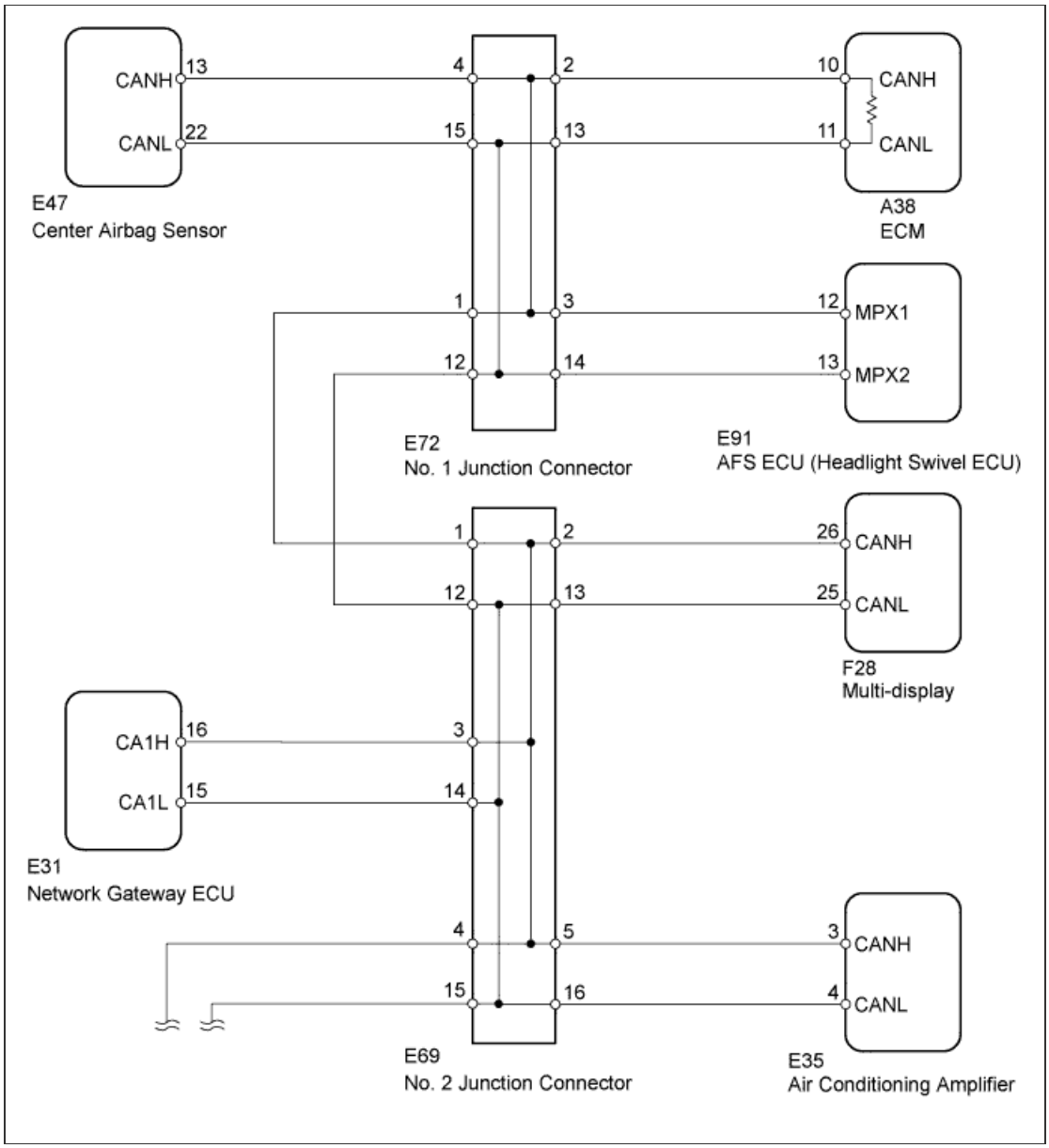
**for Preparation** Click here

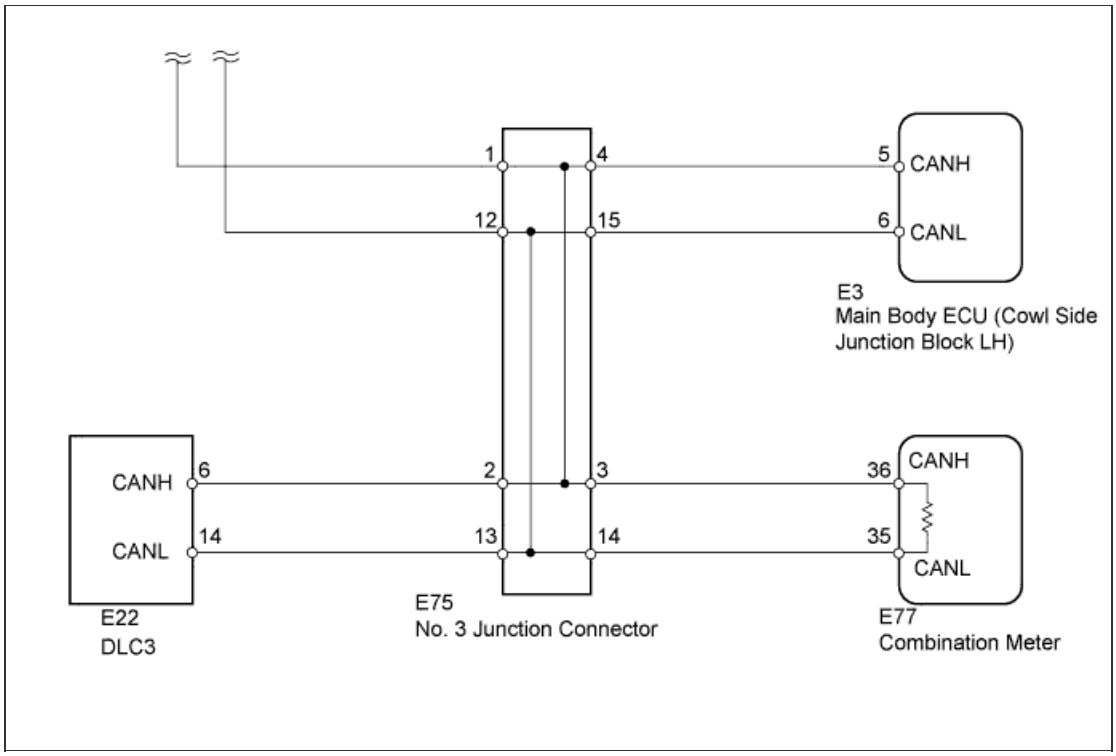
## DESCRIPTION

There may be a short circuit between the CAN bus lines when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω.

| Symptom | Trouble Area |
|---|---|
| Resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω. | • Short between CAN bus lines<br>• ECM<br>• Center airbag sensor assembly<br>• Multi-display<br>• AFS ECU (headlight swivel ECU assembly)<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

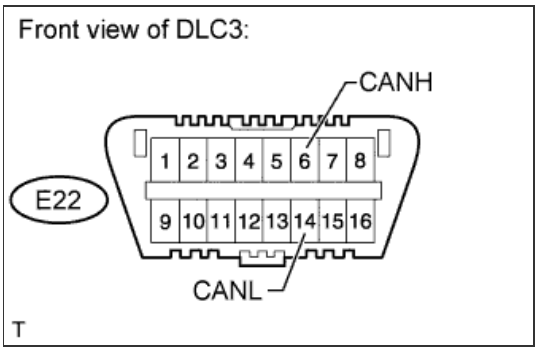
### 2.CHECK FOR SHORT IN CAN BUS WIRES (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




**NG** → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

**OK**

### 3.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

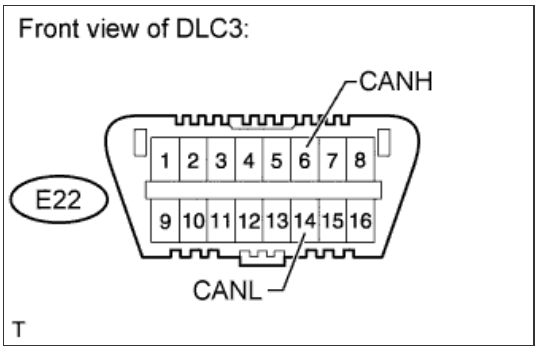
### 4.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 11

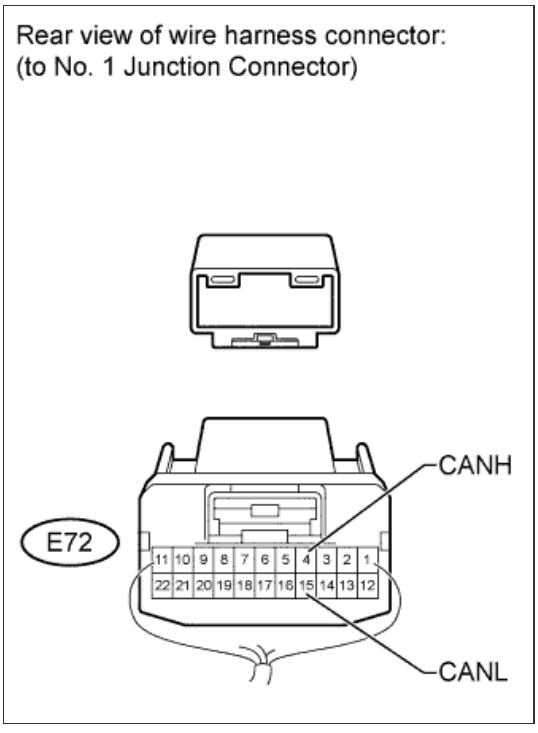
OK

### 5.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-4 (CANH) - E72-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 8

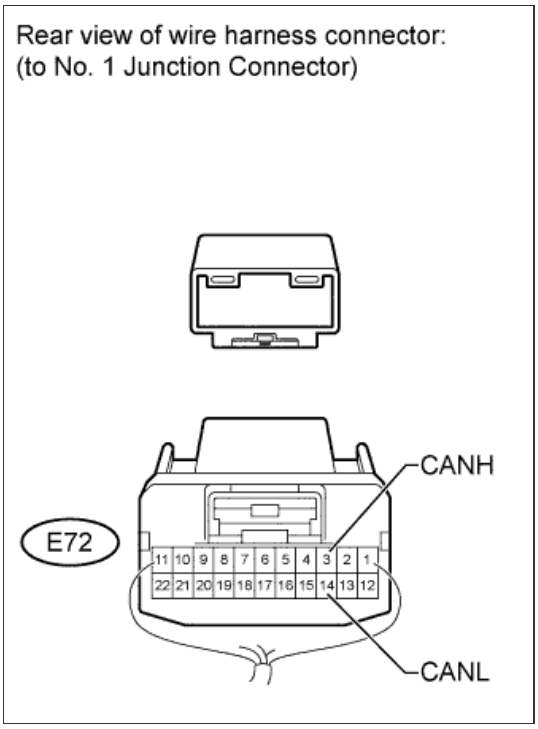
OK

### 6.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - AFS ECU)

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-3 (CANH) - E72-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 9

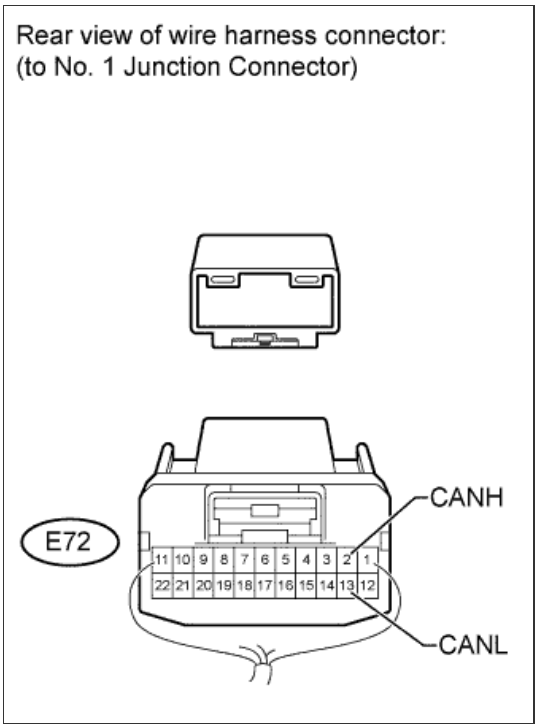
OK

**7.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - ECM)**

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 10

OK

**REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR**

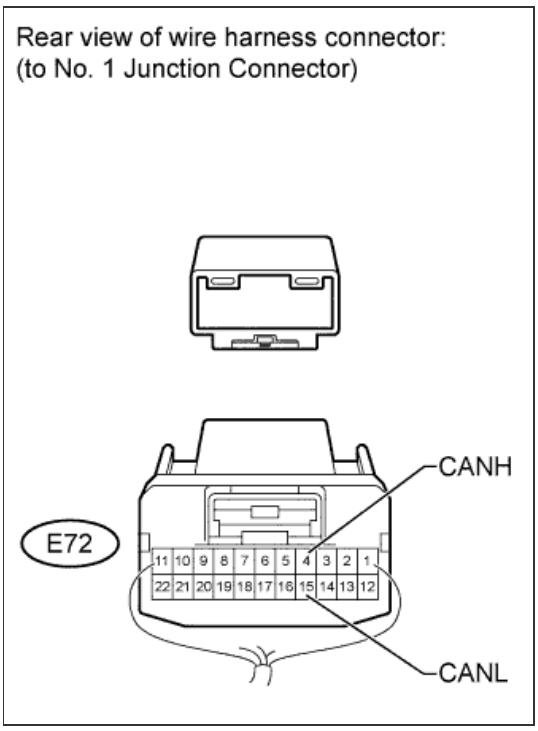
**8.CHECK FOR SHORT IN CAN BUS WIRES (CENTER AIRBAG SENSOR)**

a. Disconnect the E47 center airbag sensor connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-4 (CANH) - E72-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

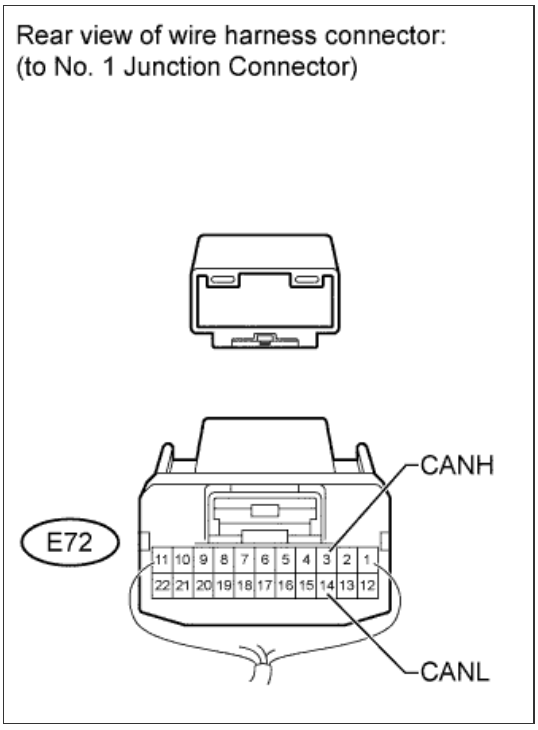
## 9.CHECK FOR SHORT IN CAN BUS WIRES (AFS ECU)

a. Disconnect the E91 AFS ECU (headlight swivel ECU) connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-3 (CANH) - E72-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (Click here)

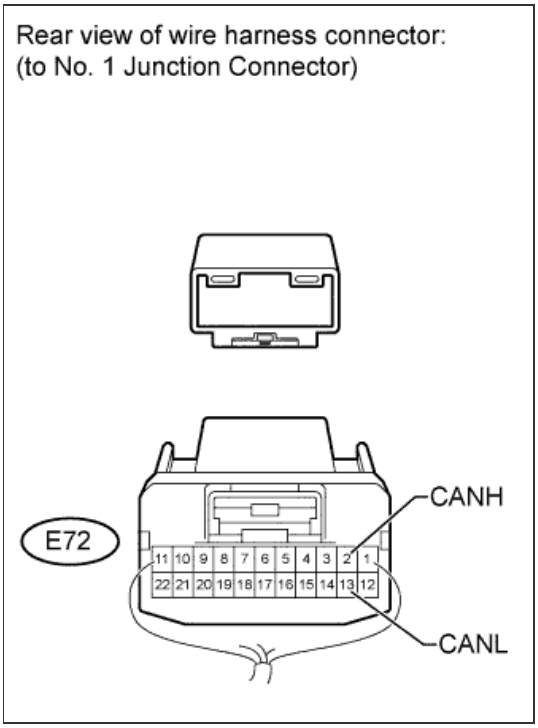
## 10.CHECK FOR SHORT IN CAN BUS WIRES (ECM)

a. Disconnect the A38 ECM connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

OK

REPLACE ECM (Click here)

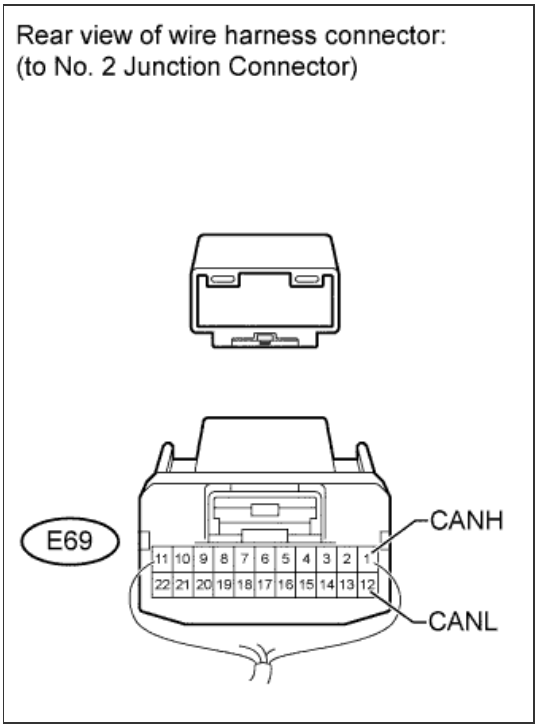
## 11.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-1 (CANH) - E69-12 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

## 12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector connector.

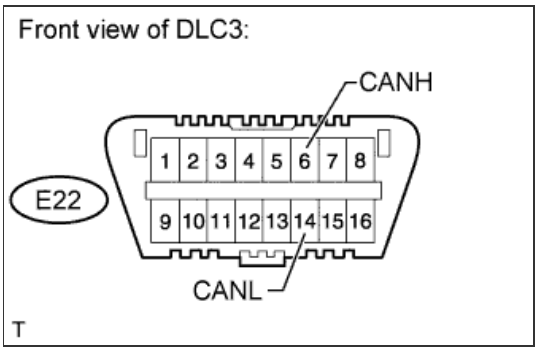
NEXT

## 13.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR SIDE)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 20

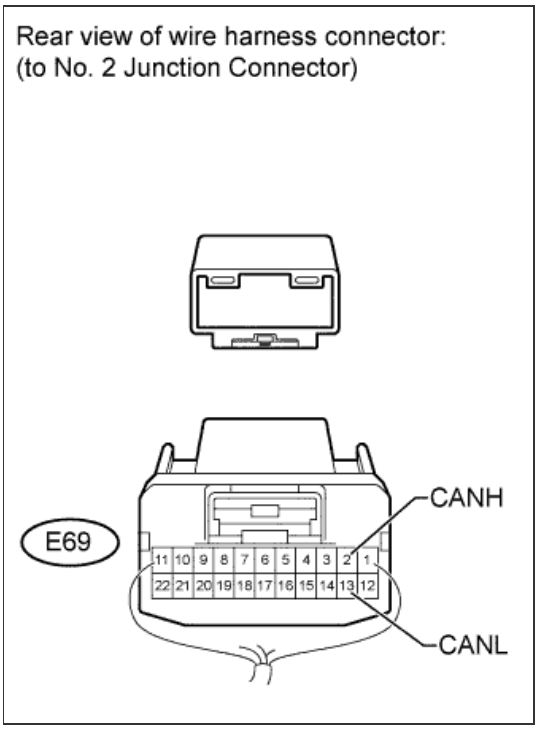
OK

## 14.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - MULTI-DISPLAY)

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-2 (CANH) - E62-13 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 17

OK

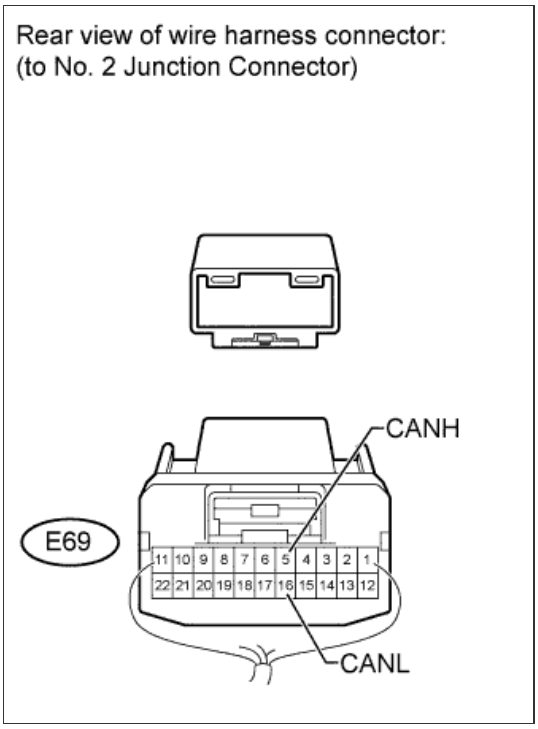
## 15.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

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

**Result**

| Tester Connection | Switch | Measured | Proceed |
|---|---|---|---|

| | Condition | Resistance | to |
|---|---|---|---|
| E69-5 (CANH) - E69-16 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 18

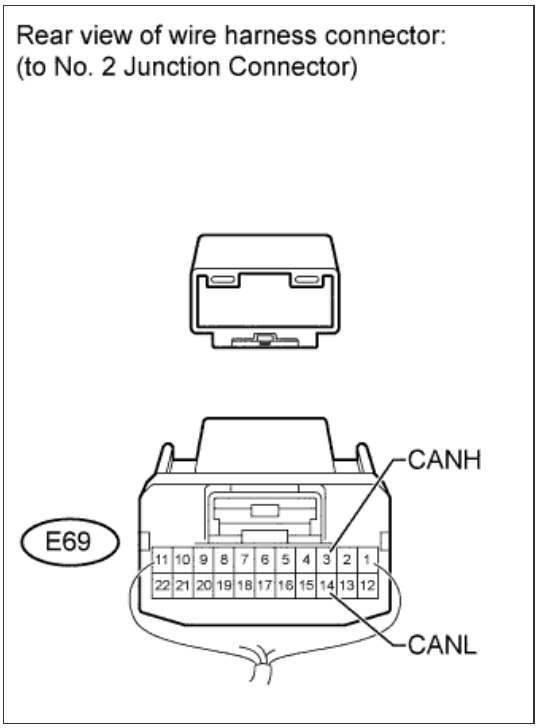
OK

**16.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)**

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-3 (CANH) - E69-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 19

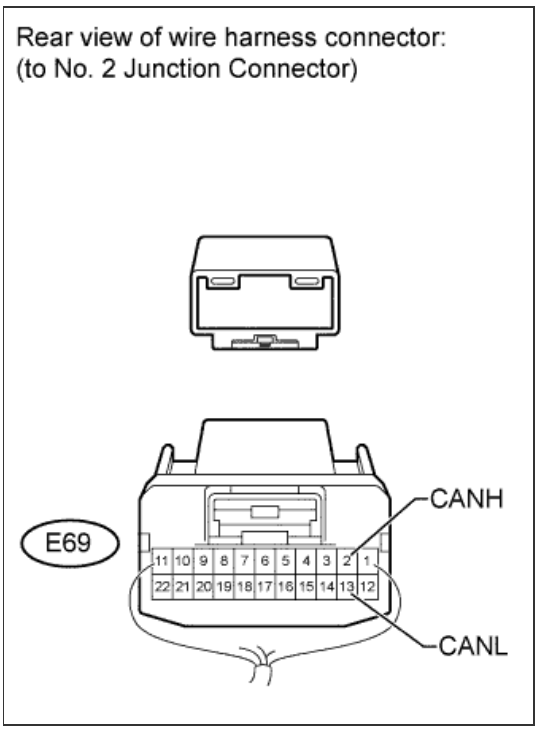
OK

**REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR**

**17.CHECK FOR SHORT IN CAN BUS WIRES (MULTI-DISPLAY)**

a. Disconnect the F28 multi-display connector.

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




**Result**

| Tester Connection | Switch Condition | Measured Resistance | Result | Type | Proceed to |
|---|---|---|---|---|---|
| E69-2 (CANH) - E69-13 (CANL) | Engine switch off | 1 Ω or higher | OK | w/ Navigation System | A |
| | | | | w/o Navigation System | B |
| | | Below 1 Ω | NG | - | C |

B → REPLACE MULTI-DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTI-DISPLAY (CANH, CANL)

A → REPLACE MULTI-DISPLAY (Click here)

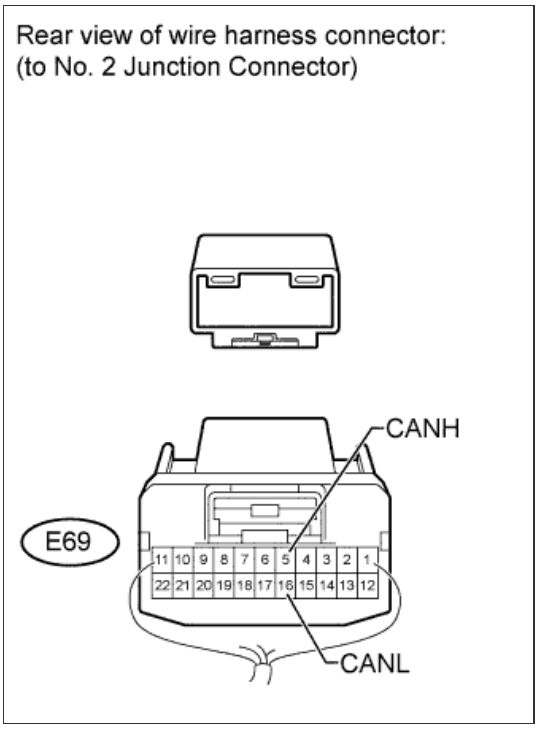
**18.CHECK FOR SHORT IN CAN BUS WIRES (AIR CONDITIONING AMPLIFIER)**

a. Disconnect the E35 air conditioning amplifier connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Result |
|---|---|---|---|
| E69-5 (CANH) - E69-16 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

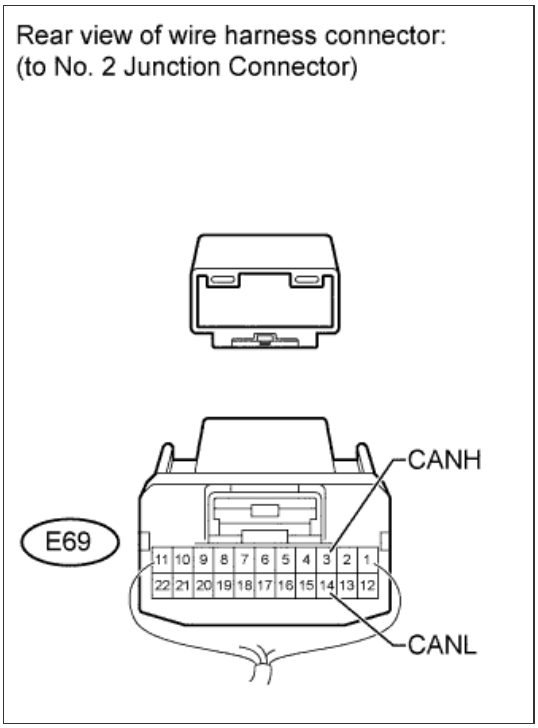
19.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

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

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-3 (CANH) - E69-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

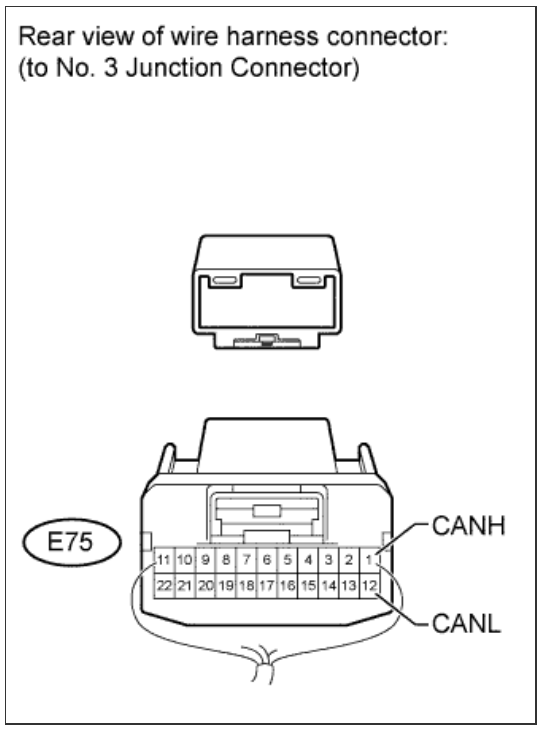
## 20.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-1 (CANH) - E75-12 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

## 21.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

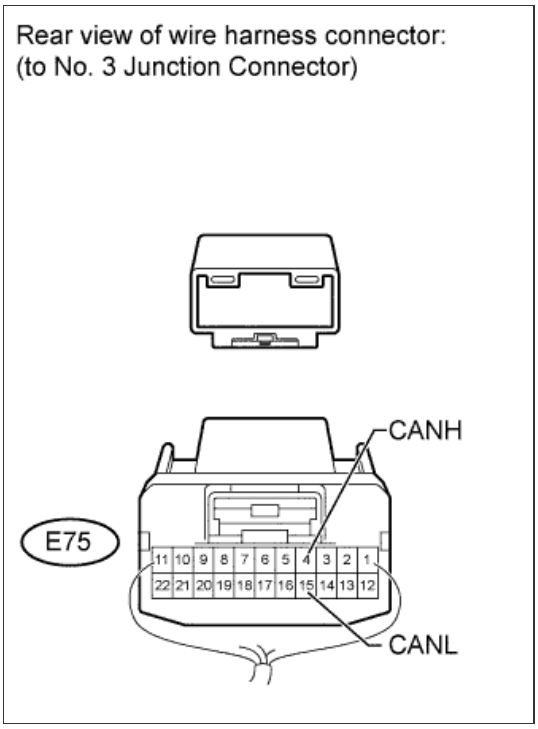
NEXT

## 22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 3 JUNCTION CONNECTOR - MAIN BODY ECU)

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-4 (CANH) - E75-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 24

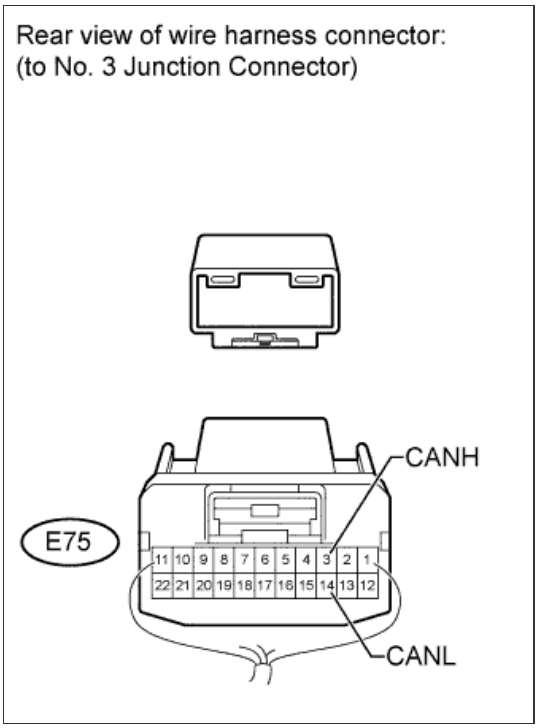
OK

**23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)**

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 25

OK

**REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR**

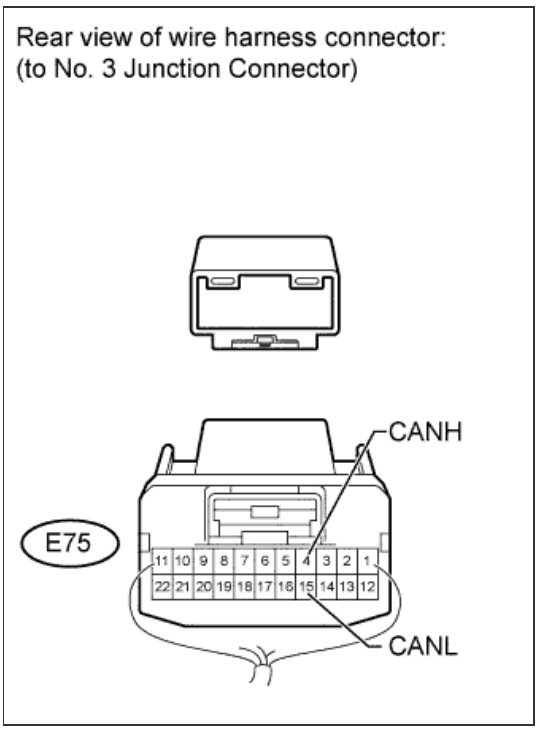
**24.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)**

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-4 (CANH) - E75-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (CANH, CANL)

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

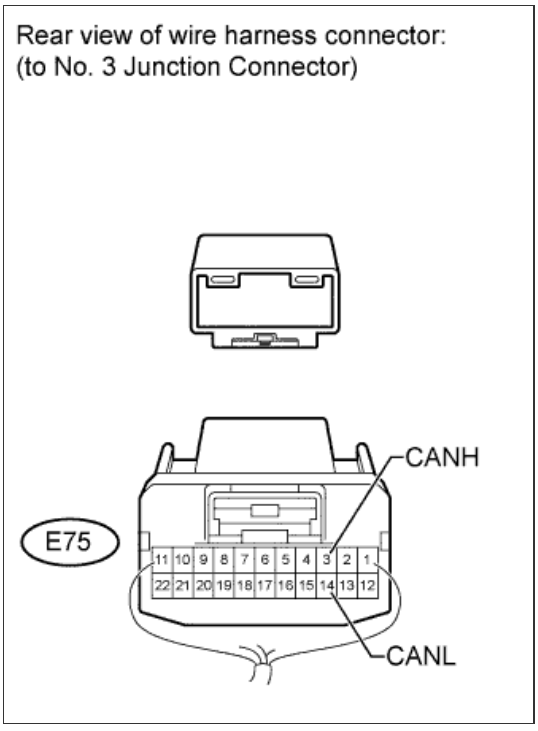
## 25.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER)

a. Disconnect the E77 combination meter connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK → REPLACE COMBINATION METER ASSEMBLY (Click here)

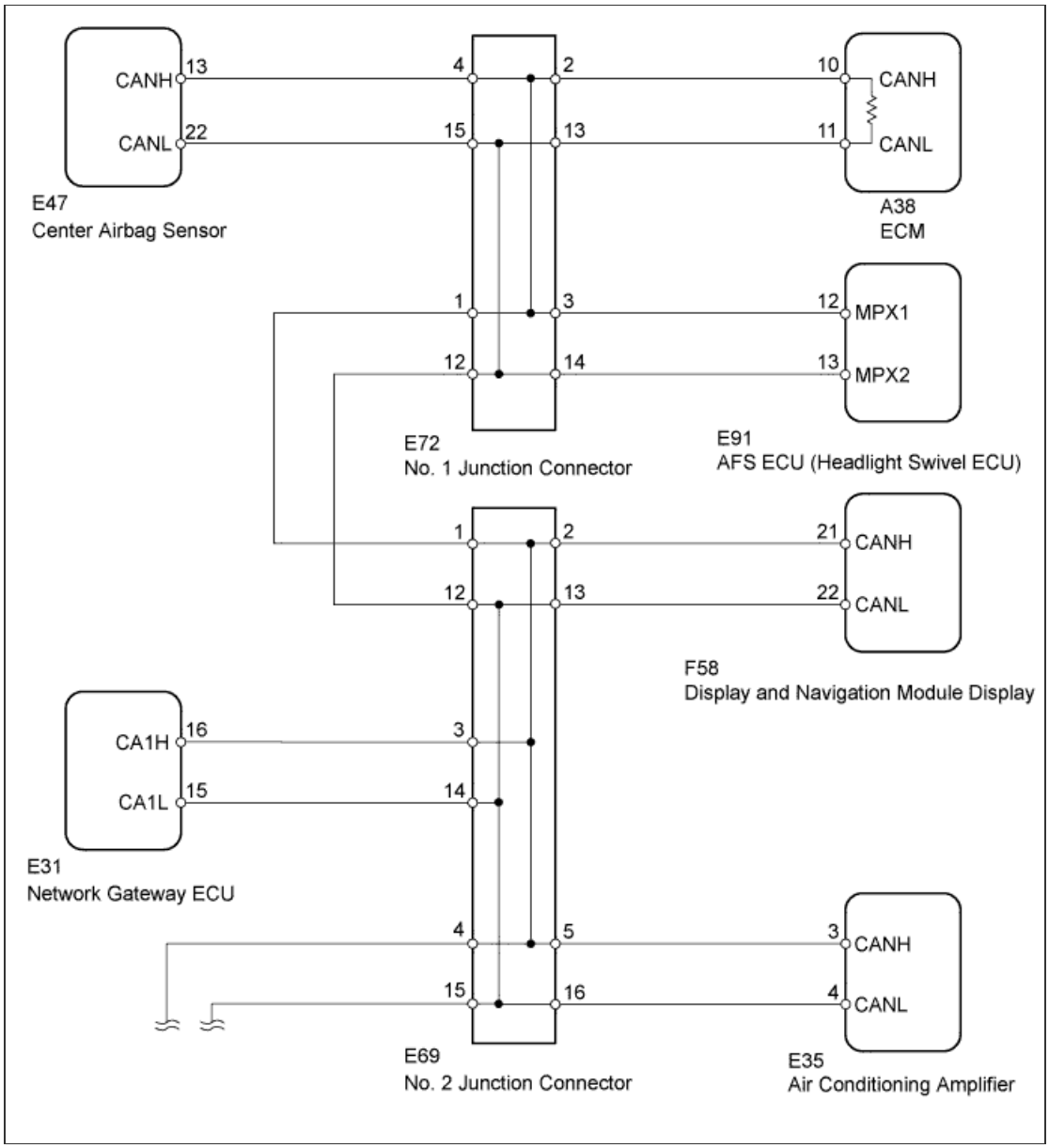
**for Preparation** Click here

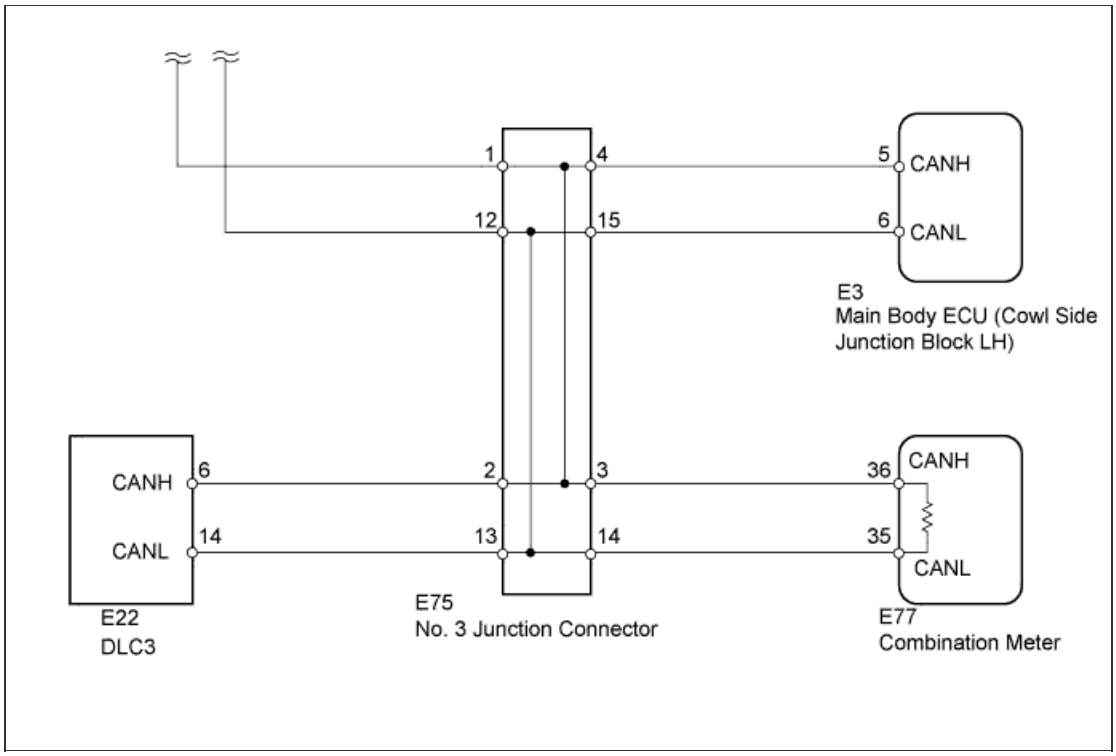
## DESCRIPTION

There may be a short circuit between the CAN bus lines when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω.

| Symptom | Trouble Area |
|---|---|
| Resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω. | • Short between CAN bus lines<br>• ECM<br>• Center airbag sensor assembly<br>• Display and navigation module display<br>• AFS ECU (headlight swivel ECU assembly)<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

### 2.CHECK FOR SHORT IN CAN BUS WIRES (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector connector.

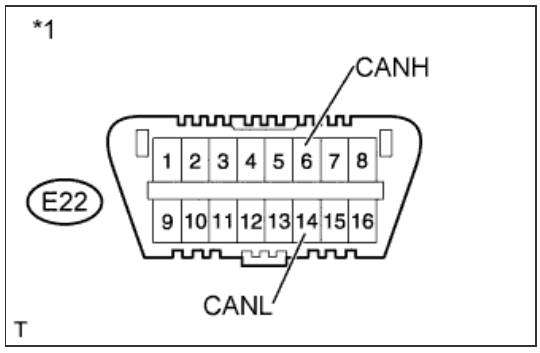
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




**NG** → **REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)**

**OK**

## 3.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

**NEXT**

## 4.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector connector.

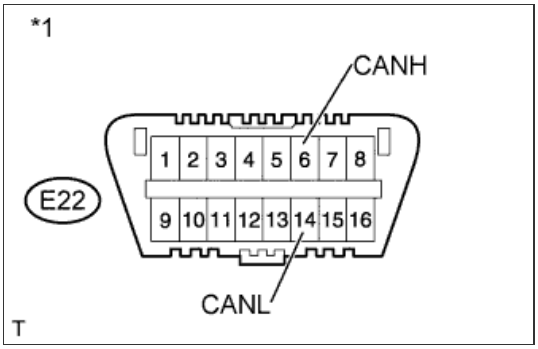
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




**NG** → [Go to step 11]

**OK**

## 5.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

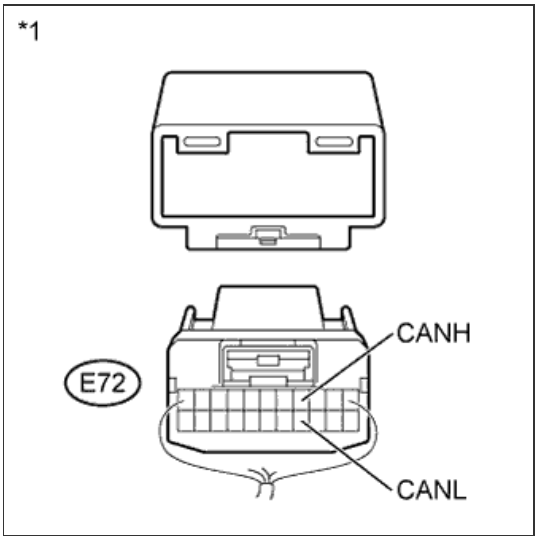
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E72-15 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




**NG** → [Go to step 8]

**OK**

## 6.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - AFS ECU)

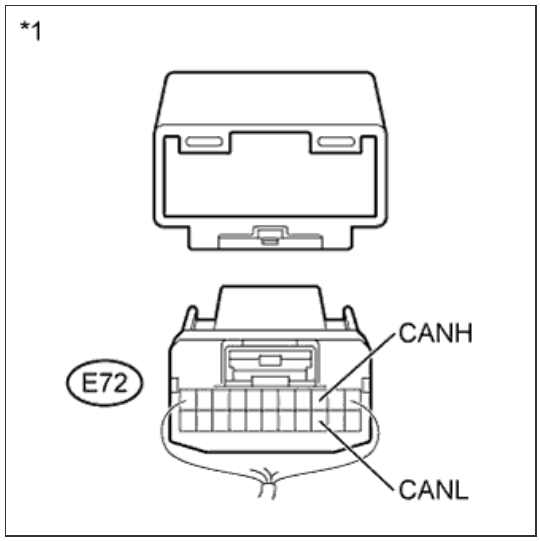
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E72-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → Go to step 9

OK

## 7.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - ECM)

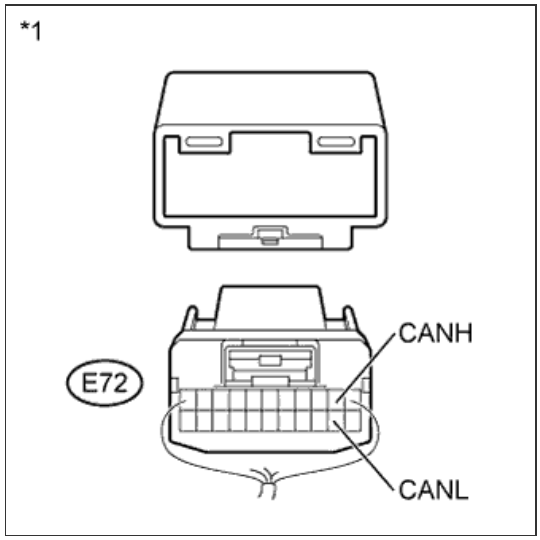
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → Go to step 10

OK

## REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR

## 8.CHECK FOR SHORT IN CAN BUS WIRES (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

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

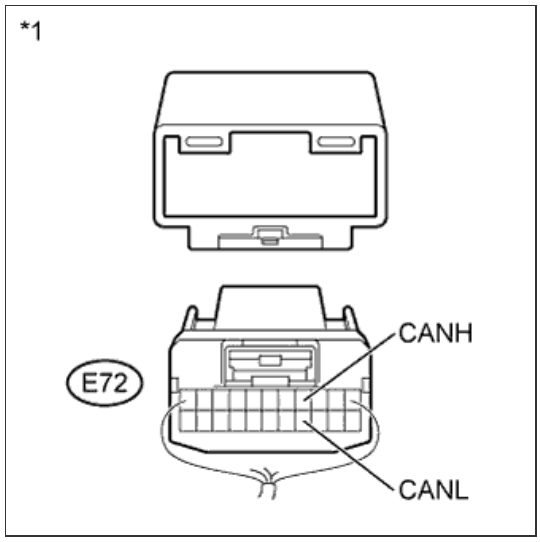
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E72-15 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector |

| | |
|---|---|
| | (to No. 1 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 9.CHECK FOR SHORT IN CAN BUS WIRES (AFS ECU)

a. Disconnect the E91 AFS ECU (headlight swivel ECU) connector.

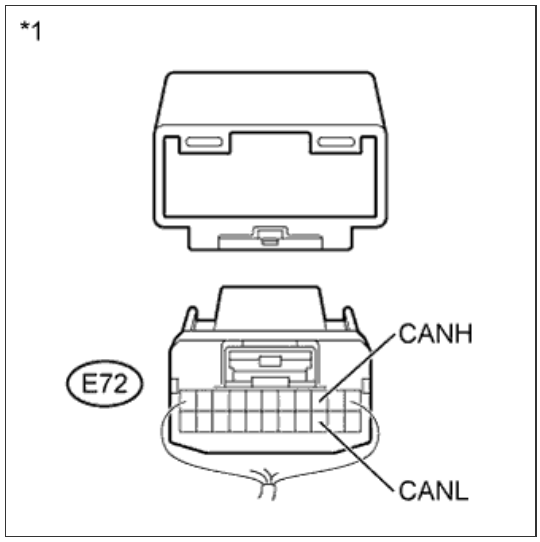
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E72-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (Click here)

## 10.CHECK FOR SHORT IN CAN BUS WIRES (ECM)

a. Disconnect the A38 ECM connector.

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

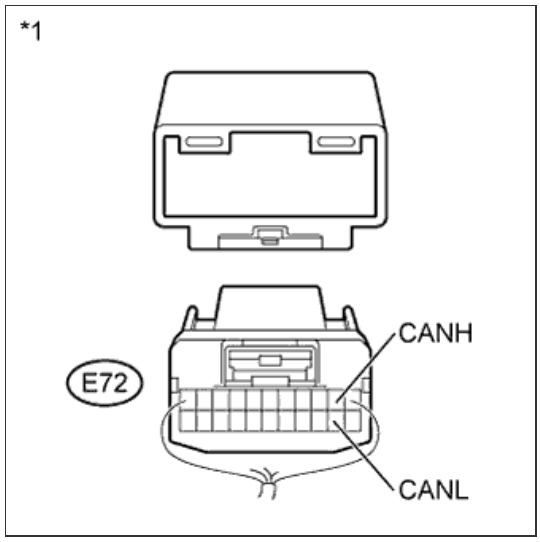
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| | |

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

OK

REPLACE ECM (Click here)

### 11.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector connector.

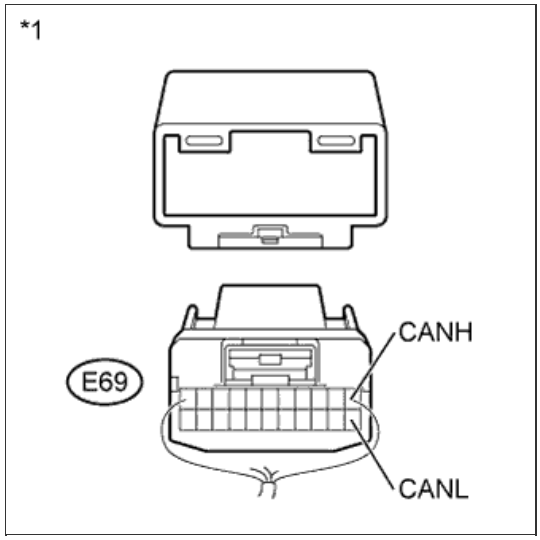
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-1 (CANH) - E69-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

### 12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector connector.

NEXT

### 13.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR SIDE)

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

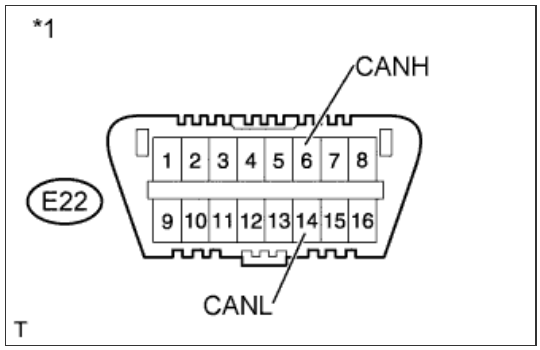
**Standard Resistance:**

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

| | | |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 20

OK →

## 14.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - DISPLAY AND NAVIGATION MODULE DISPLAY)

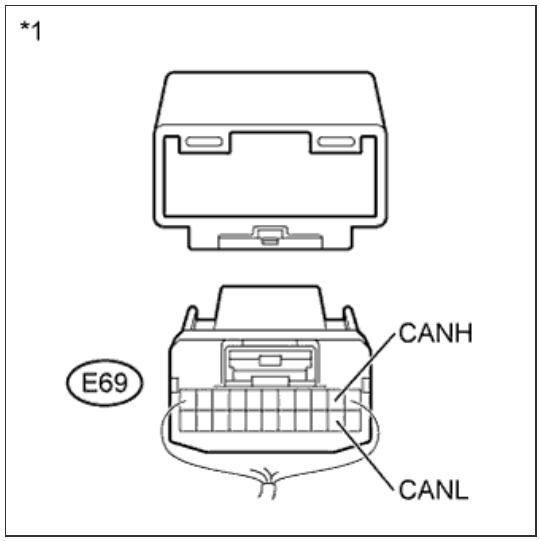
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E62-13 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → Go to step 17

OK →

## 15.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

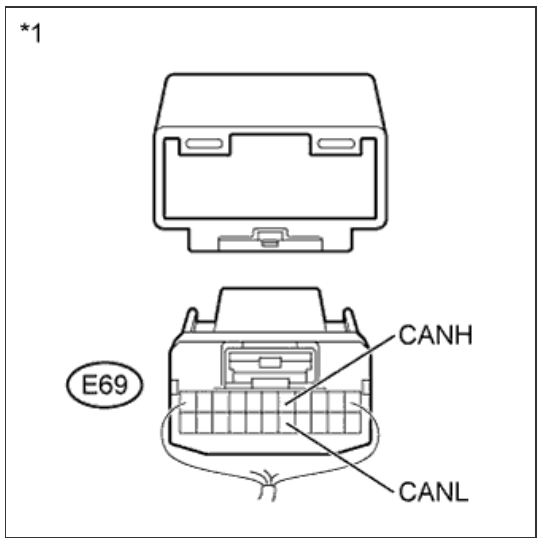
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E69-16 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |



NG → Go to step 18

OK

**16.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)**

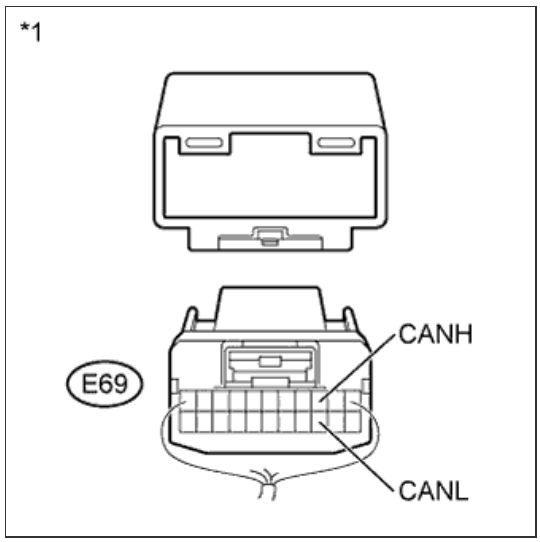
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E69-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → Go to step 19

OK

REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR

**17.CHECK FOR SHORT IN CAN BUS WIRES (DISPLAY AND NAVIGATION MODULE DISPLAY)**

a. Disconnect the F58 display and navigation module display connector.

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

**Standard Resistance:**

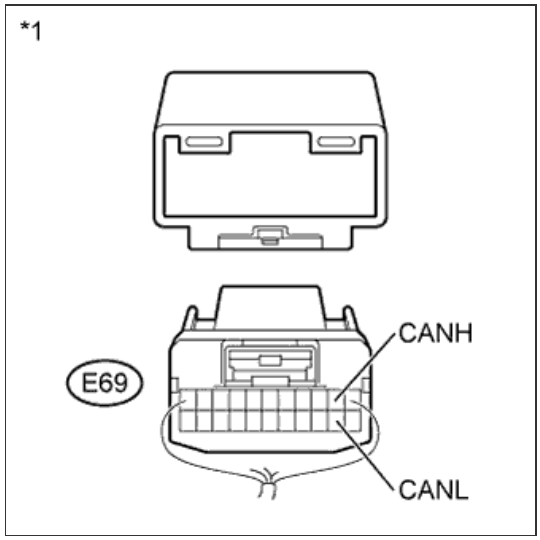
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E69-13 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |
| NG | C |




B → REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DISPLAY AND NAVIGATION MODULE DISPLAY (CANH, CANL)

A

REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

## 18.CHECK FOR SHORT IN CAN BUS WIRES (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

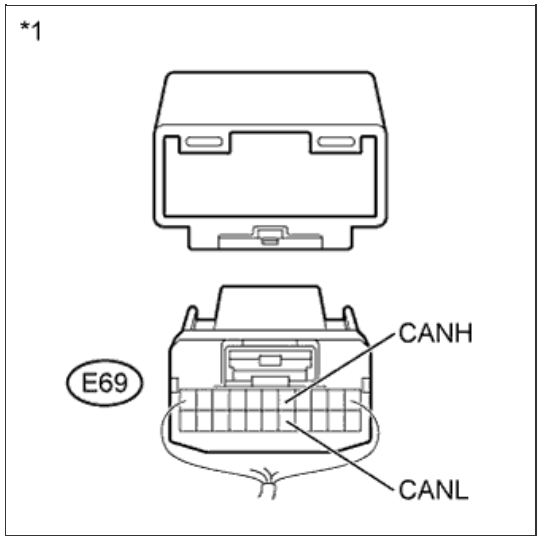
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E69-16 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 19.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

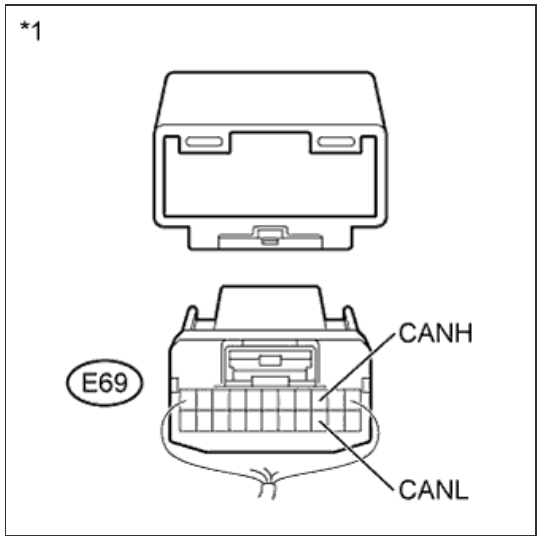
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E69-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## 20.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector connector.

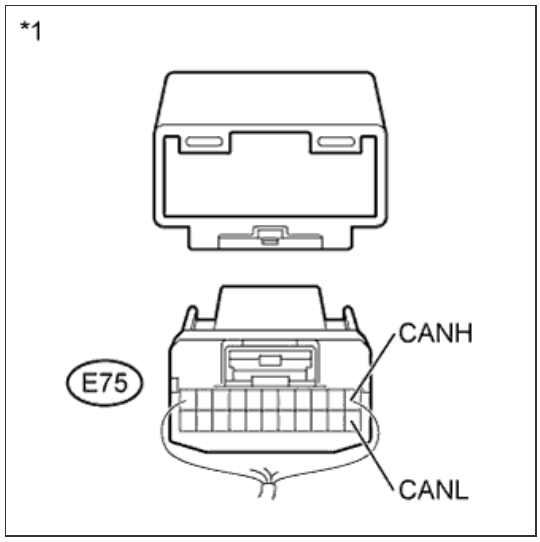
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E75-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

## 21.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

## 22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 3 JUNCTION CONNECTOR - MAIN BODY ECU)

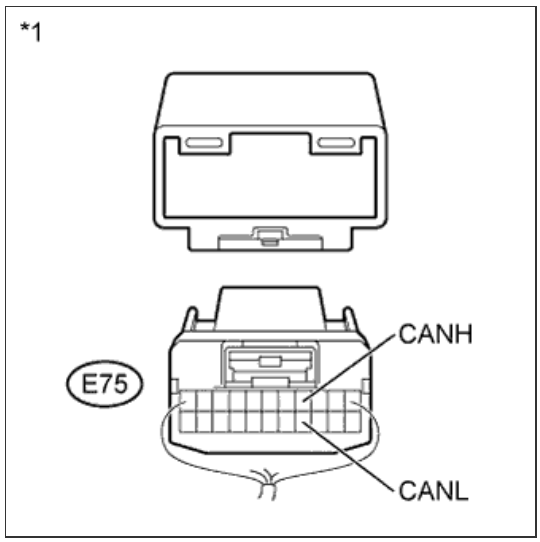
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-4 (CANH) - E75-15 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → Go to step 24

OK

## 23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

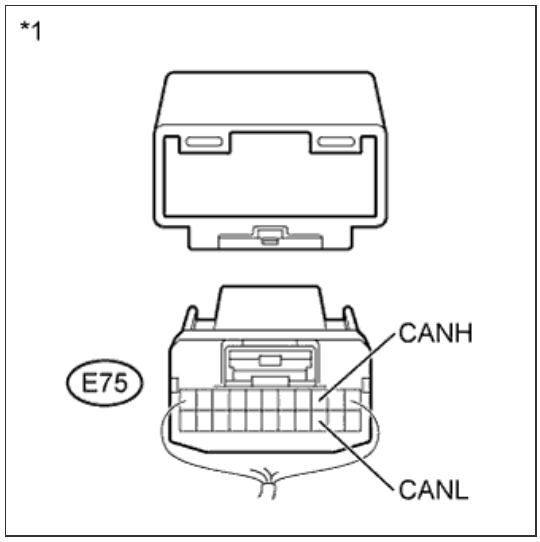
a. Measure the resistance according to the value(s) in the table below.
E75-4 (CANH) - E75-15 (CANL)

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → Go to step 25

OK

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

## 24.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

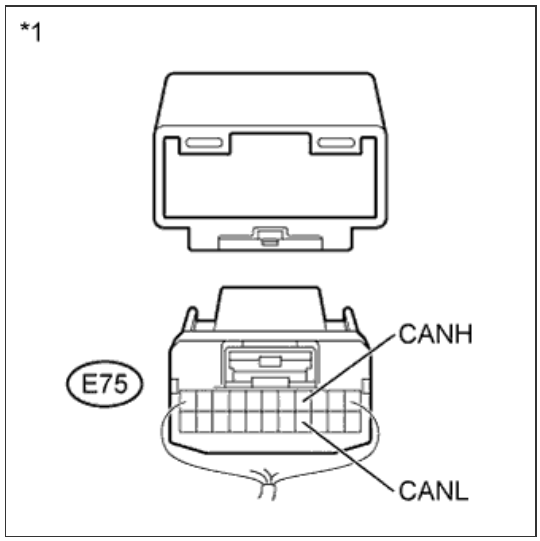
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-4 (CANH) - E75-15 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (CANH, CANL)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 25.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER)

a. Disconnect the E77 combination meter connector.

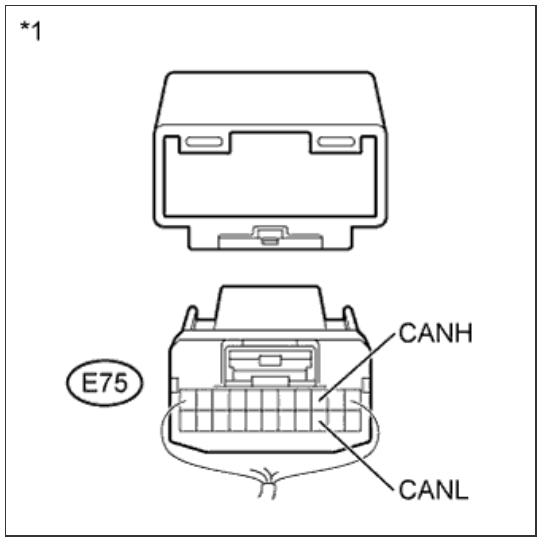
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector<br>(to No. 3 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

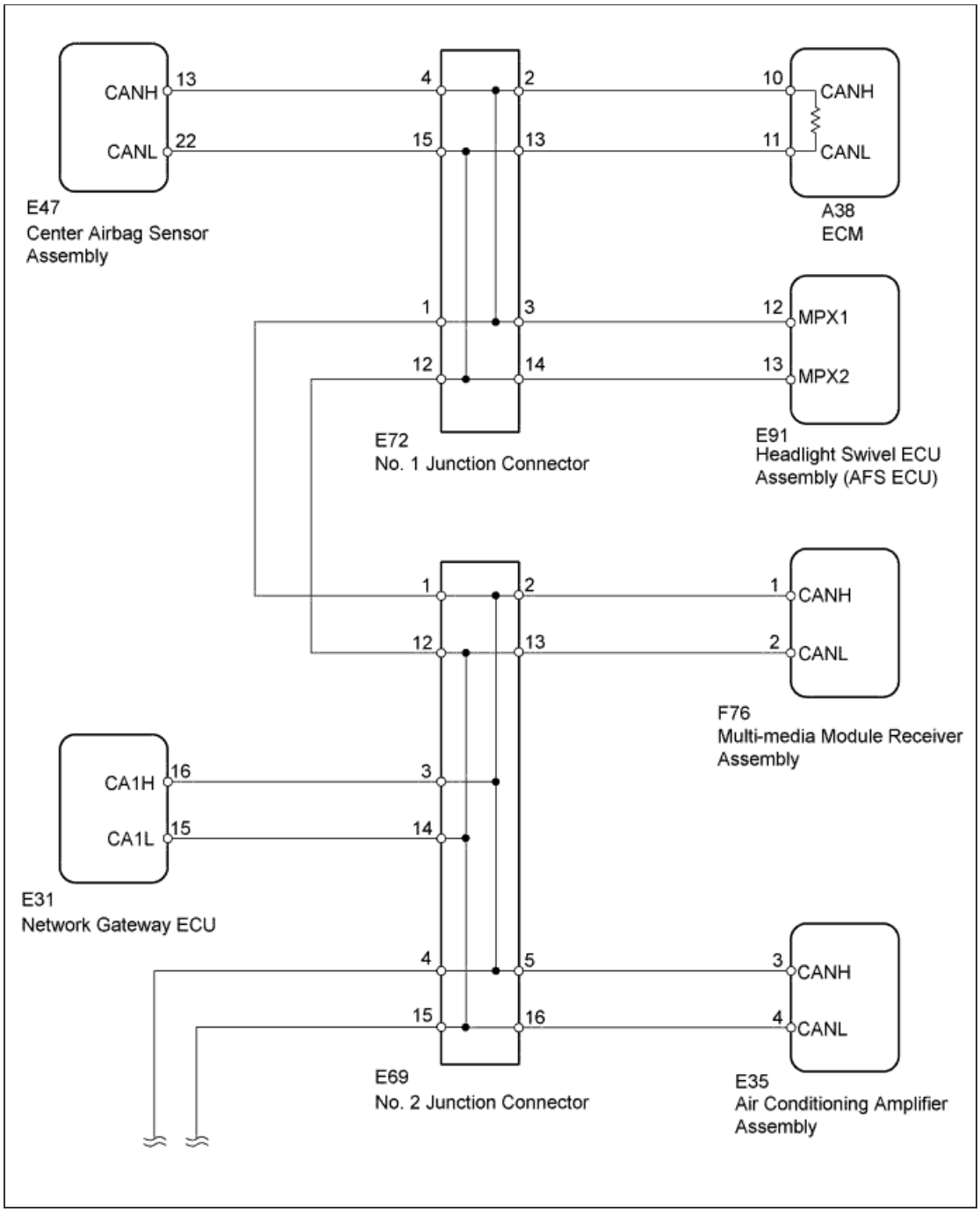
**for Preparation** Click here

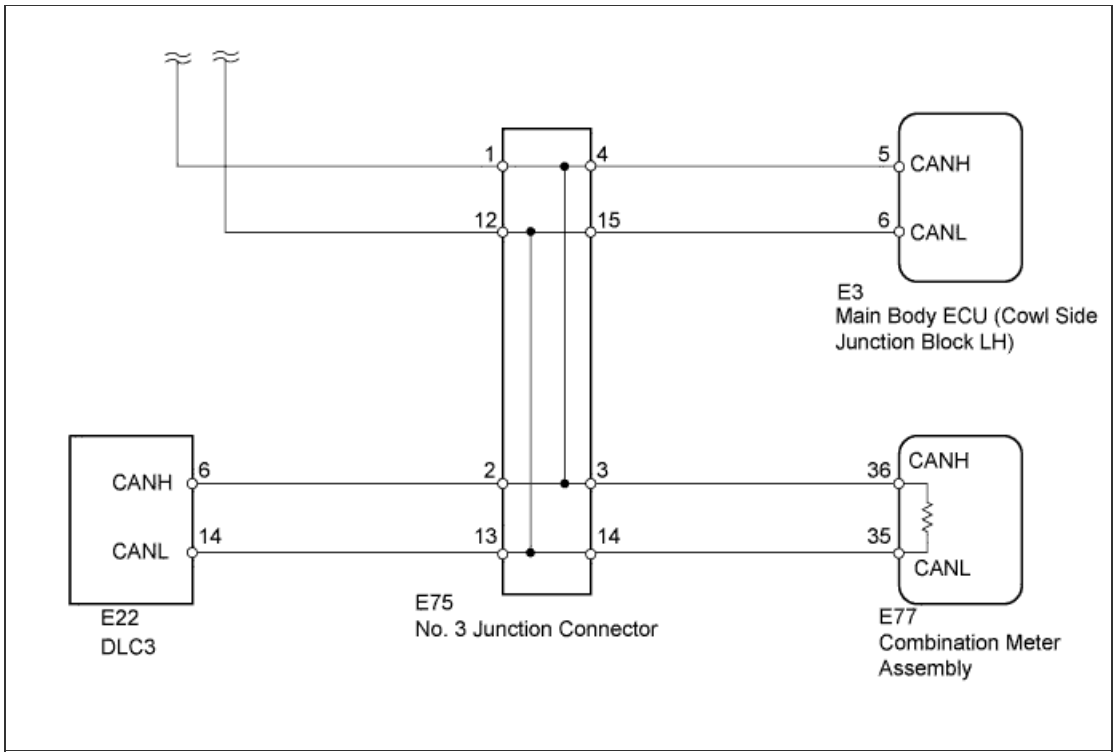
## DESCRIPTION

There may be a short circuit between the CAN bus lines when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω.

| Symptom | Trouble Area |
|---|---|
| Resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω. | • Short between CAN bus lines<br>• ECM<br>• Center airbag sensor assembly<br>• Multi-media module receiver assembly<br>• Headlight swivel ECU assembly (AFS ECU)<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM


CANH
13
CANL
22
E47
Center Airbag Sensor
Assembly
4
2
15
13
10
CANH
11
CANL
A38
ECM
1
3
12
14
E72
No. 1 Junction Connector
12
MPX1
13
MPX2
E91
Headlight Swivel ECU
Assembly (AFS ECU)
1
2
12
13
1
CANH
2
CANL
F76
Multi-media Module Receiver
Assembly
CA1H
16
CA1L
15
E31
Network Gateway ECU
3
14
4
5
15
16
3
CANH
4
CANL
E69
No. 2 Junction Connector
E35
Air Conditioning Amplifier
Assembly




## INSPECTION PROCEDURE

**NOTICE:**

The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the Precaution in the SRS (Click here).

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

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

NEXT

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

### 3.CHECK FOR SHORT IN CAN BUS WIRES (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector.

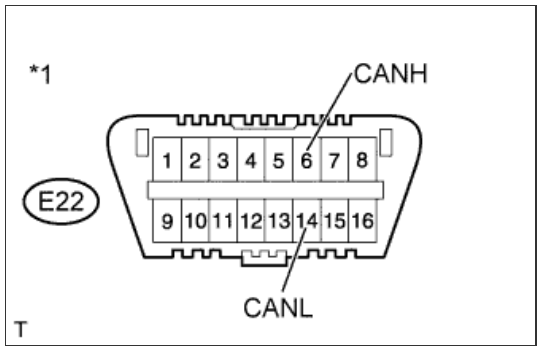
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

## 4.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector.

NEXT

## 5.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector.

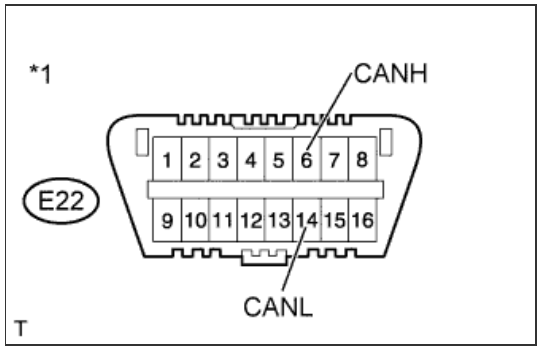
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 12

OK

## 6.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

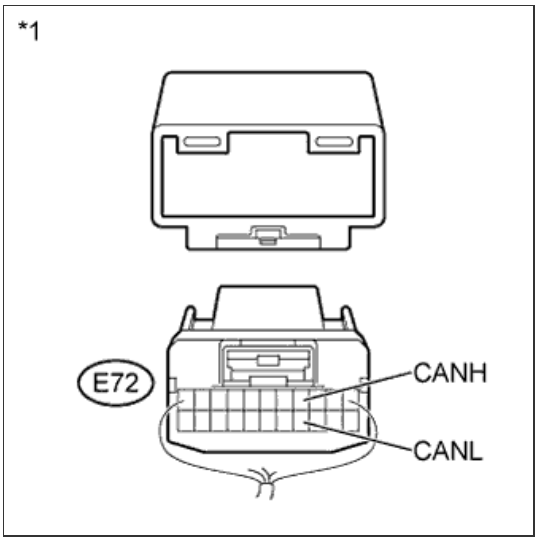
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E72-15 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |

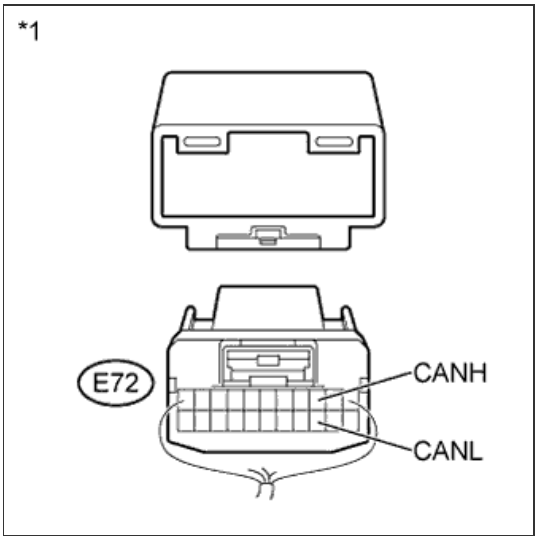



NG → Go to step 9

OK

## 7.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - AFS ECU)

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




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E72-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |

NG → Go to step 10

OK

## 8.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - ECM)

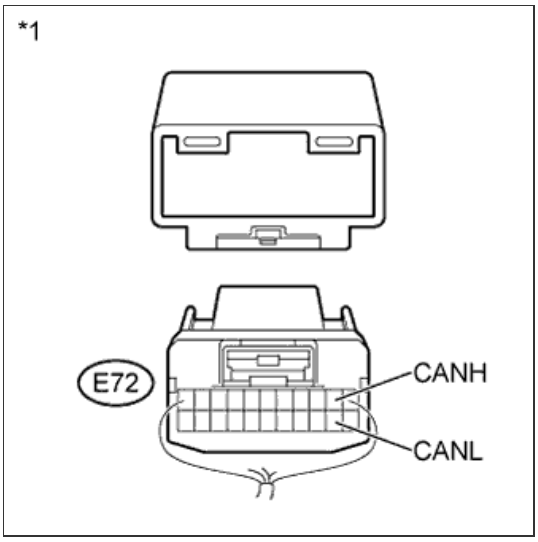
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → Go to step 11

OK

REPLACE NO. 1 JUNCTION CONNECTOR

9.CHECK FOR SHORT IN CAN BUS WIRES (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector (Click here).

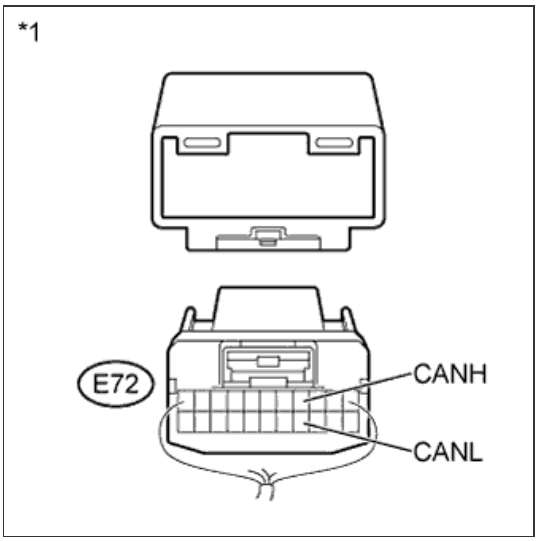
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E72-15 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

10.CHECK FOR SHORT IN CAN BUS WIRES (AFS ECU)

a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

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

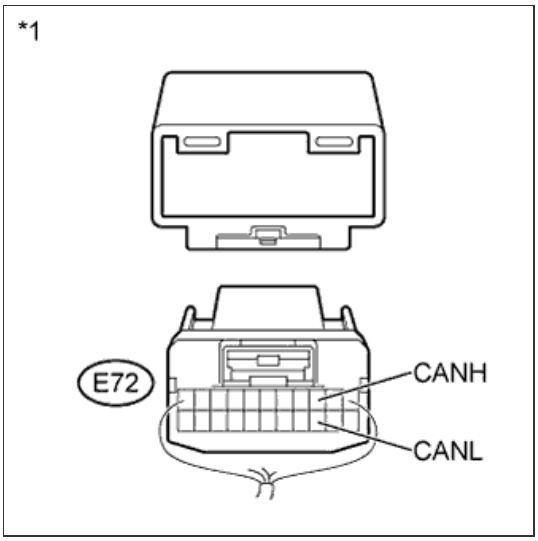
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E72-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| | Rear view of wire harness connector |

| | |
|---|---|
| *1 | (to No. 1 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) ( Click here)

## 11.CHECK FOR SHORT IN CAN BUS WIRES (ECM)

a. Disconnect the A38 ECM connector.

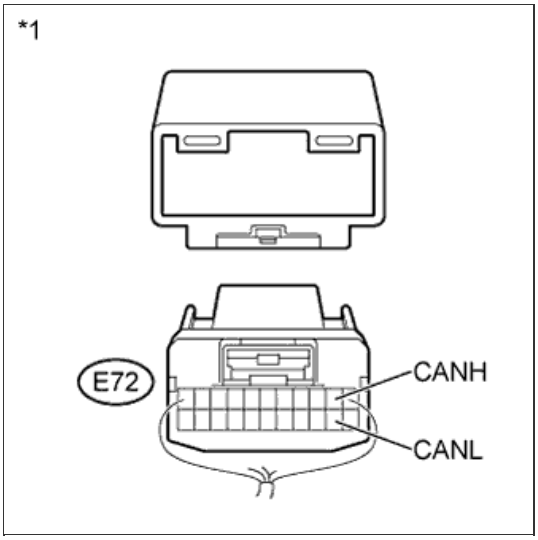
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

OK

REPLACE ECM (Click here)

## 12.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - NO. 1 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector.

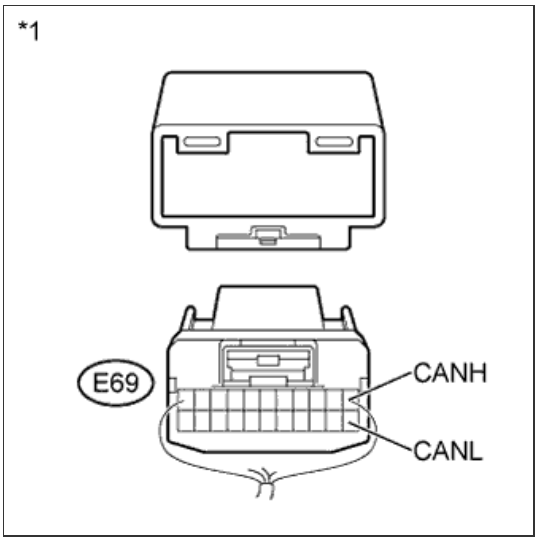
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-1 (CANH) - E69-12 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 1 JUNCTION CONNECTOR)

OK

## 13.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector.

NEXT

## 14.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR SIDE)

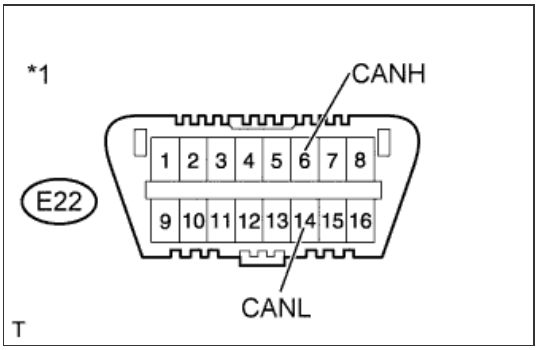
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 21

OK

## 15.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

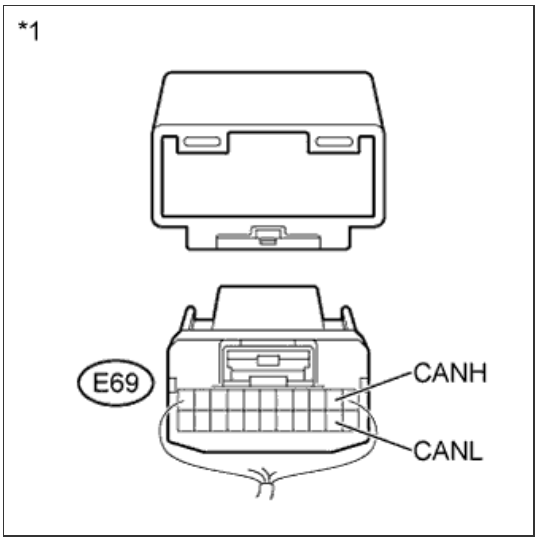
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E69-13 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

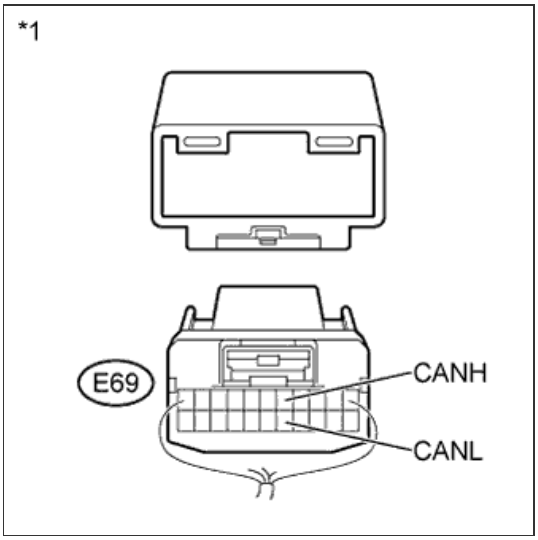



NG → Go to step 18

OK

## 16.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

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




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E69-16 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

NG → Go to step 19

OK

## 17.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

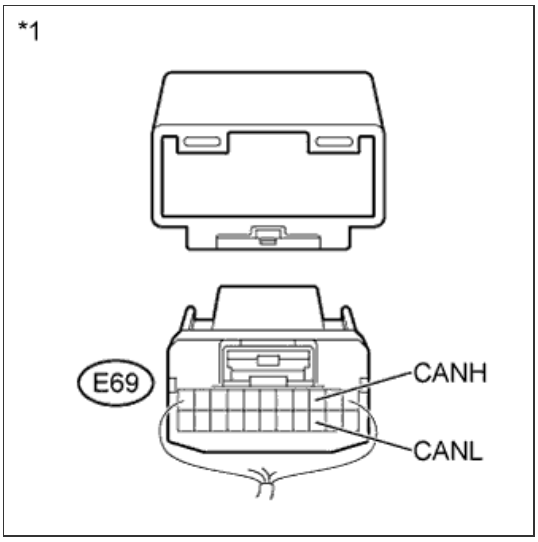
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E69-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → Go to step 20

OK

REPLACE NO. 2 JUNCTION CONNECTOR

18.CHECK FOR SHORT IN CAN BUS WIRES (MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

a. Disconnect the F76 multi-media module receiver assembly connector.

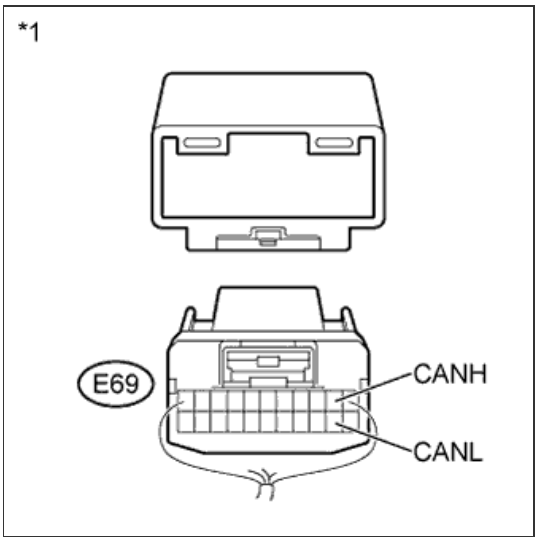
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E69-13 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTI-MEDIA MODULE RECEIVER ASSEMBLY (CANH, CANL)

OK

REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

19.CHECK FOR SHORT IN CAN BUS WIRES (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

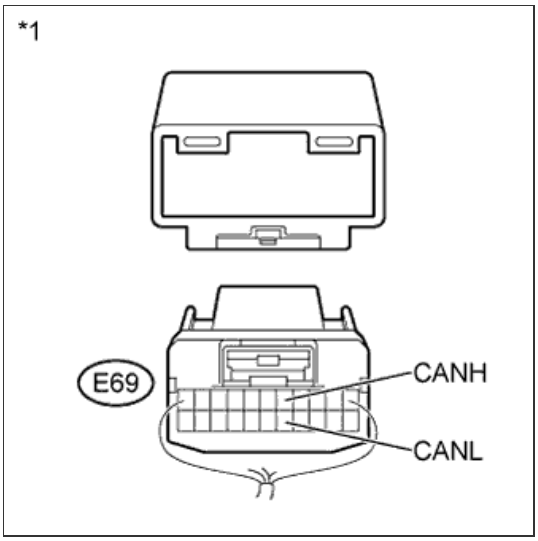
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E69-16 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 20.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

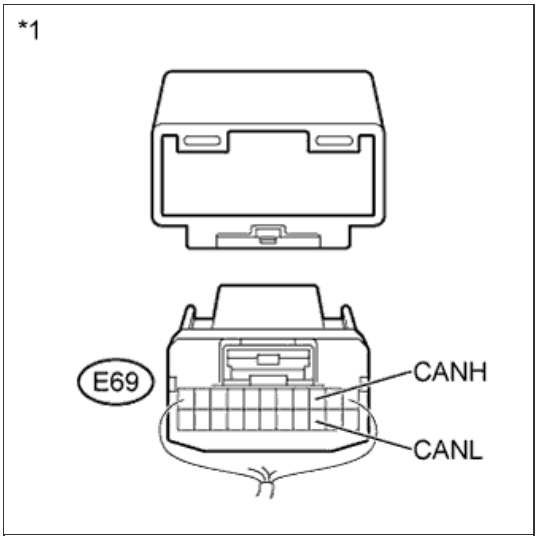
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E69-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## 21.CHECK FOR SHORT IN CAN BUS WIRES (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector.

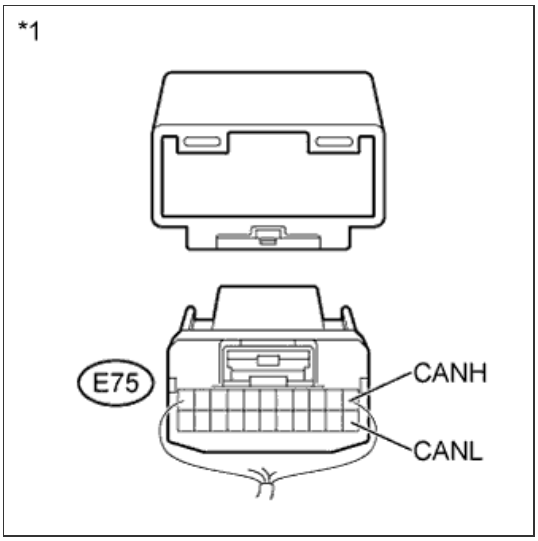
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E75-12 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

## 22.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector.

NEXT

## 23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 3 JUNCTION CONNECTOR - MAIN BODY ECU)

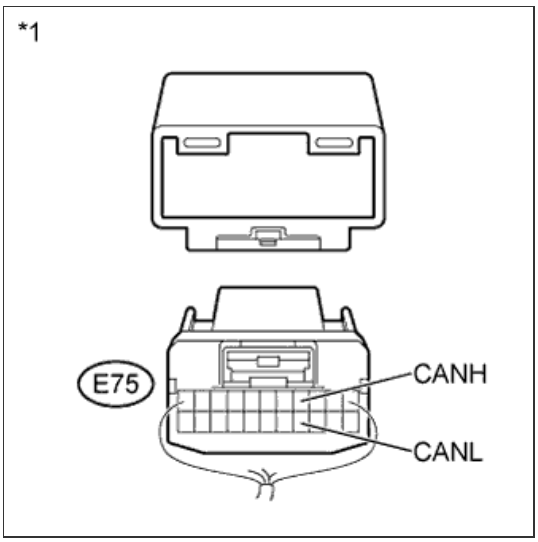
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-4 (CANH) - E75-15 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → Go to step 25

OK

## 24.CHECK FOR SHORT IN CAN BUS WIRES (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

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

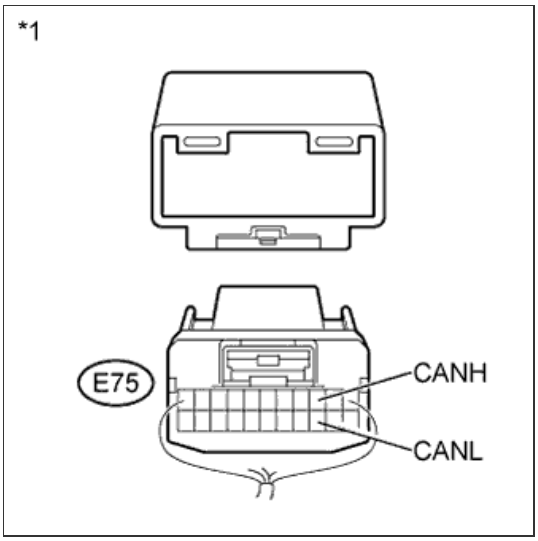
**Standard Resistance:**

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

| | | |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | Condition<br>108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → Go to step 26

OK

REPLACE NO. 3 JUNCTION CONNECTOR

25.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

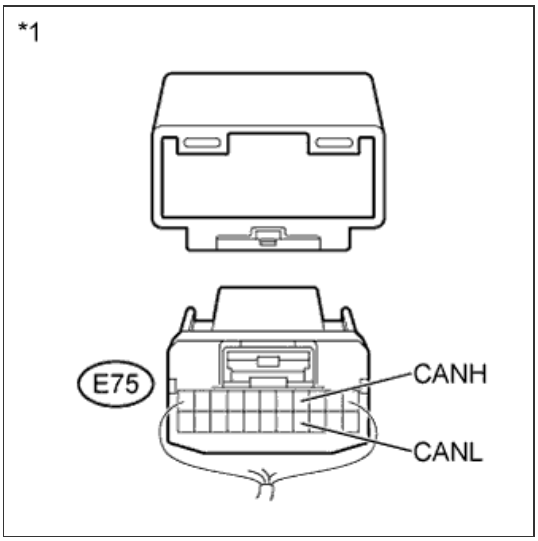
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-4 (CANH) - E75-15 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (CANH, CANL)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

26.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER)

a. Disconnect the E77 combination meter connector.

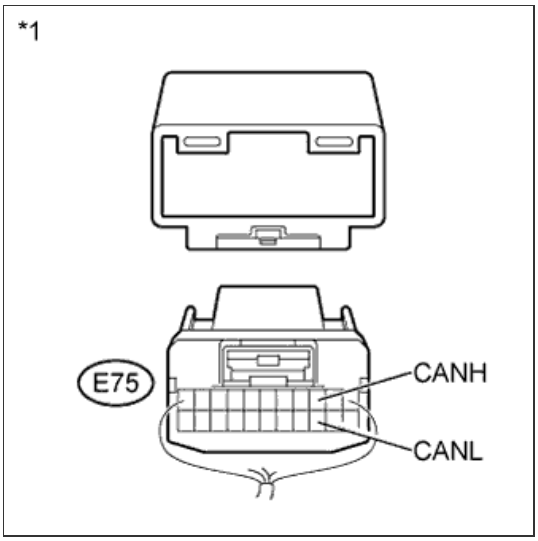
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector<br>(to No. 3 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

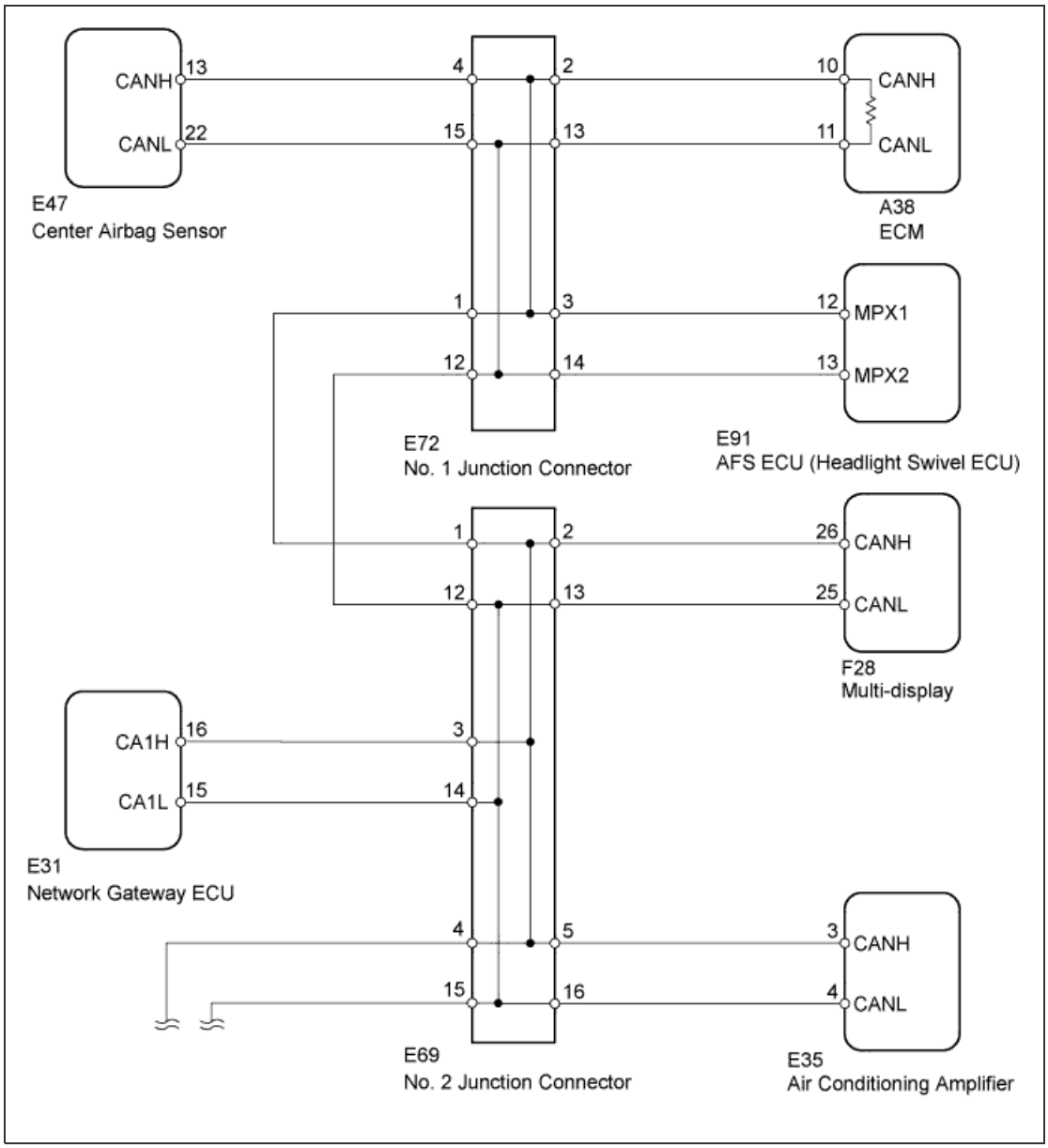
**for Preparation** Click here

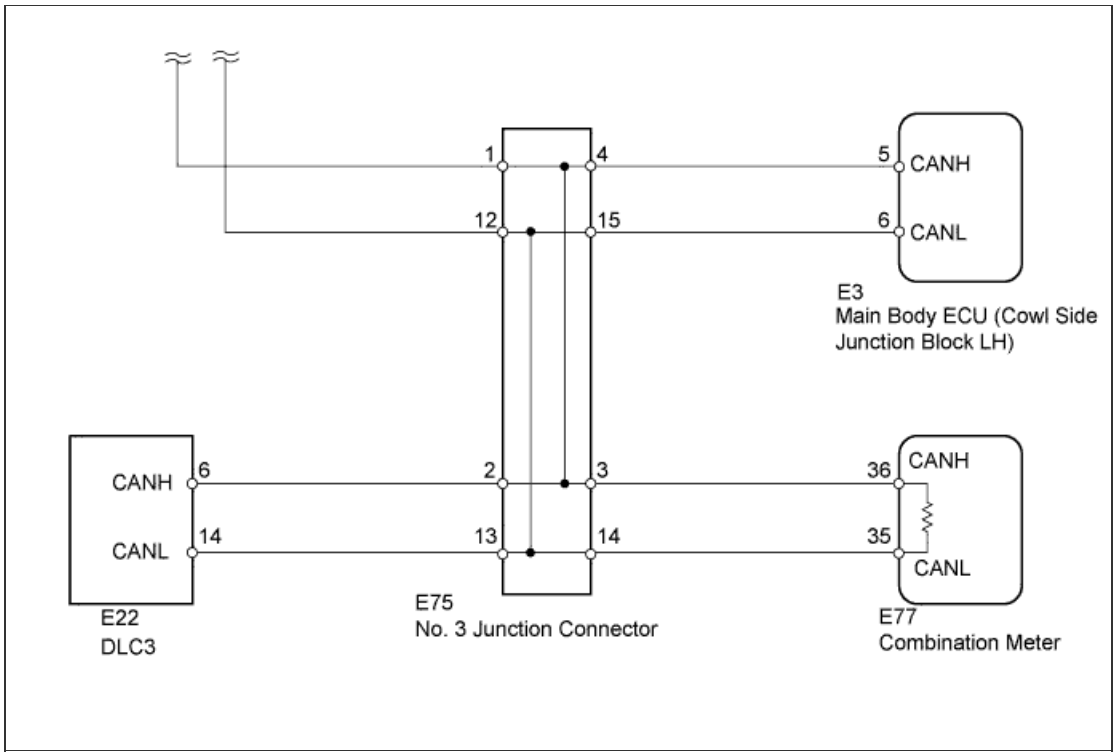
## DESCRIPTION

There may be a short circuit between the CAN bus line and +B when there is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3. | • Short to +B<br>• ECM<br>• Center airbag sensor assembly<br>• AFS ECU (headlight swivel ECU assembly)<br>• Multi-display<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

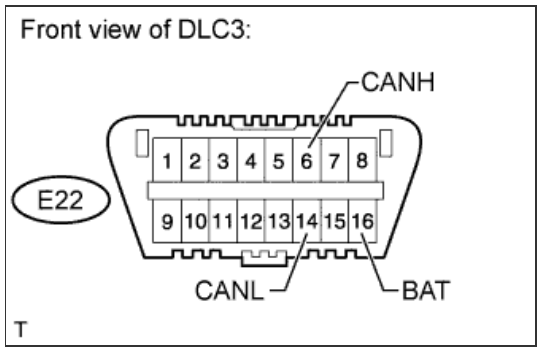
### 2.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




**NG** → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO

DLC3 (CANH, CANL)

OK

3.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

4.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

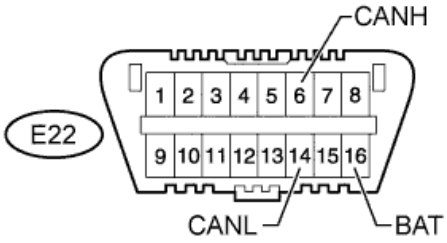
a. Disconnect the E72 No. 1 junction connector connector.

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

Result

| Tester Connection | Switch Condition | Measured Resistance | Result |
|---|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of DLC3:




T

NG → Go to step 11

OK

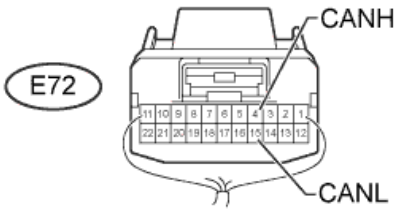
5.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

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

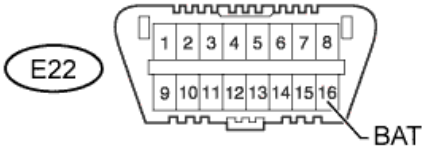
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:



NG → Go to step 8

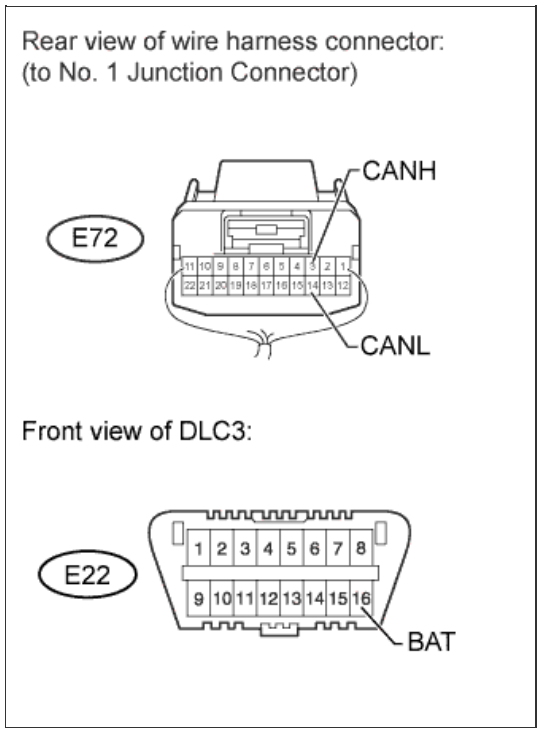
OK

## 6.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - AFS ECU)

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 9

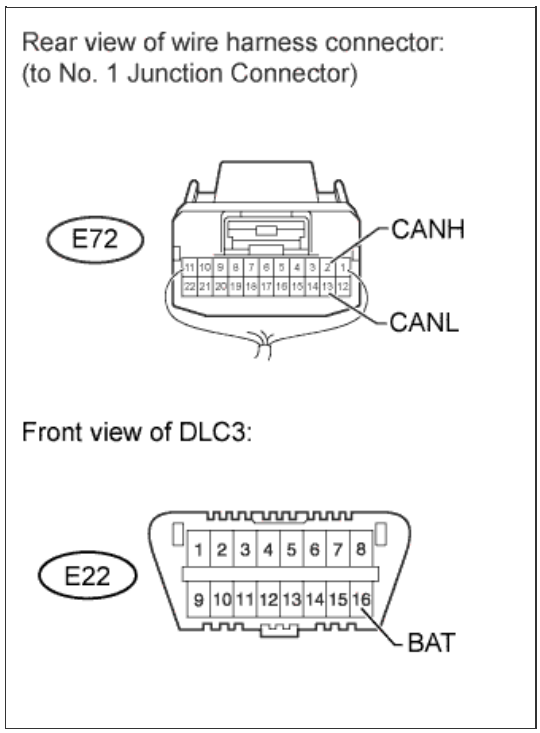
OK

## 7.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |



NG → Go to step 10

OK

REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR

## 8.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (CENTER AIRBAG SENSOR)

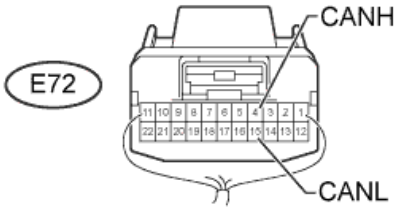
a. Disconnect the E47 center airbag sensor connector.

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

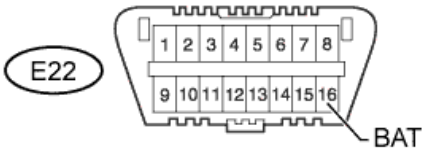
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 9.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (AFS ECU)

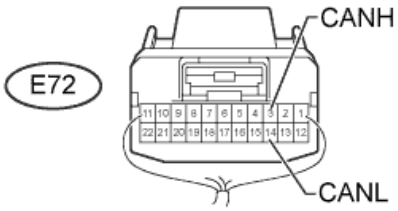
a. Disconnect the E91 AFS ECU (headlight swivel ECU) connector.

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

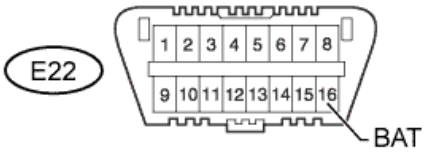
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:



NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (CANH, CANL)

OK

REPLACE AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (Click here)

10.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (ECM)

a. Disconnect the A38 ECM connector.

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

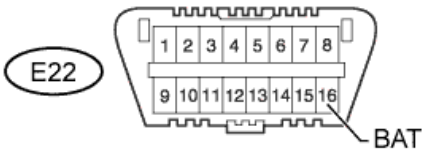
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO ECM (CANH, CANL)

OK

REPLACE ECM (Click here)

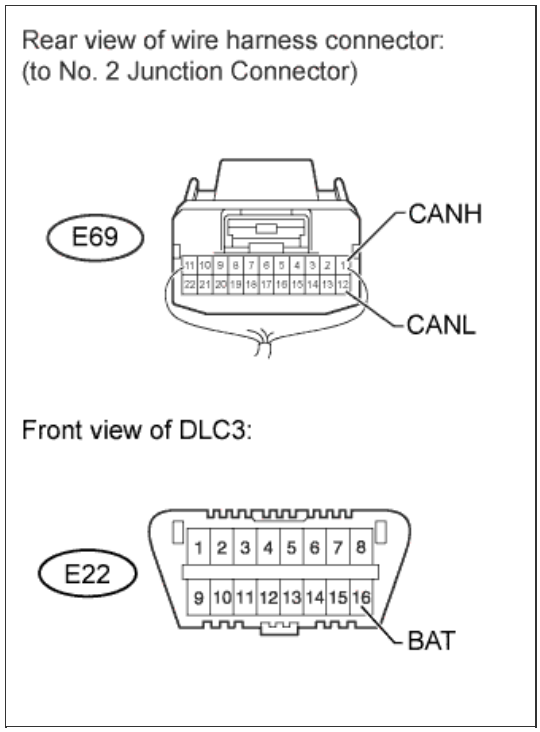
11.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector connector.

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

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-12 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-12 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

### 12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector connector.

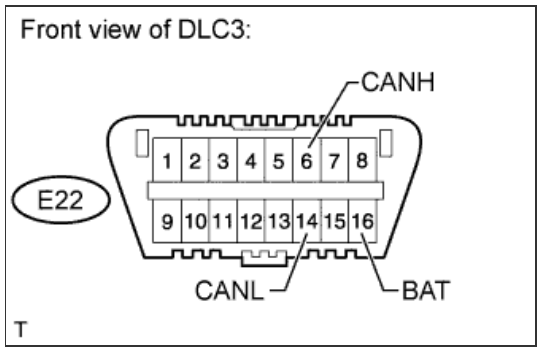
NEXT

### 13.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR SIDE)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 20

OK

### 14.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - MULTI-DISPLAY)

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

**Result**

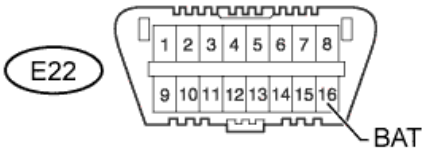
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|

| | | | |
|---|---|---|---|
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




NG → Go to step 17

OK

## 15.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

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

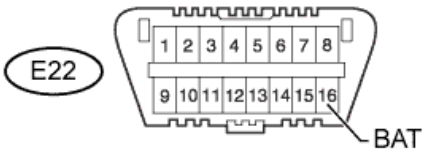
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




NG → Go to step 18

OK

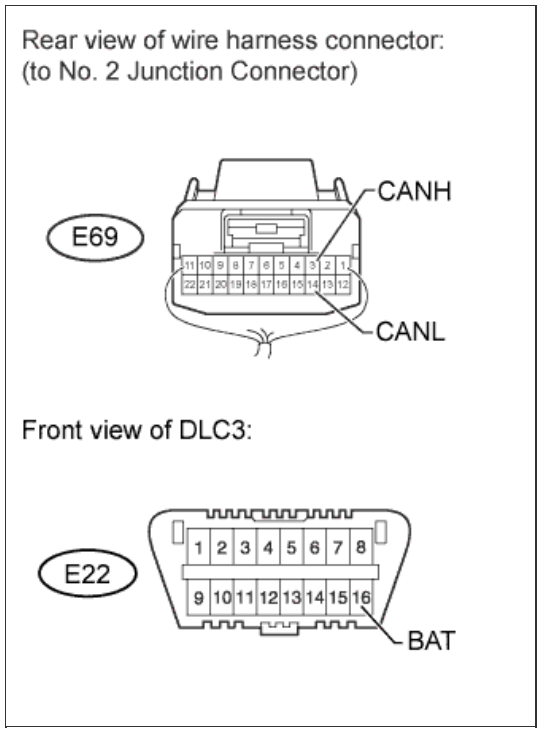
## 16.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

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

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 19

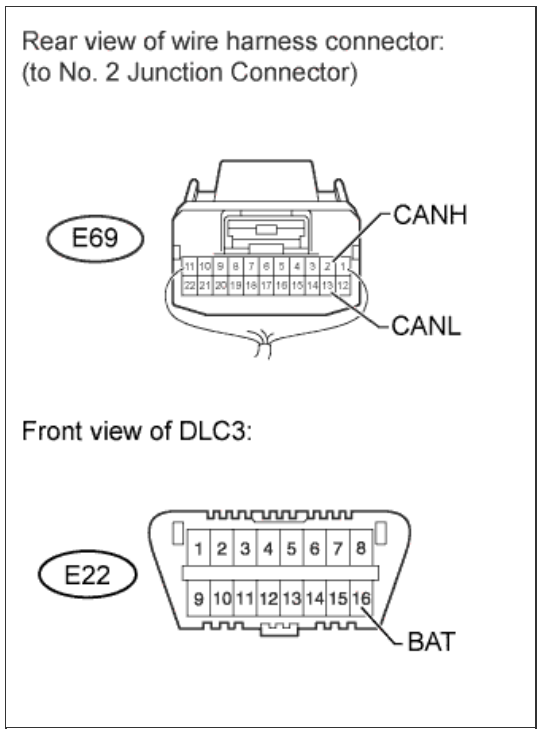
OK

REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR

## 17.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (MULTI-DISPLAY)

a. Disconnect the F28 multi-display connector.

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




**Result**

| Tester Connection | Switch Condition | Measured Resistance | Result | Type | Proceed to |
|---|---|---|---|---|---|
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK | w/ Navigation System | A |
| | | | | w/o Navigation System | B |
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK | w/ Navigation System | A |
| | | | | w/o Navigation System | B |
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG | - | C |

| | | | | | |
|---|---|---|---|---|---|
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG | - | C |

B → REPLACE MULTI-DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTI-DISPLAY (CANH, CANL)

A

REPLACE MULTI-DISPLAY (Click here)

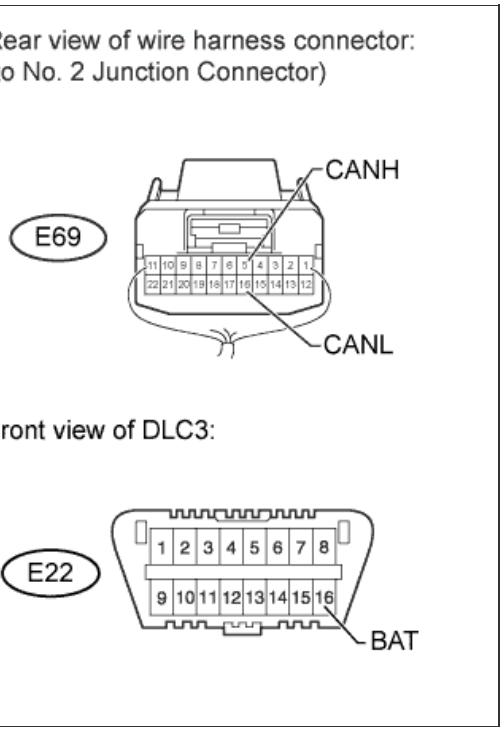
## 18.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

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

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 19.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NETWORK GATEWAY ECU)

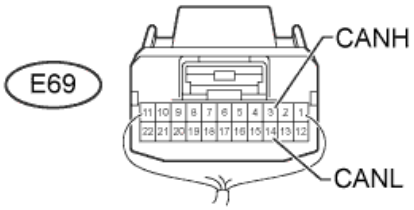
a. Disconnect the E31 network gateway ECU connector.

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

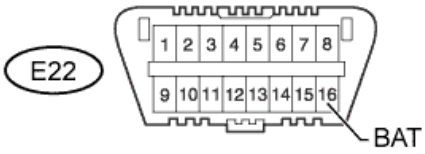
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

20.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector connector.

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

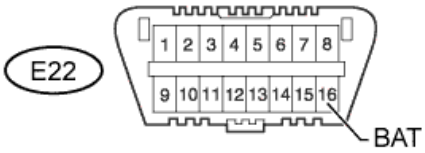
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-12 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E75-12 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

21.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

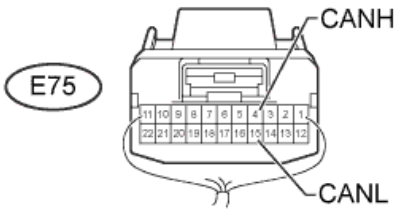
## 22.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - MAIN BODY ECU)

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

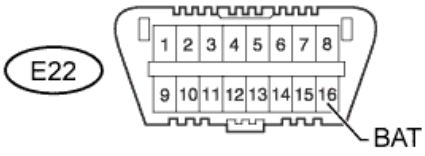
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E75-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:




NG → Go to step 24

OK

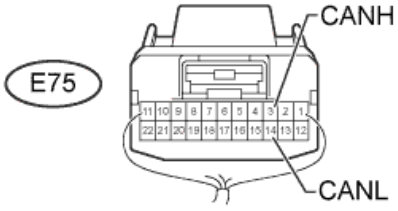
## 23.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

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

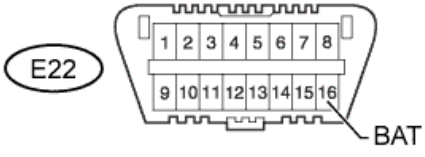
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:



NG → Go to step 25

OK

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

## 24.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (MAIN BODY ECU)

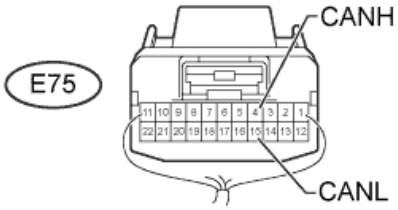
a. Disconnect the E3 main body ECU connector.

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

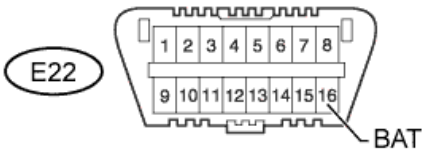
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E75-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (CANH, CANL)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 25.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (COMBINATION METER)

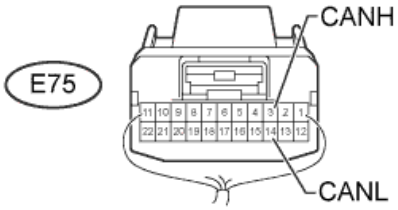
a. Disconnect the E77 combination meter connector.

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

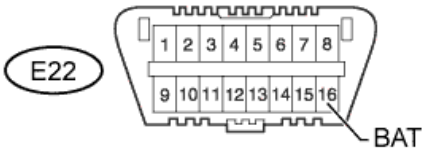
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

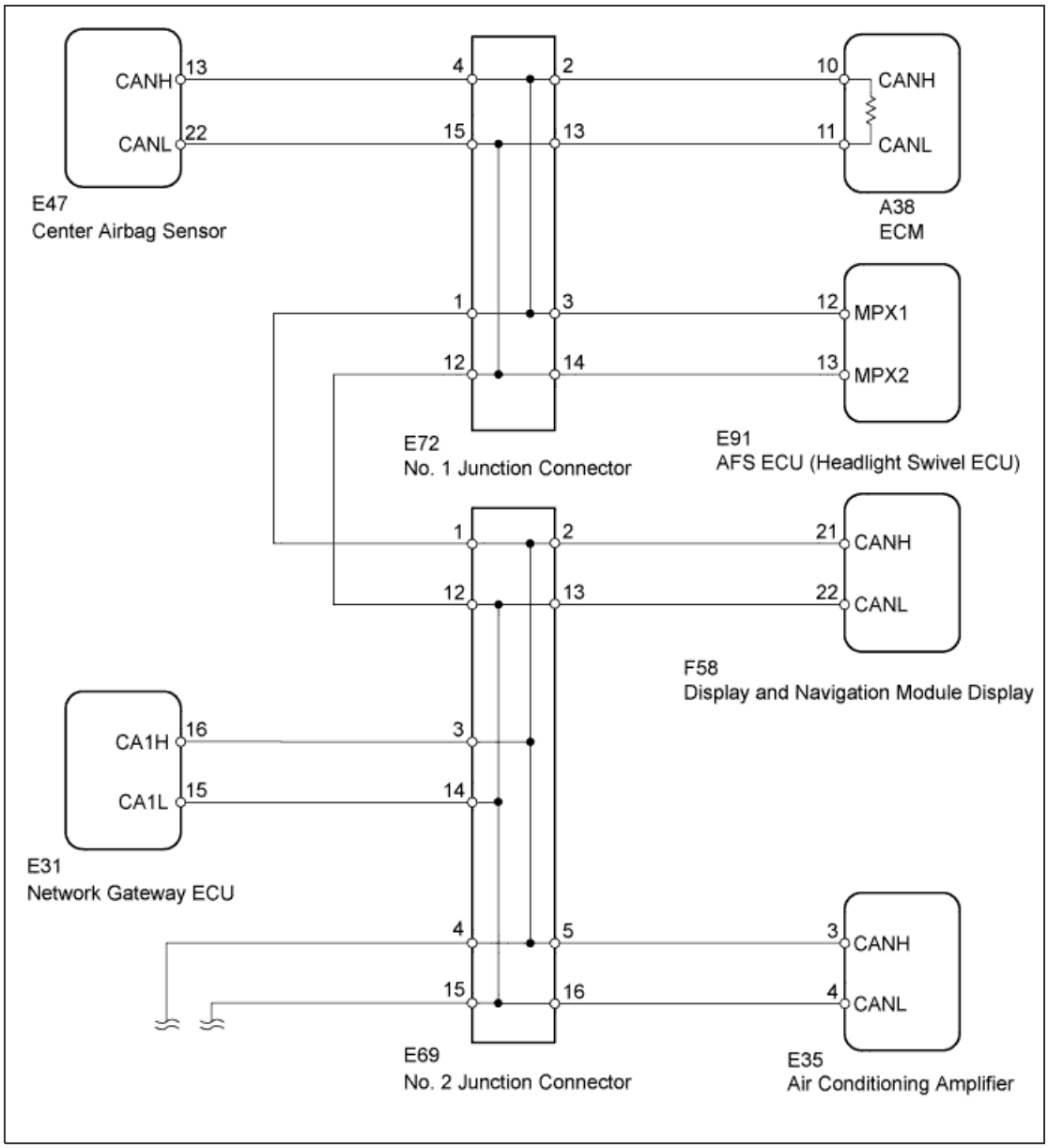
**for Preparation** Click here

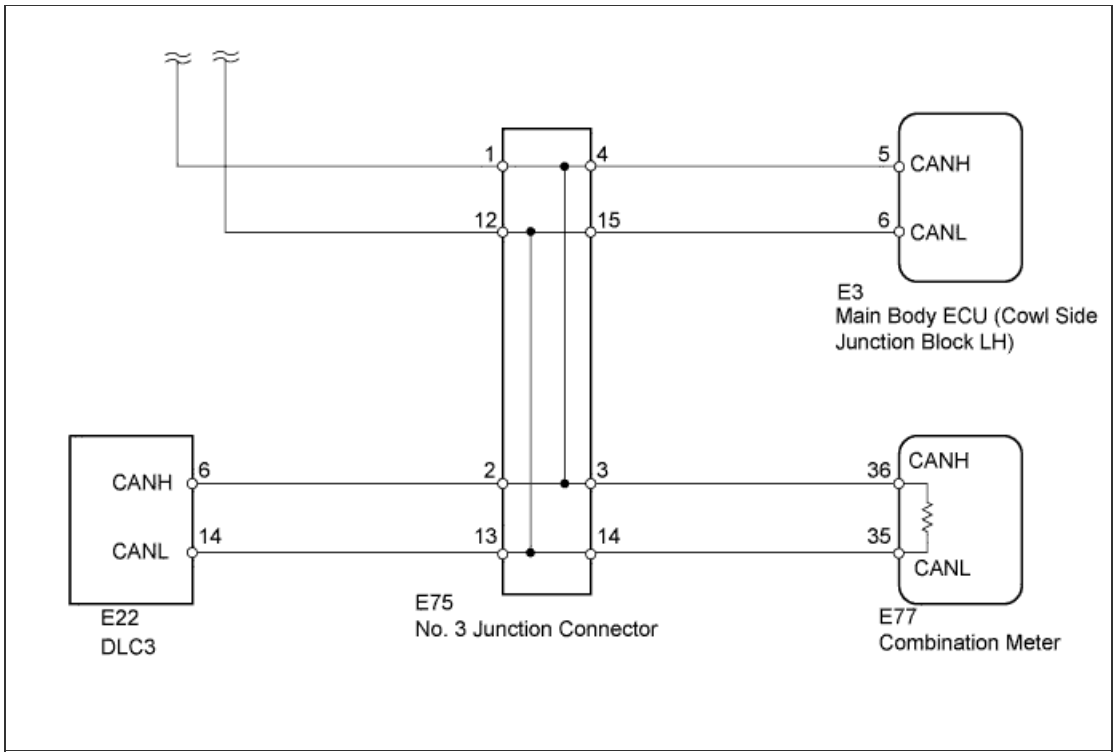
## DESCRIPTION

There may be a short circuit between the CAN bus line and +B when there is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3. | • Short to +B<br>• ECM<br>• Center airbag sensor assembly<br>• AFS ECU (headlight swivel ECU assembly)<br>• Display and navigation module display<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

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

**NOTICE:**

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

NEXT

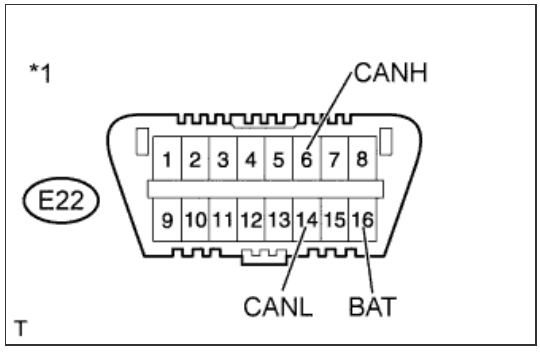
### 2.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

### 3.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

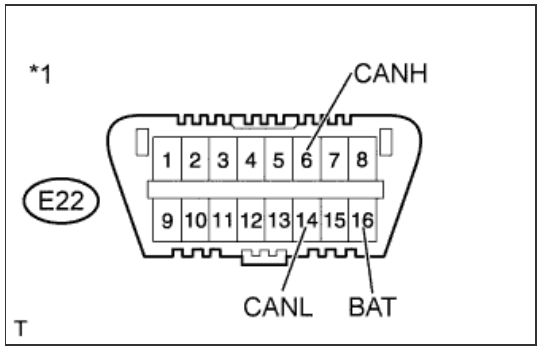
### 4.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → Go to step 11

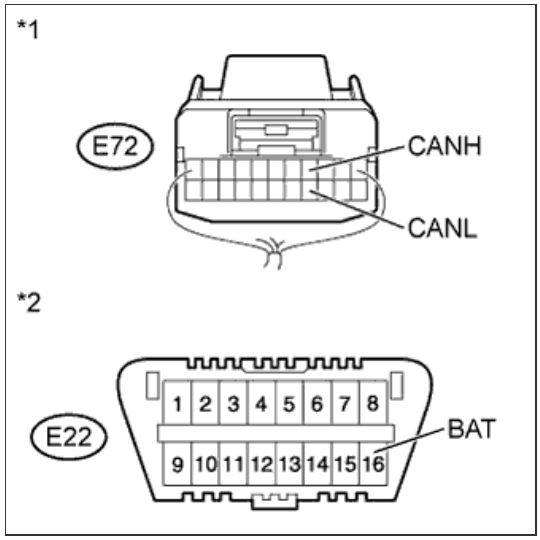
OK

### 5.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 8

OK

## 6.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - AFS ECU)

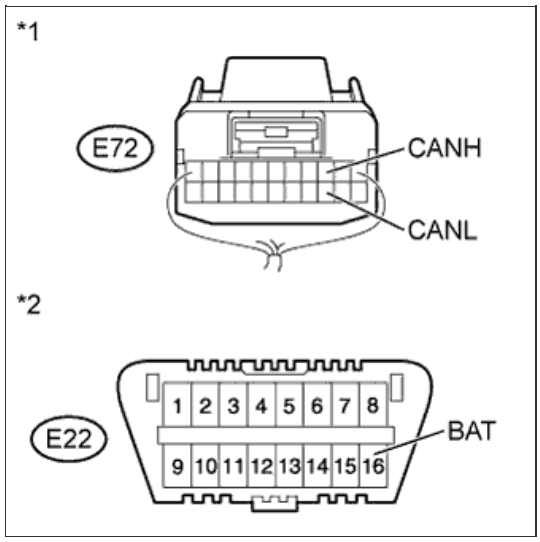
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 9

OK

## 7.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

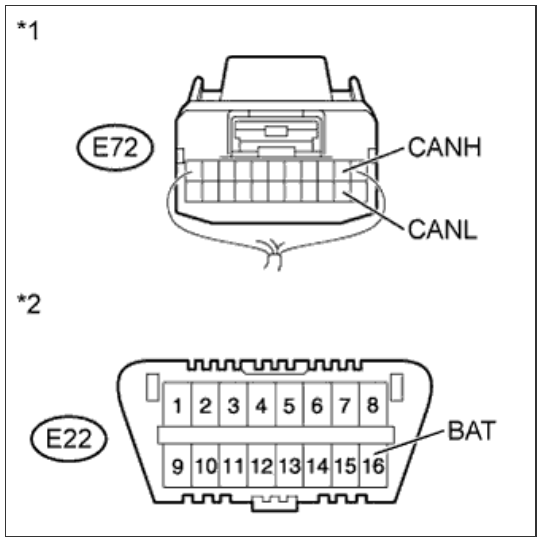
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 10

OK

## REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR

## 8.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

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

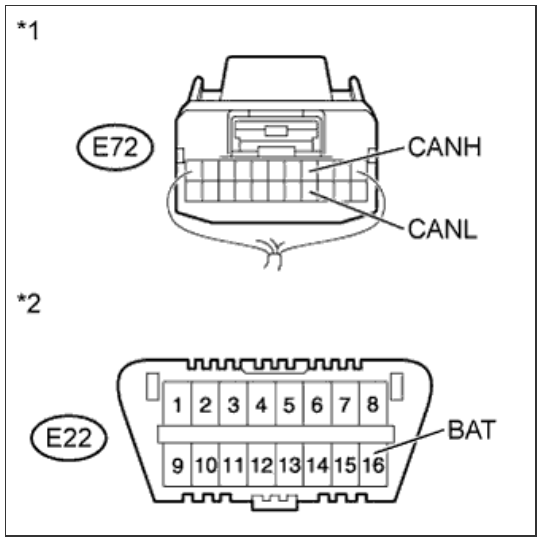
**Standard Resistance:**

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

| | | |
|---|---|---|
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 9.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (AFS ECU)

a. Disconnect the E91 AFS ECU (headlight swivel ECU) connector.

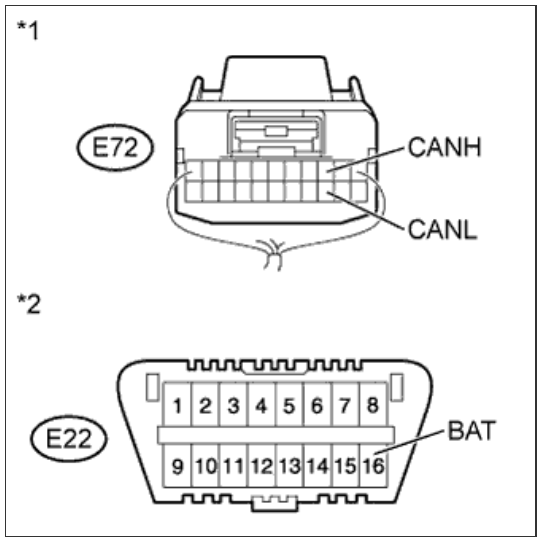
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (CANH, CANL)

OK

REPLACE AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (Click here)

## 10.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (ECM)

a. Disconnect the A38 ECM connector.

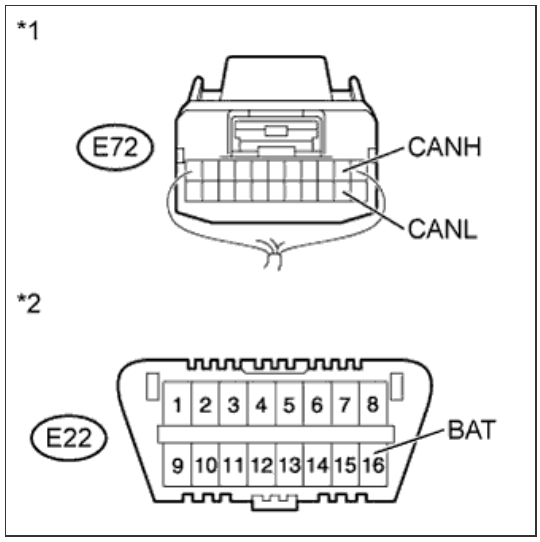
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

OK

REPLACE ECM (Click here)

**11.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**

a. Disconnect the E69 No. 2 junction connector connector.

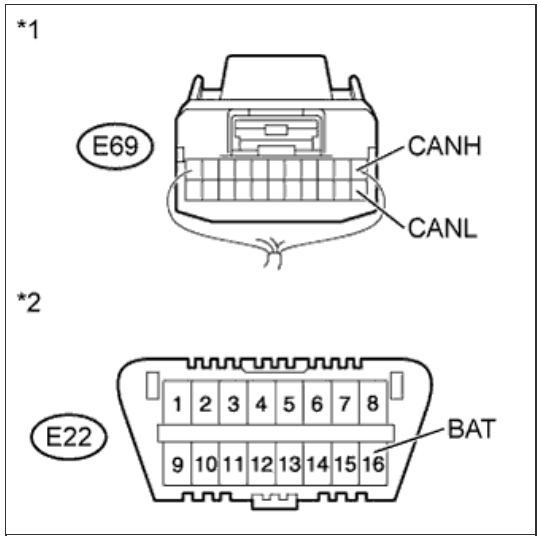
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

**12.CONNECT CONNECTOR**

a. Reconnect the E72 No. 1 junction connector connector.

NEXT

**13.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR SIDE)**

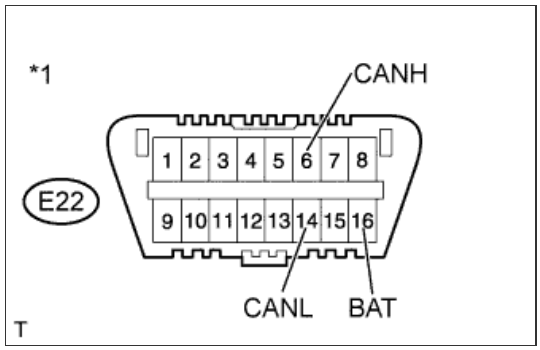
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 20

OK

## 14.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - DISPLAY AND NAVIGATION MODULE DISPLAY)

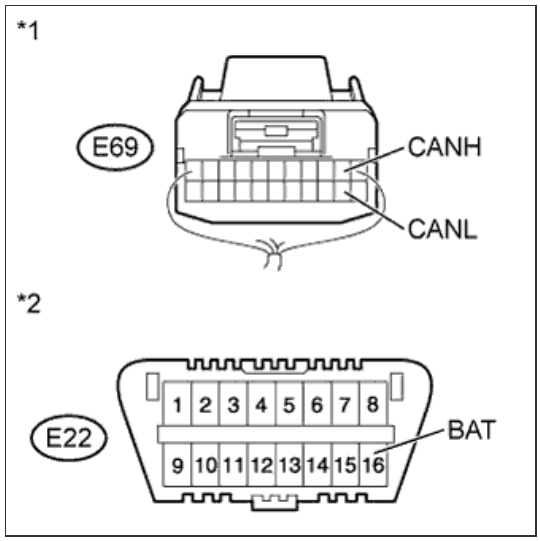
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 17

OK

## 15.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

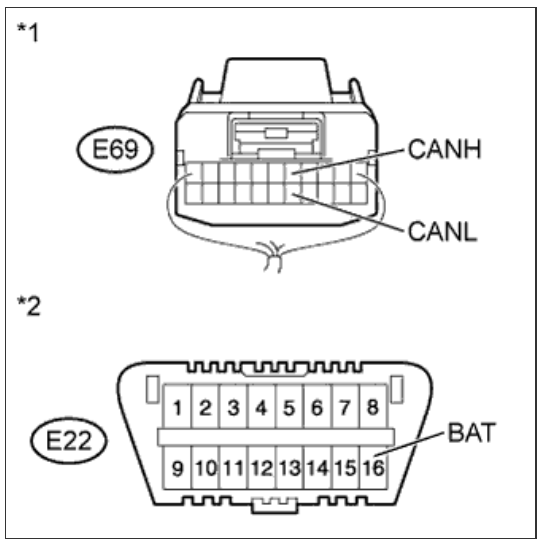
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |



NG → Go to step 18

OK

**16.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)**

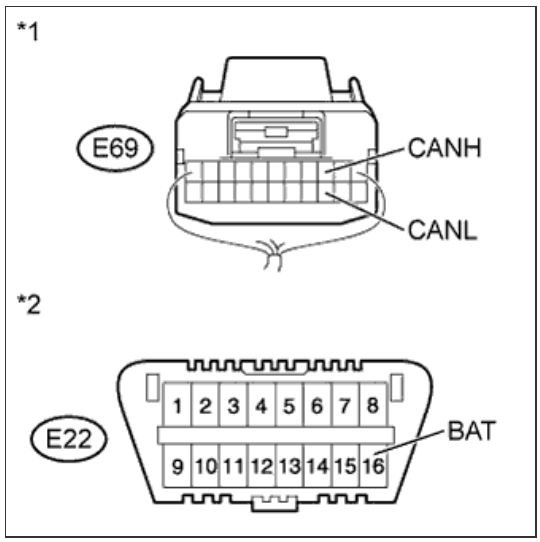
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 19

OK

**REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR**

**17.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DISPLAY AND NAVIGATION MODULE DISPLAY)**

a. Disconnect the F58 display and navigation module display connector.

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

**Standard Resistance:**

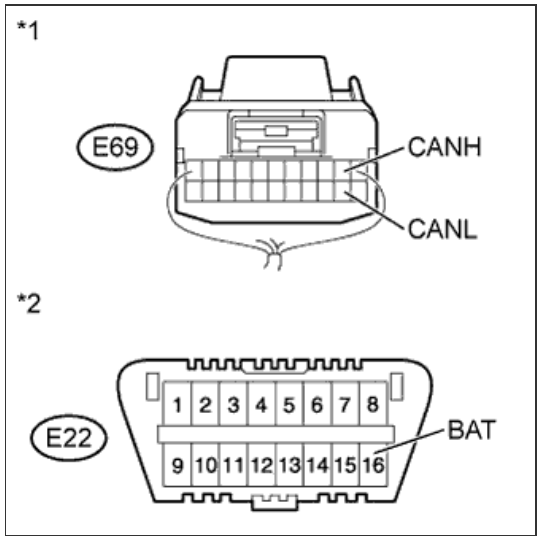
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |
| NG | C |




B → REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

C

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DISPLAY AND NAVIGATION MODULE DISPLAY (CANH, CANL)

A

REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

18.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

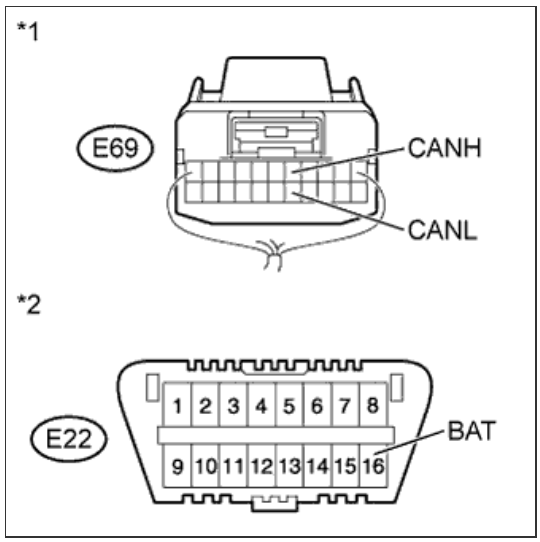
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

19.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

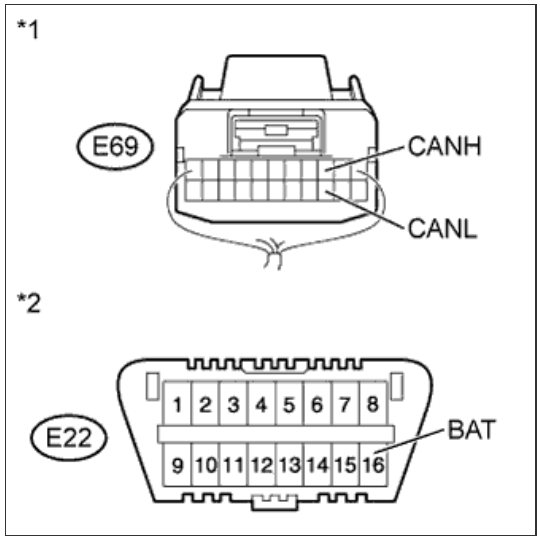
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

20.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector connector.

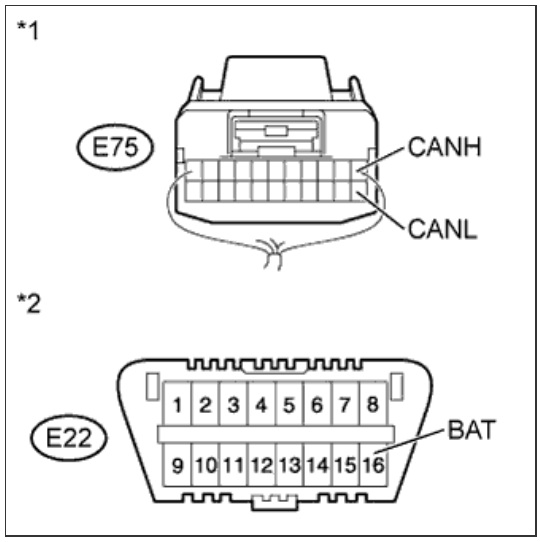
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

## 21.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

## 22.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - MAIN BODY ECU)

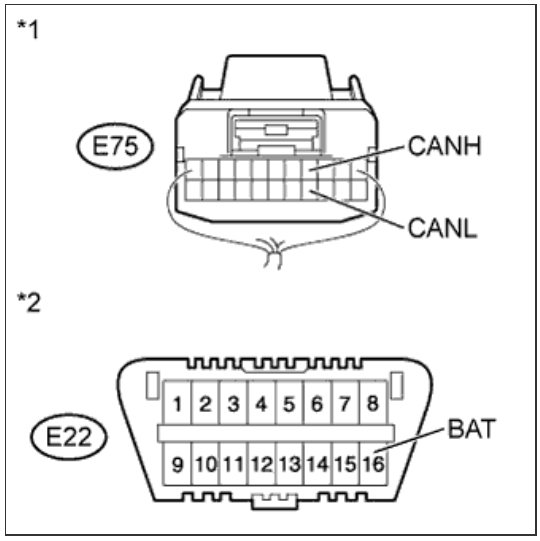
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 24

OK

## 23.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

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

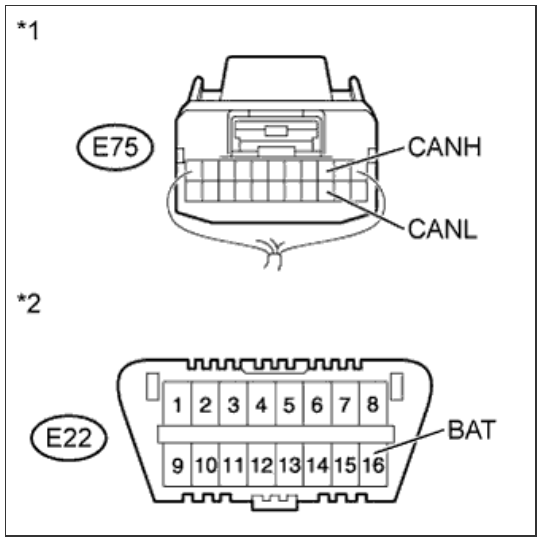
**Standard Resistance:**

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

| | | Condition |
|---|---|---|
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 25

OK

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

## 24.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU connector.

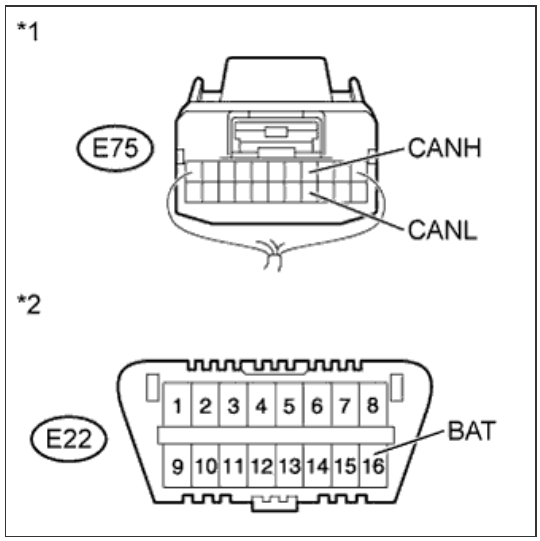
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (CANH, CANL)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 25.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (COMBINATION METER)

a. Disconnect the E77 combination meter connector.

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

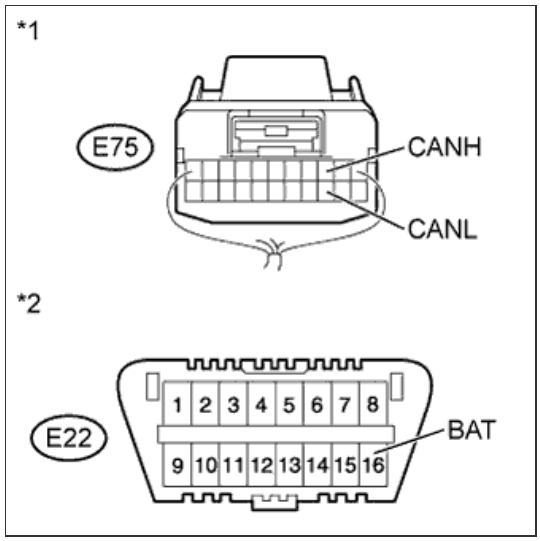
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

| | | |
|---|---|---|
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK →

REPLACE COMBINATION METER ASSEMBLY (Click here)

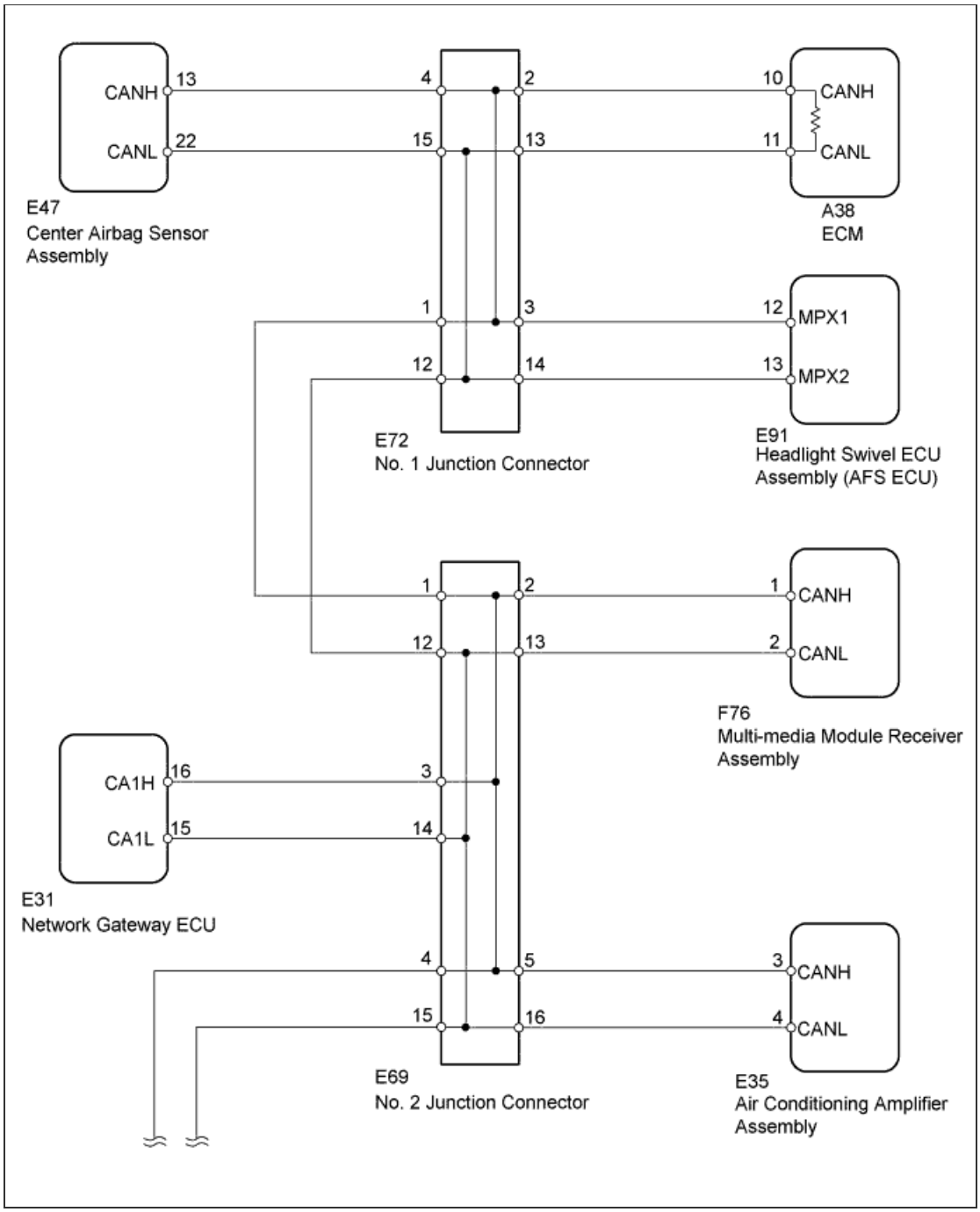
**for Preparation** Click here

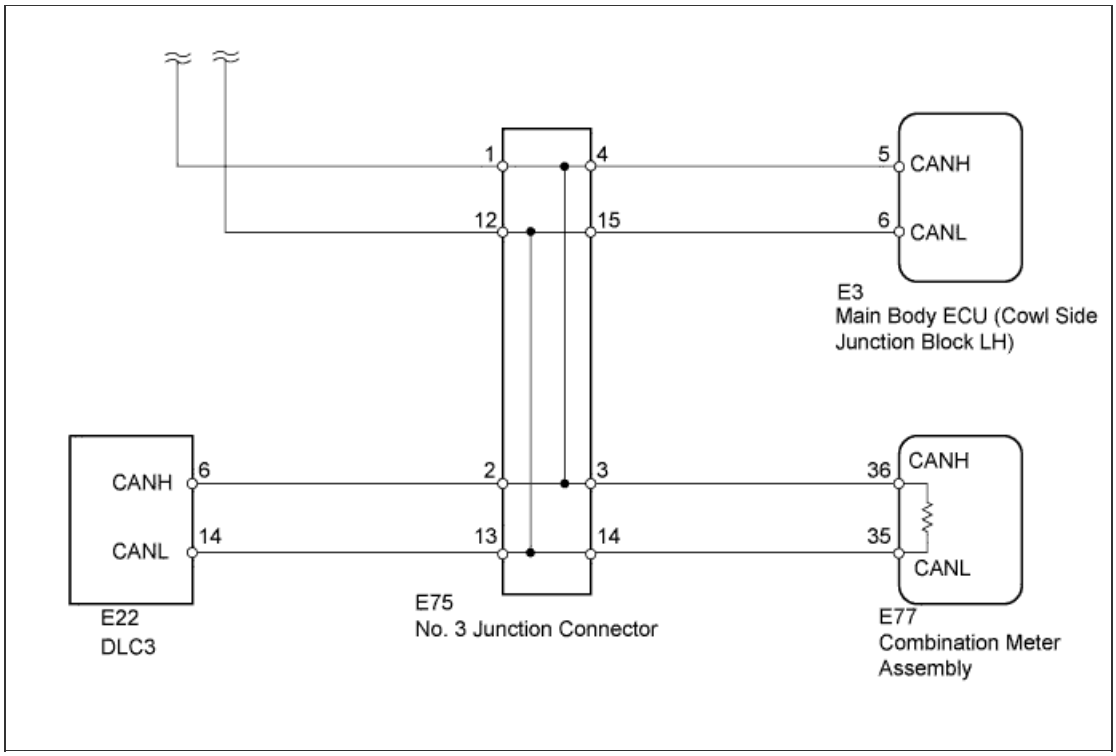
## DESCRIPTION

There may be a short circuit between the CAN bus line and +B when there is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3. | • Short to +B<br>• ECM<br>• Center airbag sensor assembly<br>• Headlight swivel ECU assembly (AFS ECU)<br>• Multi-media module receiver assembly<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM


CANH
13
CANL
22
E47
Center Airbag Sensor
Assembly
4
2
15
13
10
CANH
11
CANL
A38
ECM
1
3
12
14
E72
No. 1 Junction Connector
12
MPX1
13
MPX2
E91
Headlight Swivel ECU
Assembly (AFS ECU)
1
2
12
13
1
CANH
2
CANL
F76
Multi-media Module Receiver
Assembly
CA1H
16
CA1L
15
E31
Network Gateway ECU
3
14
4
5
15
16
3
CANH
4
CANL
E69
No. 2 Junction Connector
E35
Air Conditioning Amplifier
Assembly




## INSPECTION PROCEDURE

**NOTICE:**

The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the Precaution in the SRS (Click here).

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

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

NEXT

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

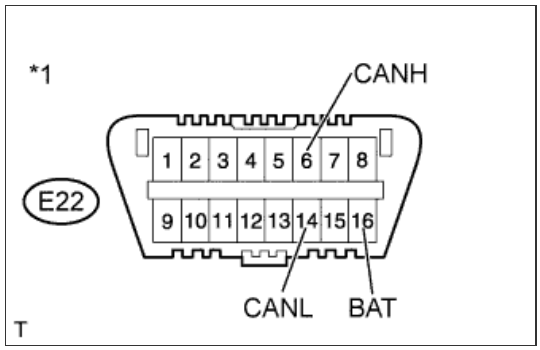
### 3.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector.

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

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

## 4.CONNECT CONNECTOR

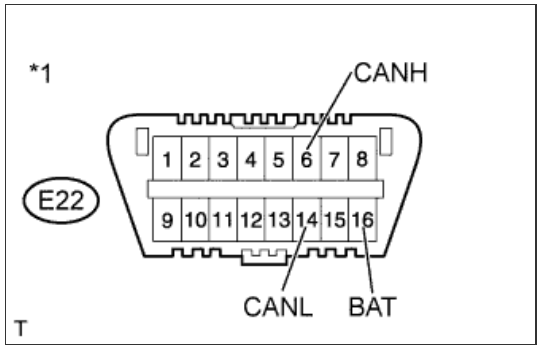
a. Reconnect the E75 No. 3 junction connector.

NEXT

## 5.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector.

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




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → Go to step 12

OK

## 6.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

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

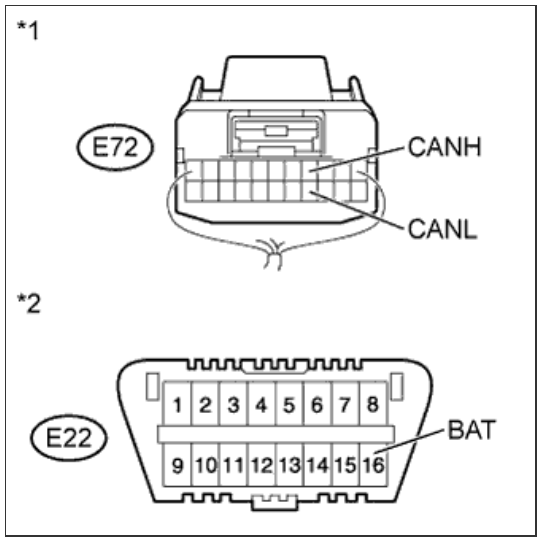
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector |

| | |
|---|---|
| | (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 9

OK

## 7.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - AFS ECU)

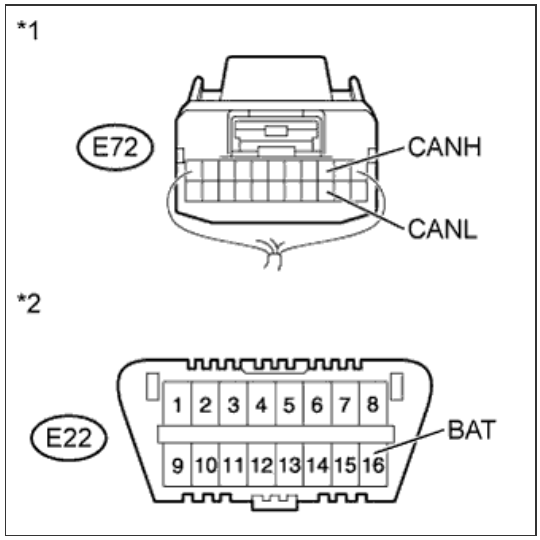
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 10

OK

## 8.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

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

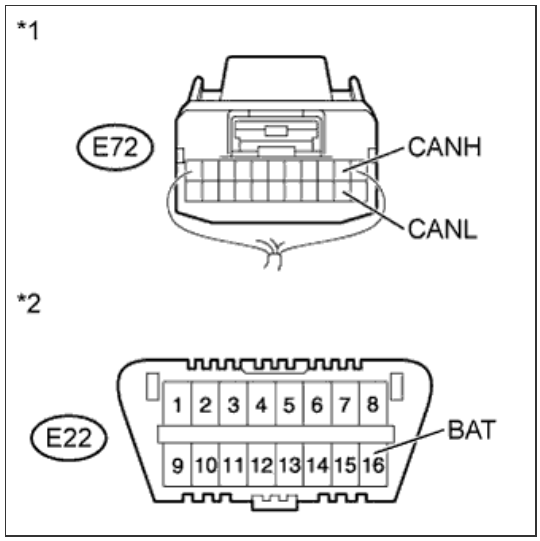
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |

| | |
|---|---|
| *2 | DLC3 |




NG → Go to step 11

OK

REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR

## 9.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector (Click here).

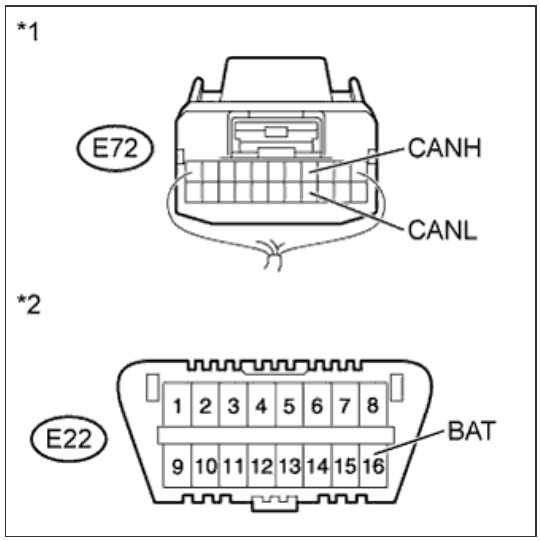
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 10.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (AFS ECU)

a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

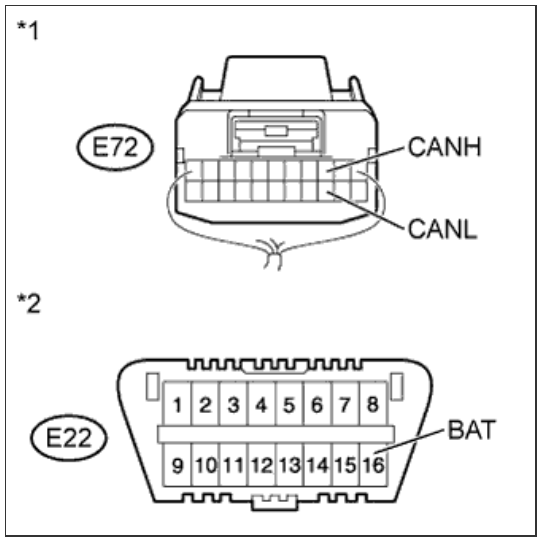
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (CANH, CANL)

OK

REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) (Click here)

**11.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (ECM)**

a. Disconnect the A38 ECM connector.

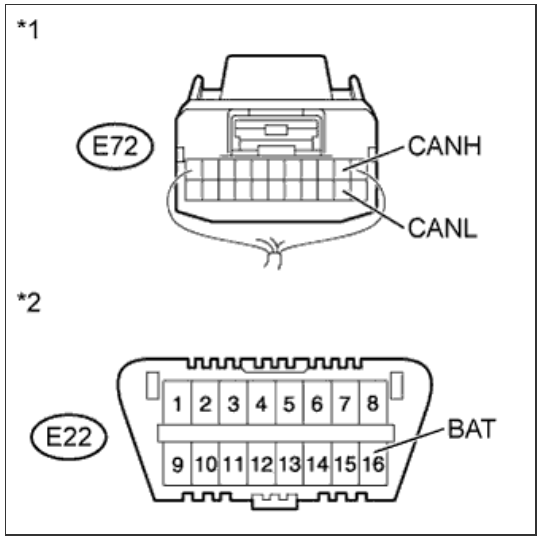
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

OK

REPLACE ECM (Click here)

**12.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NO. 1 JUNCTION CONNECTOR)**

a. Disconnect the E69 No. 2 junction connector.

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

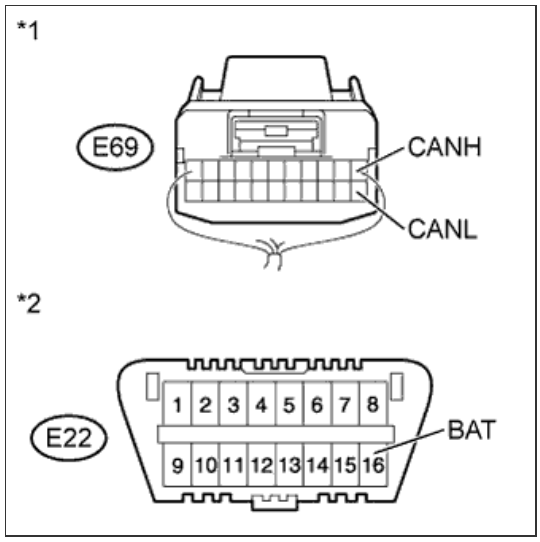
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-1 (CANH) - | Engine switch off | 6 kΩ or higher |

| | | |
|---|---|---|
| E22-16 (BAT) | | |
| E69-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 1 JUNCTION CONNECTOR)

OK

## 13.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector.

NEXT

## 14.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR SIDE)

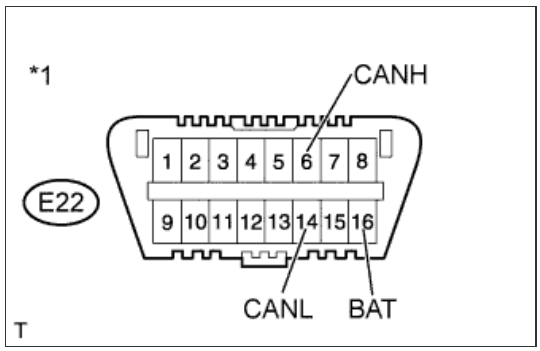
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 21

OK

## 15.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

a. Measure the resistance according to the value(s) in the table below.

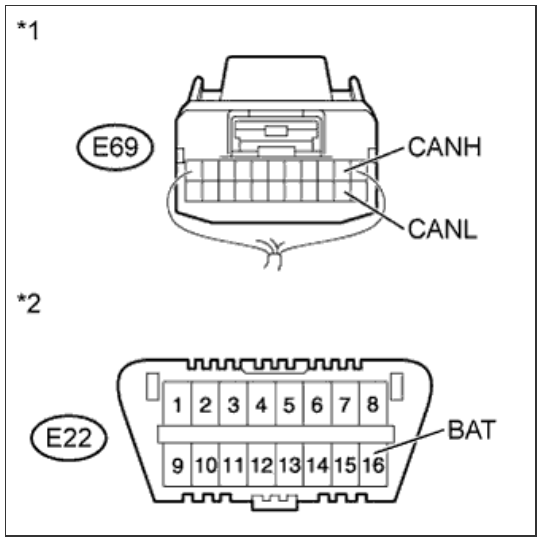
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-13 (CANL) - | Engine switch off | 6 kΩ or higher |

E22-16 (BAT)

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 18

OK

## 16.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

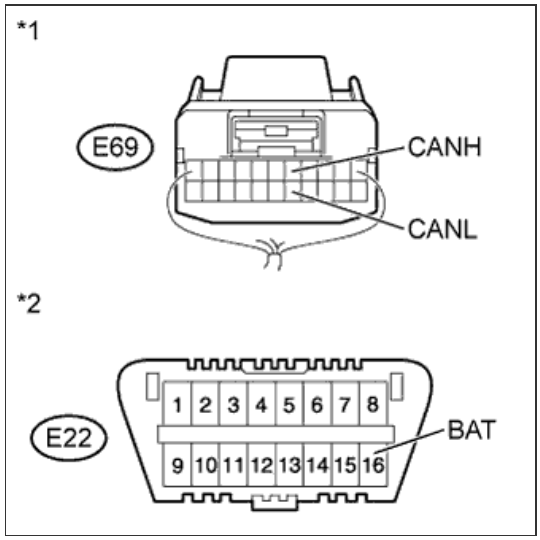
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 19

OK

## 17.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

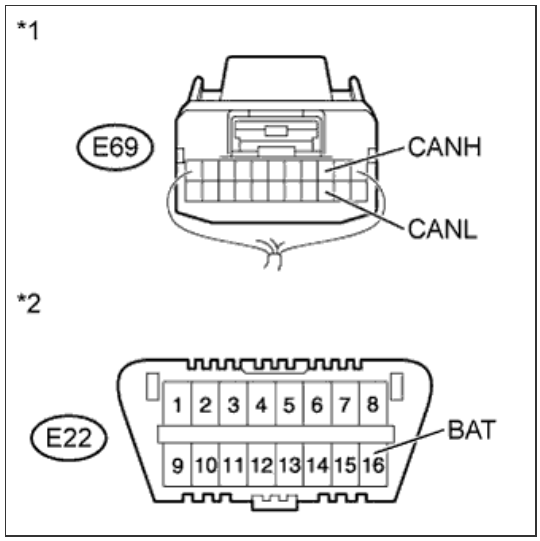
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

| | |
|---|---|
| *2 | DLC3 |




NG → Go to step 20

OK

REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR

## 18.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

a. Disconnect the F76 multi-media module receiver assembly connector.

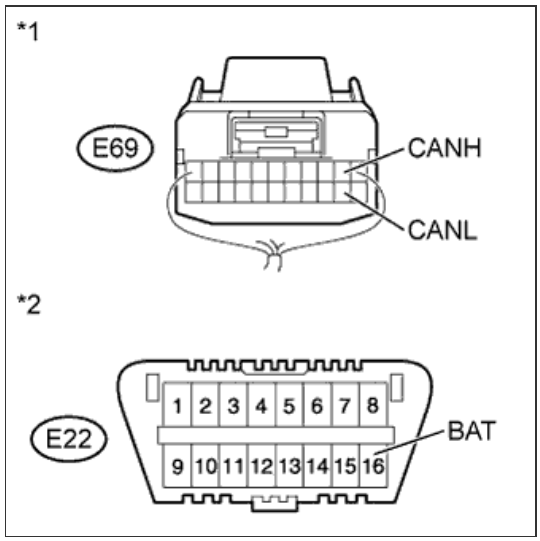
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTI-MEDIA MODULE RECEIVER ASSEMBLY (CANH, CANL)

OK

REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

## 19.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

b. Measure the resistance according to the value(s) in the table below.

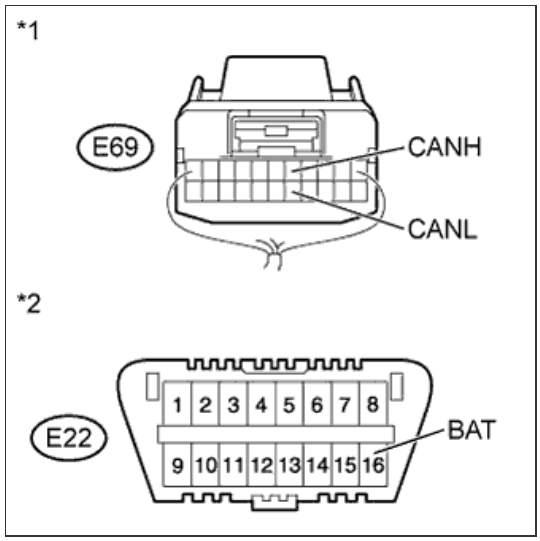
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-16 (CANL) - | | |

| | | |
|---|---|---|
| E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK →

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 20.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

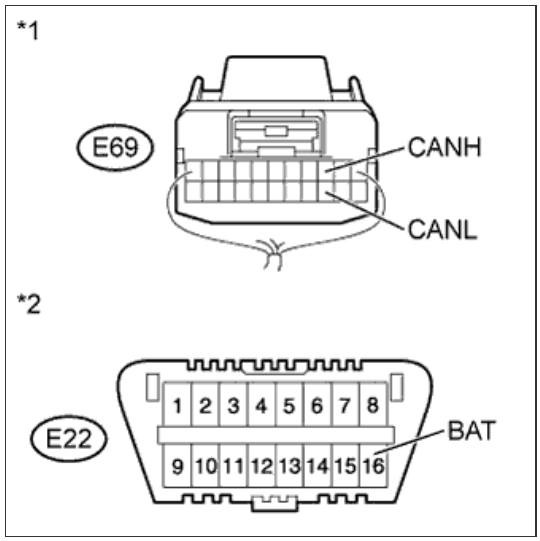
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK →

REPLACE NETWORK GATEWAY ECU (Click here)

## 21.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector.

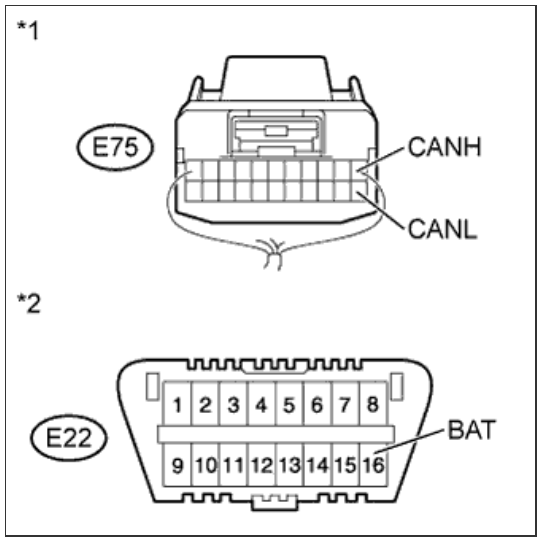
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

## 22.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector.

NEXT

## 23.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - MAIN BODY ECU)

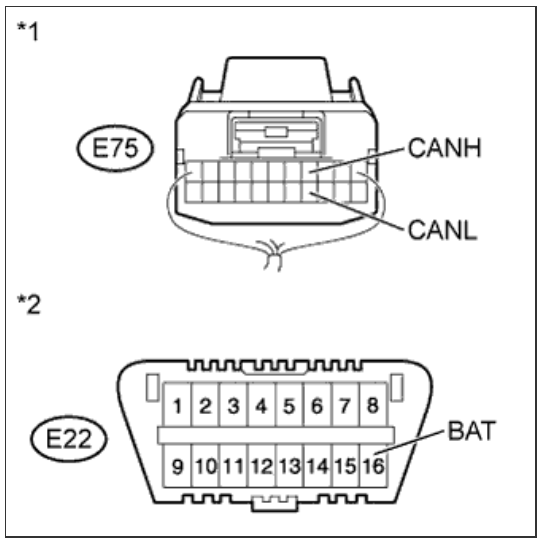
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 25

OK

## 24.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

a. Measure the resistance according to the value(s) in the table below.

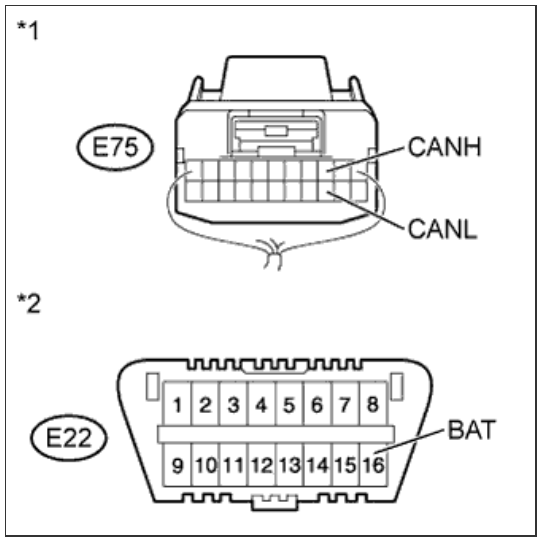
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified |
|---|---|---|

| | | Condition |
|---|---|---|
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 26

OK

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

25.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

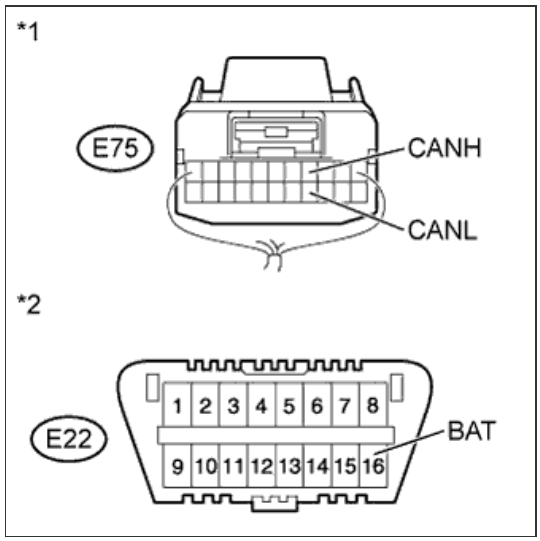
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (CANH, CANL)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

26.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (COMBINATION METER)

a. Disconnect the E77 combination meter connector.

b. Measure the resistance according to the value(s) in the table below.

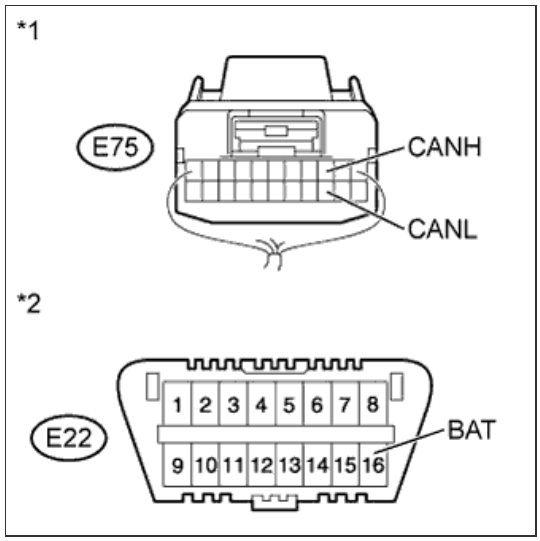
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-14 (CANL) - | | |

| | | |
|---|---|---|
| E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK → REPLACE COMBINATION METER ASSEMBLY (Click here)

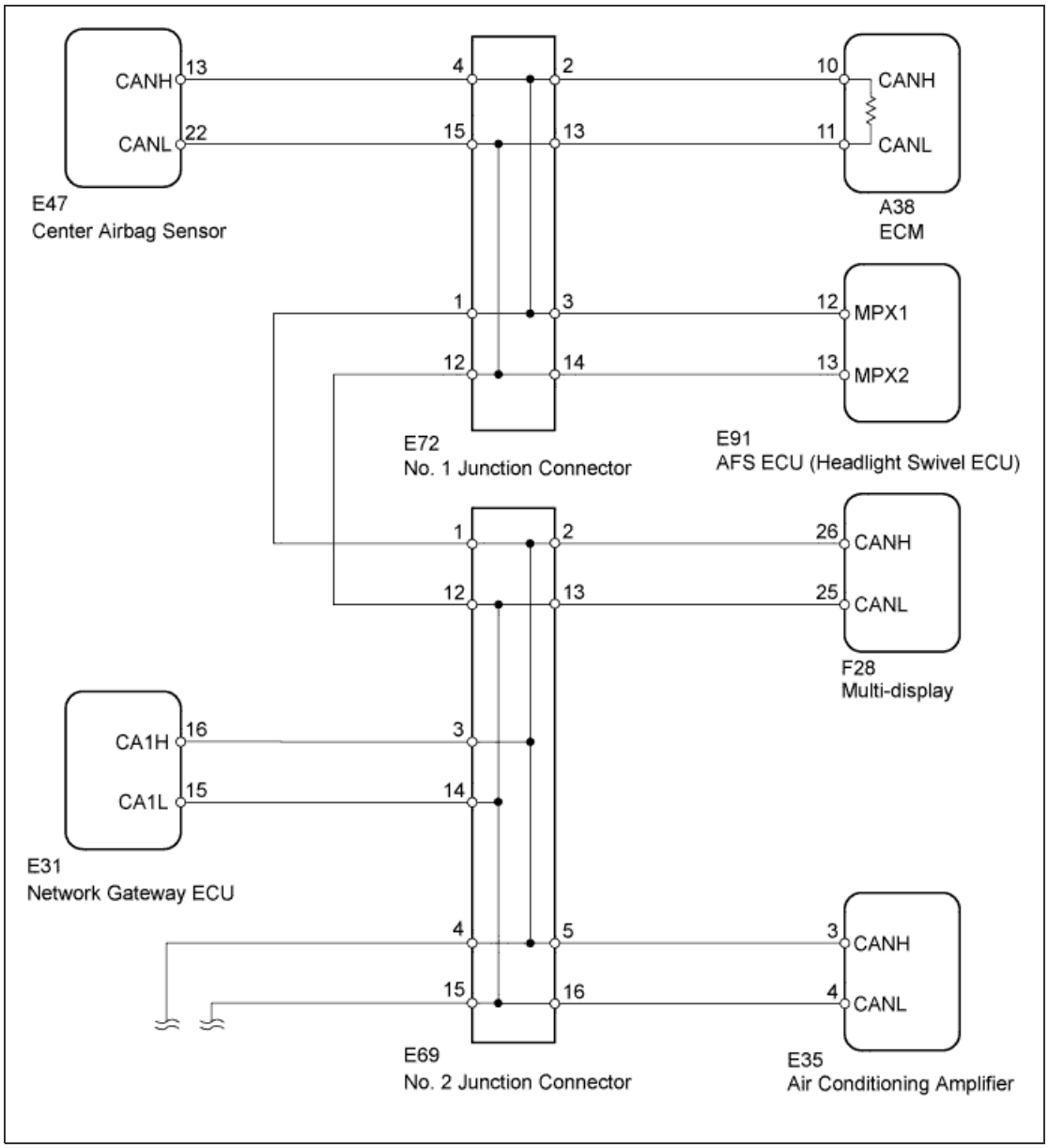
**for Preparation** Click here

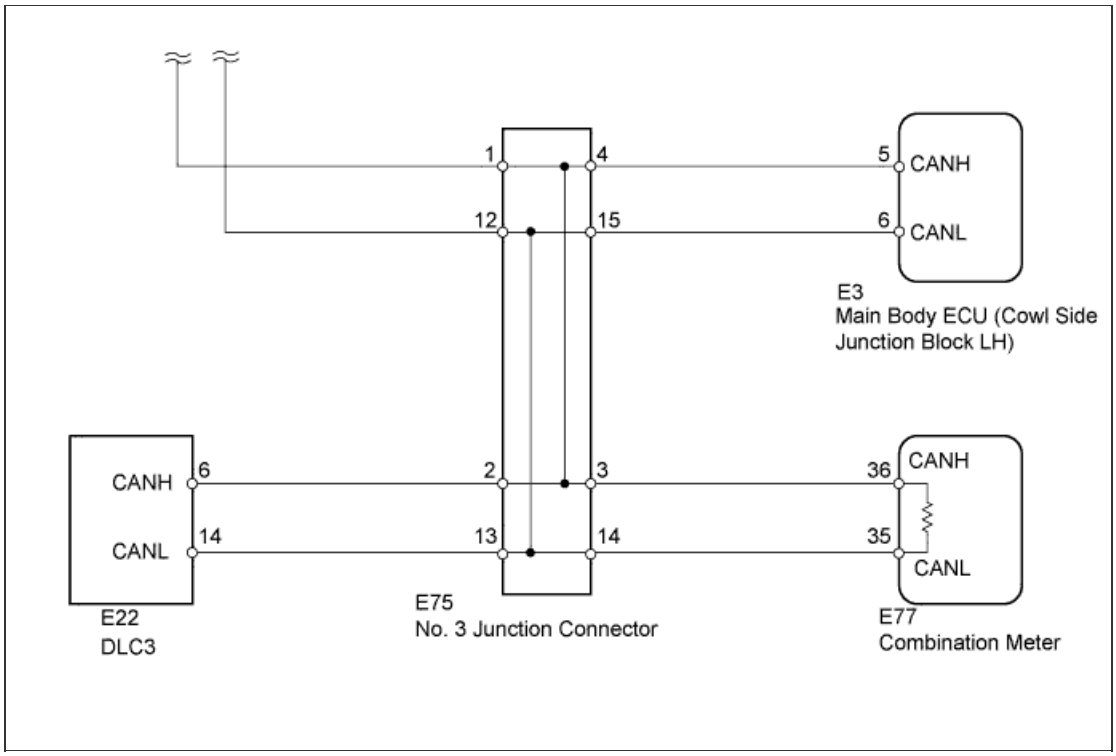
## DESCRIPTION

There may be a short circuit between the CAN bus line and GND when there is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3. | • Short to GND<br>• ECM<br>• Center airbag sensor assembly<br>• AFS ECU (headlight swivel ECU assembly)<br>• Multi-display<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

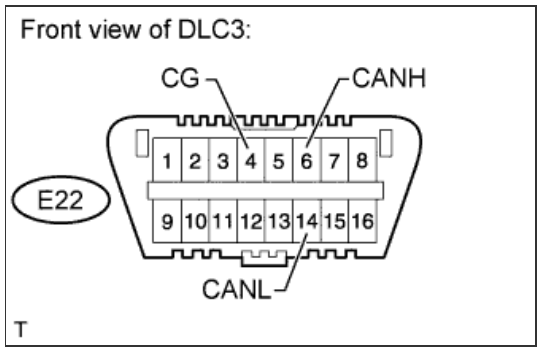
### 2.CHECK FOR SHORT TO GND IN CAN BUS WIRE (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




**NG** → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO

DLC3 (CANH, CANL)

OK

3.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

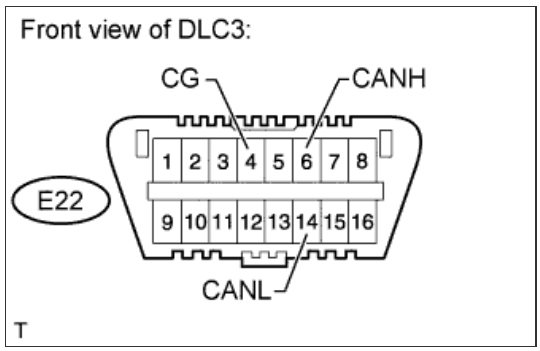
4.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Result |
|---|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 11

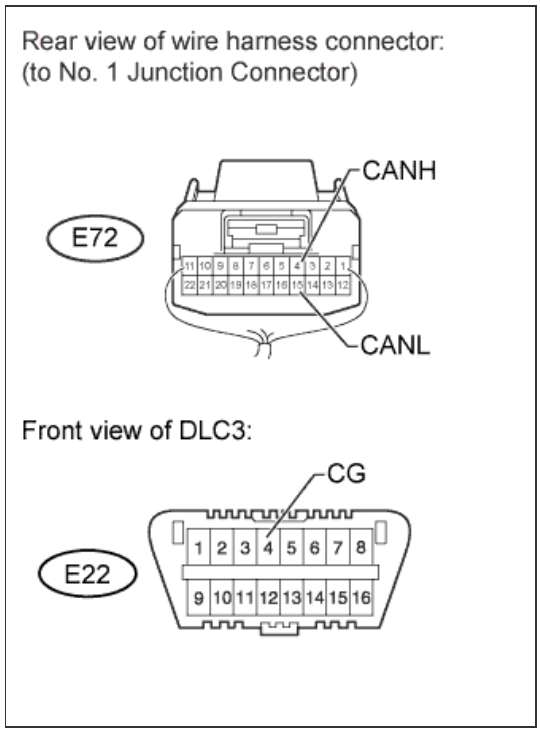
OK

5.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

a. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |



NG → Go to step 8

OK

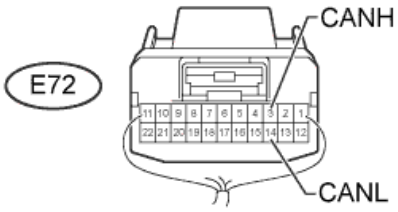
## 6.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION BLOCK - AFS ECU)

a. Measure the resistance according to the value(s) in the table below.

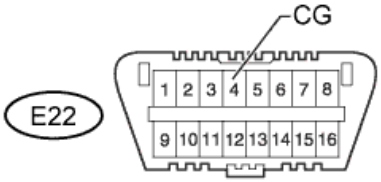
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:




NG → Go to step 9

OK

## 7.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

a. Measure the resistance according to the value(s) in the table below.

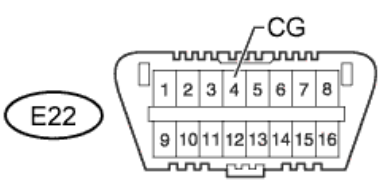
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:



NG → Go to step 10

OK

REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR

## 8.CHECK FOR SHORT TO GND IN CAN BUS WIRE (CENTER AIRBAG SENSOR)

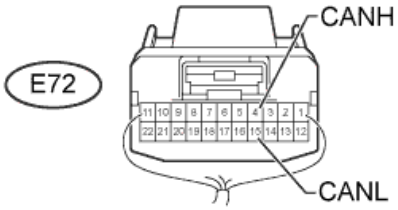
a. Disconnect the E47 center airbag sensor connector.

b. Measure the resistance according to the value(s) in the table below.

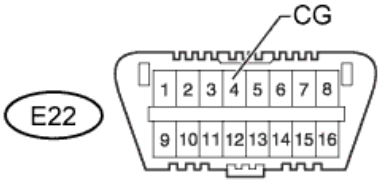
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 9.CHECK FOR SHORT TO GND IN CAN BUS WIRE (AFS ECU)

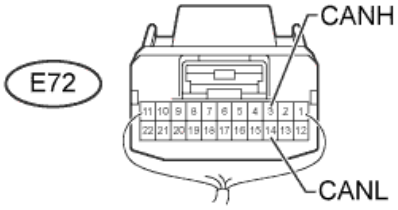
a. Disconnect the E91 AFS ECU (headlight swivel ECU) connector.

b. Measure the resistance according to the value(s) in the table below.

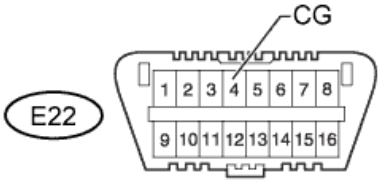
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:



NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (Click here)

## 10.CHECK FOR SHORT TO GND IN CAN BUS WIRE (ECM)

a. Disconnect the A38 ECM connector.

b. Measure the resistance according to the value(s) in the table below.

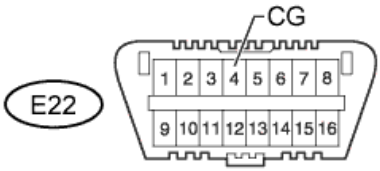
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO ECM (CANH, CANL)

OK

REPLACE ECM (Click here)

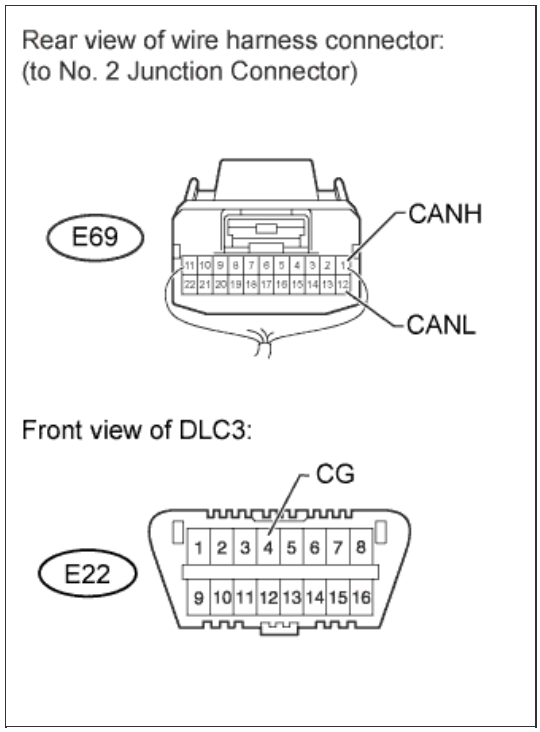
## 11.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-12 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-12 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

### 12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector connector.

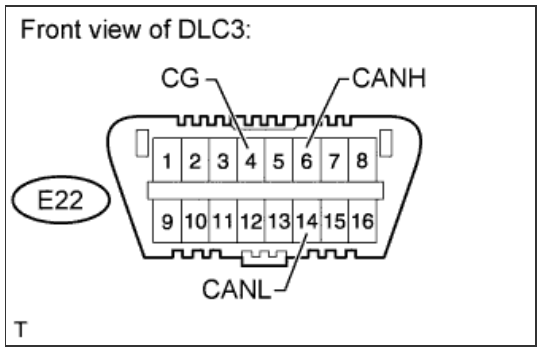
NEXT

### 13.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR SIDE)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 20

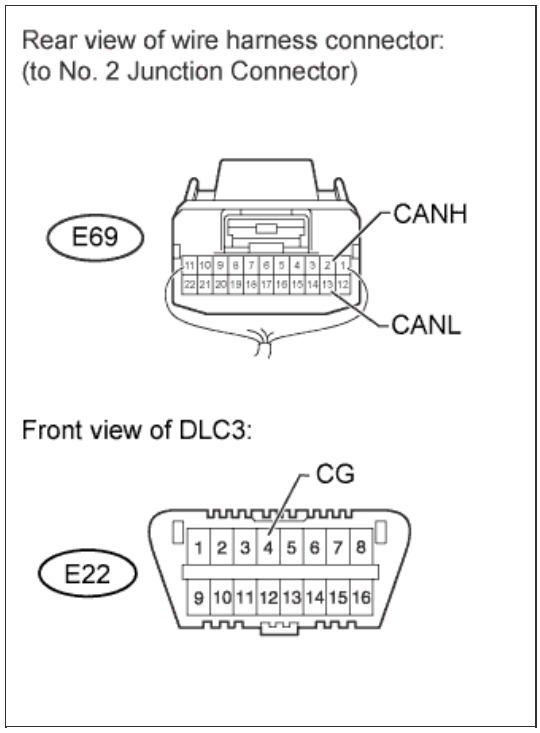
OK

### 14.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - MULTI-DISPLAY)

a. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 17

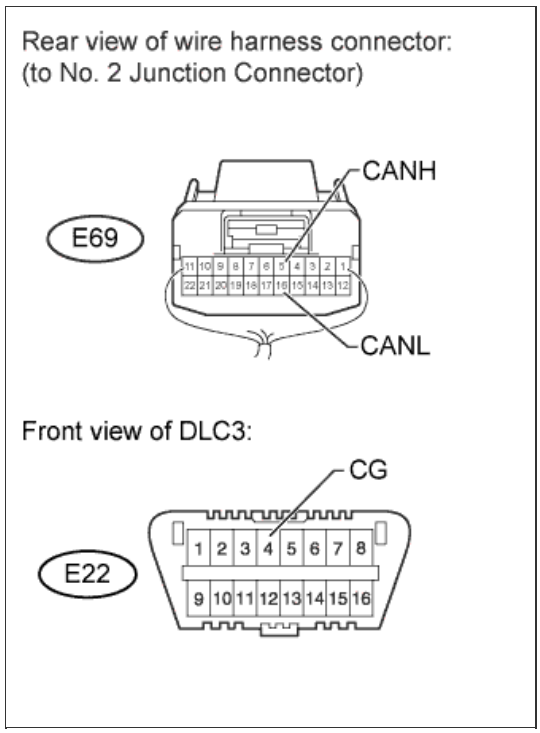
OK

15.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

a. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 18

OK

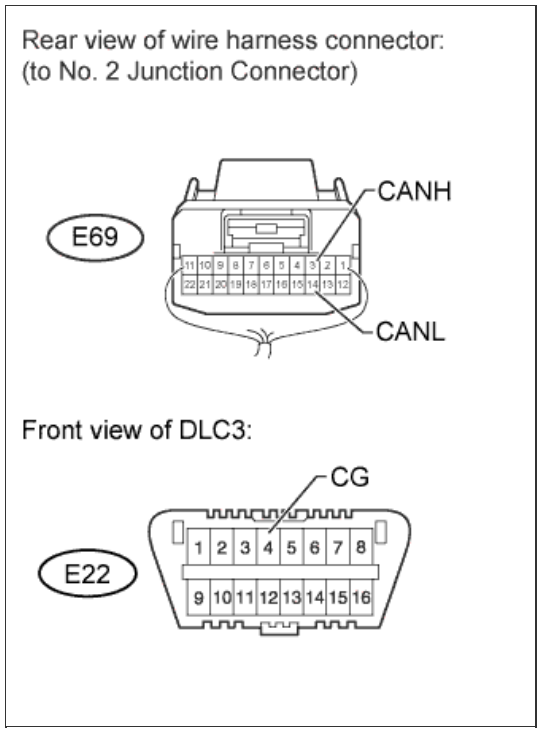
16.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 19

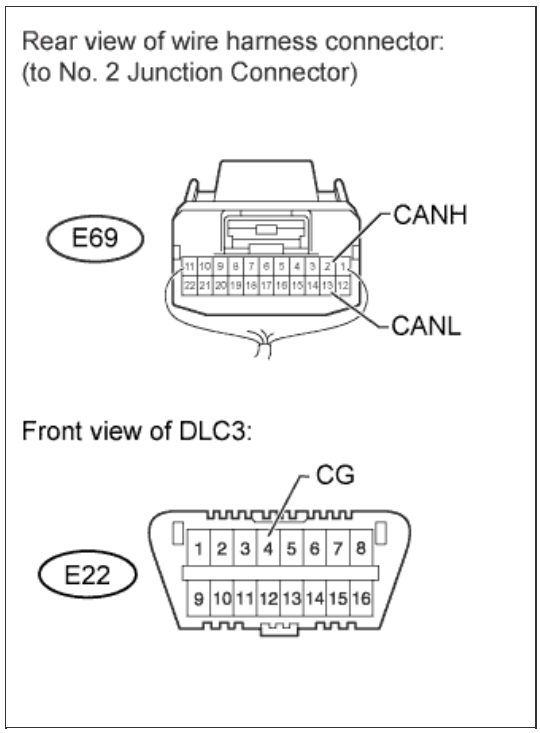
OK

REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR

## 17.CHECK FOR SHORT TO GND IN CAN BUS WIRE (MULTI-DISPLAY)

a. Disconnect the F28 multi-display connector.

b. Measure the resistance according to the value(s) in the table below.




**Result**

| Tester Connection | Switch Condition | Measured Resistance | Result | Type | Proceed tp |
|---|---|---|---|---|---|
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK | w/ Navigation System | A |
| | | | | w/o Navigation System | B |
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK | w/ Navigation System | A |
| | | | | w/o Navigation System | B |
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG | - | C |

| | | | | | |
|---|---|---|---|---|---|
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG | - | C |

B → REPLACE MULTI-DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTI-DISPLAY (CANH, CANL)

A

REPLACE MULTI-DISPLAY (Click here)

## 18.CHECK FOR SHORT TO GND IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER)

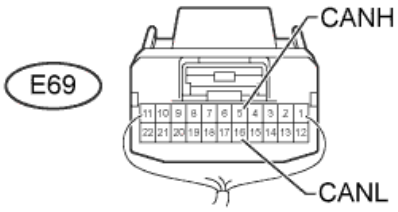
a. Disconnect the E35 air conditioning amplifier connector.

b. Measure the resistance according to the value(s) in the table below.

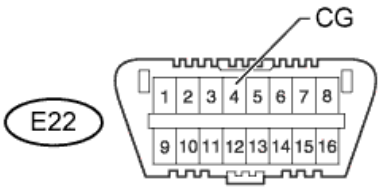
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 19.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NETWORK GATEWAY ECU)

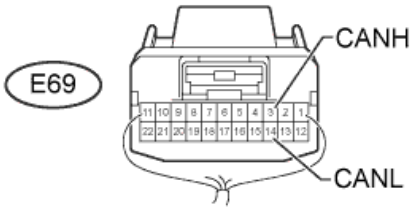
a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

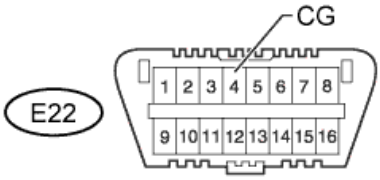
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## 20.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

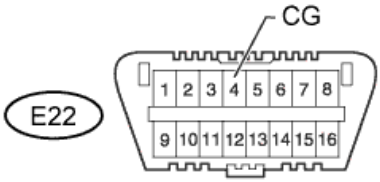
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-12 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E75-12 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

## 21.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

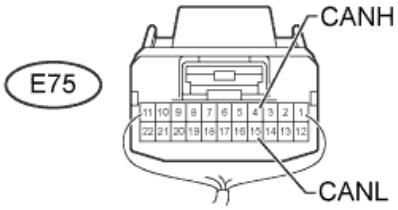
## 22.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - MAIN BODY)

a. Measure the resistance according to the value(s) in the table below.

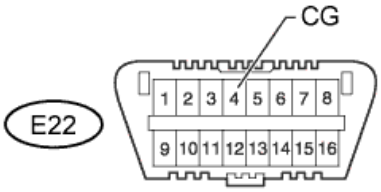
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E75-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:




NG → Go to step 24

OK

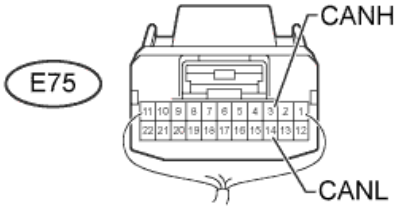
## 23.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

a. Measure the resistance according to the value(s) in the table below.

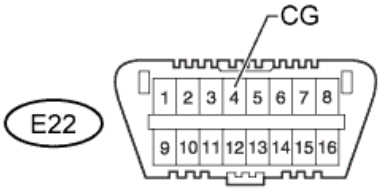
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:



NG → Go to step 25

OK

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

## 24.CHECK FOR SHORT TO GND IN CAN BUS WIRE (MAIN BODY ECU)

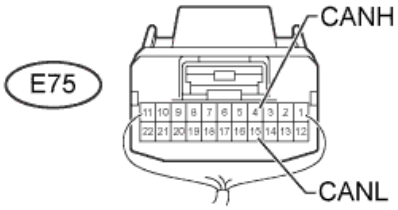
a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Measure the resistance according to the value(s) in the table below.

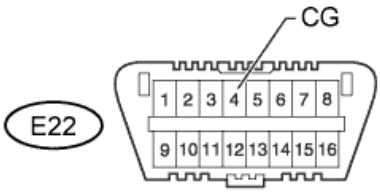
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E75-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (CANH, CANL)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 25.CHECK FOR SHORT TO GND IN CAN BUS WIRE (COMBINATION METER)

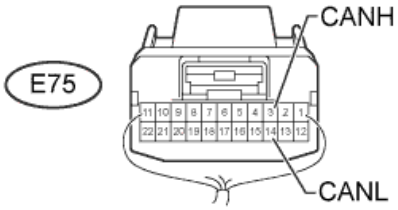
a. Disconnect the E77 combination meter connector.

b. Measure the resistance according to the value(s) in the table below.

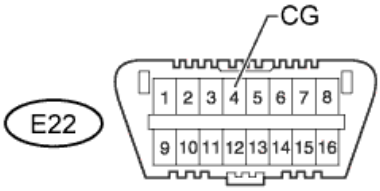
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK

REPLACE COMBINATION METER (Click here)

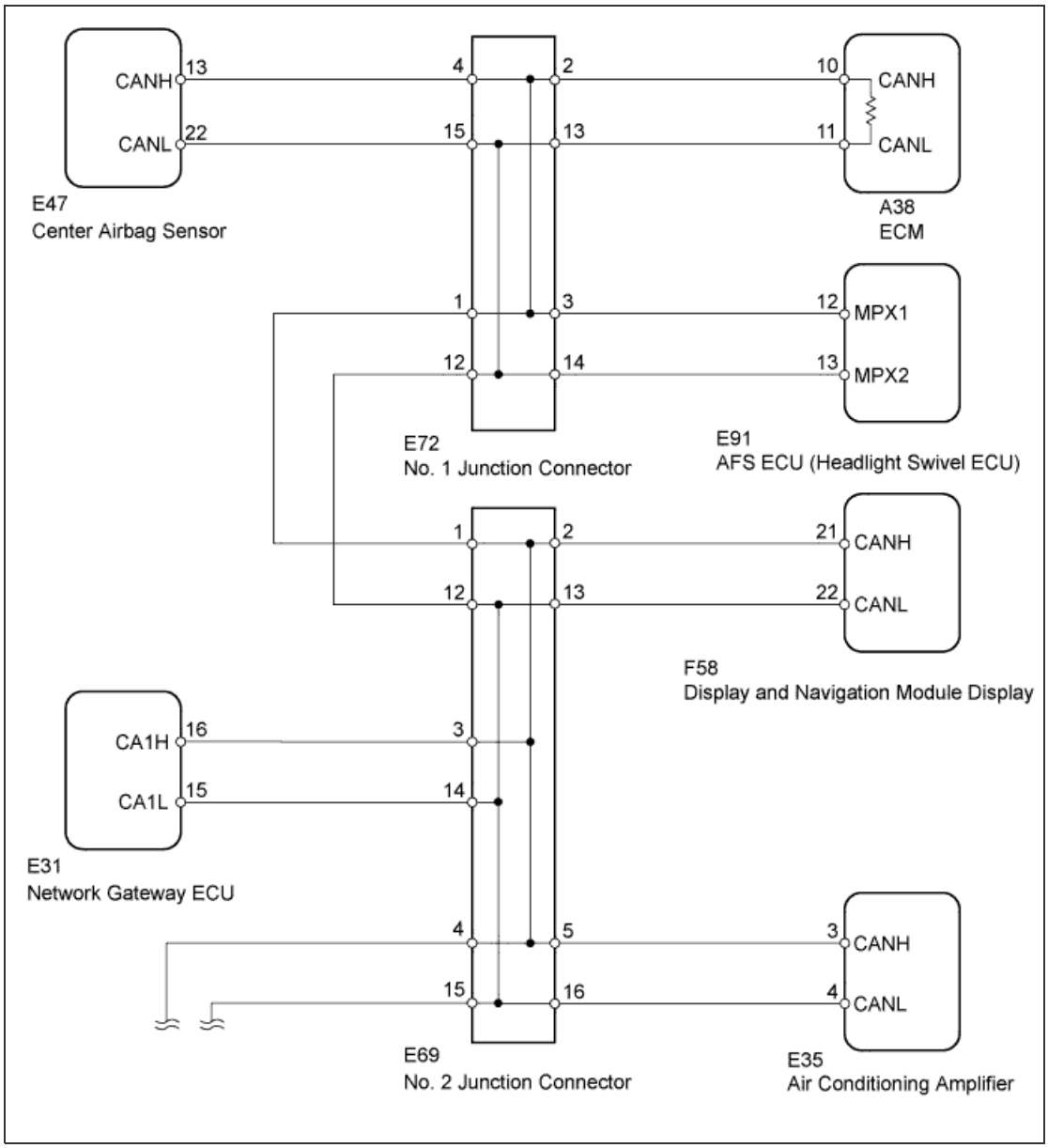
**for Preparation** Click here

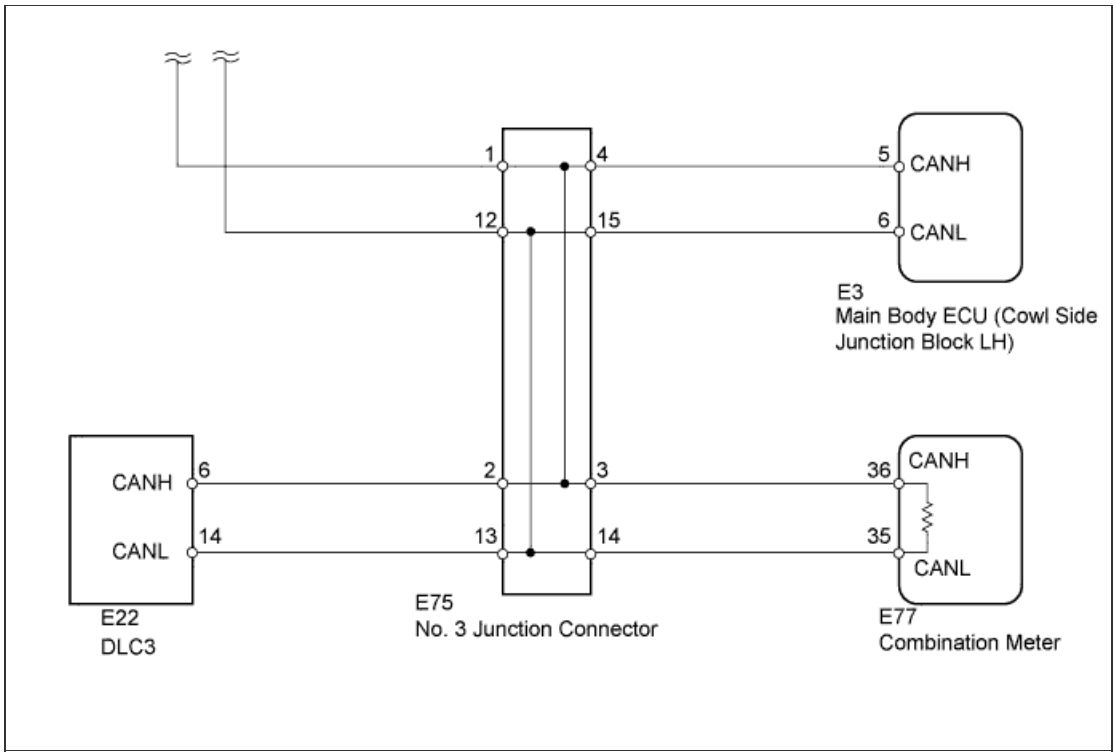
## DESCRIPTION

There may be a short circuit between the CAN bus line and GND when there is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3. | • Short to GND<br>• ECM<br>• Center airbag sensor assembly<br>• AFS ECU (headlight swivel ECU assembly)<br>• Display and navigation module display<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

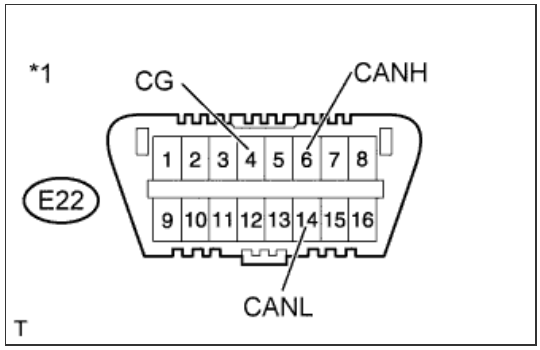
- **w/ Navigation System:**
  **After the engine switch is turned off, the HDD navigation system requires approximately 6 minutes to record various types of memory and settings. As a result, after turning the engine switch off, wait 6 minutes or more before disconnecting the cable from the negative (-) battery terminal.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

NEXT

### 2.CHECK FOR SHORT TO GND IN CAN BUS WIRE (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

### 3.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

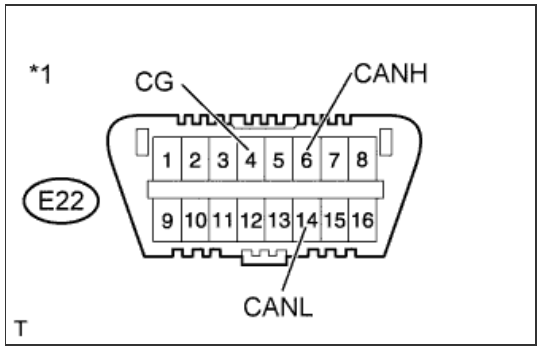
### 4.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → Go to step 11

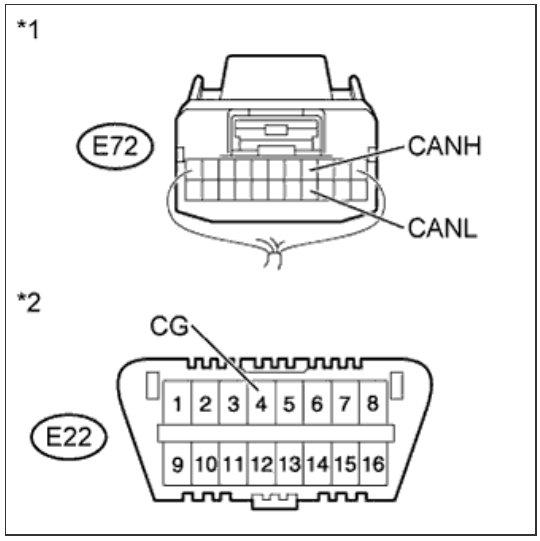
OK

### 5.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 8

OK

## 6.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION BLOCK - AFS ECU)

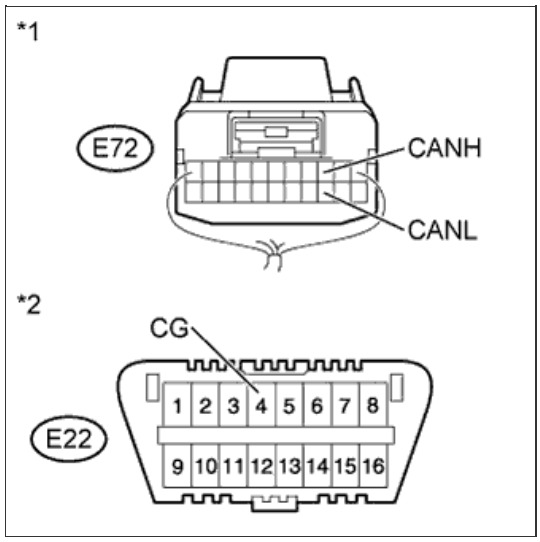
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 9

OK

## 7.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

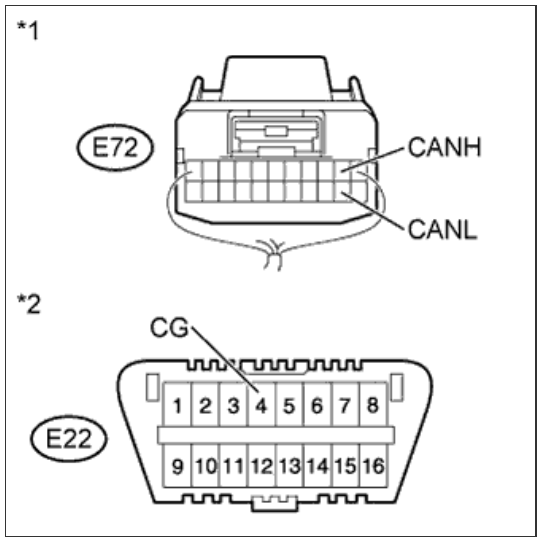
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 10

OK

## REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR

## 8.CHECK FOR SHORT TO GND IN CAN BUS WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

b. Measure the resistance according to the value(s) in the table below.

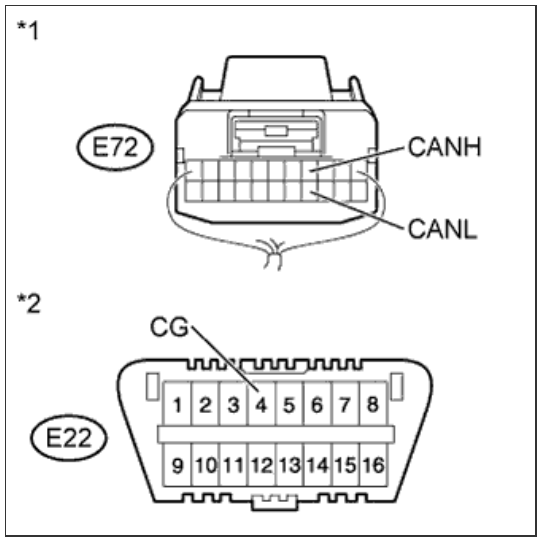
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| | | |

| | | |
|---|---|---|
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 9.CHECK FOR SHORT TO GND IN CAN BUS WIRE (AFS ECU)

a. Disconnect the E91 AFS ECU (headlight swivel ECU assembly) connector.

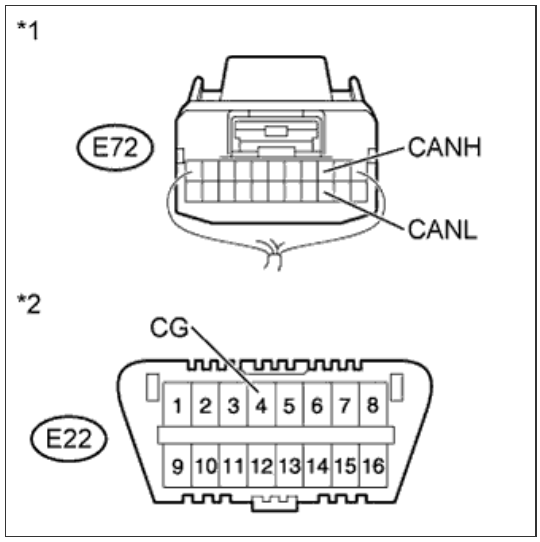
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (Click here)

## 10.CHECK FOR SHORT TO GND IN CAN BUS WIRE (ECM)

a. Disconnect the A38 ECM connector.

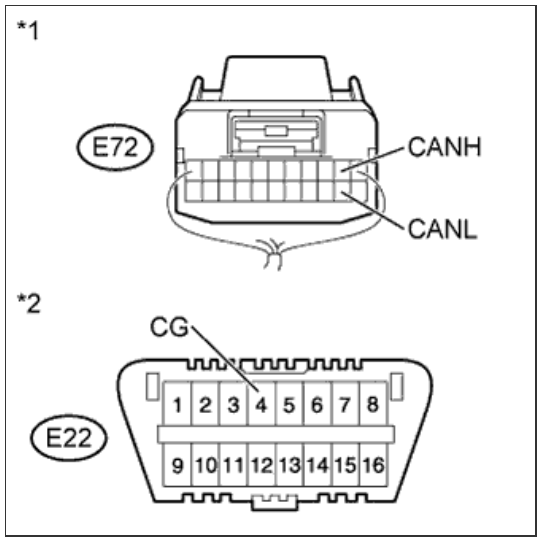
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

OK

REPLACE ECM (Click here)

**11.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**

a. Disconnect the E69 No. 2 junction connector connector.

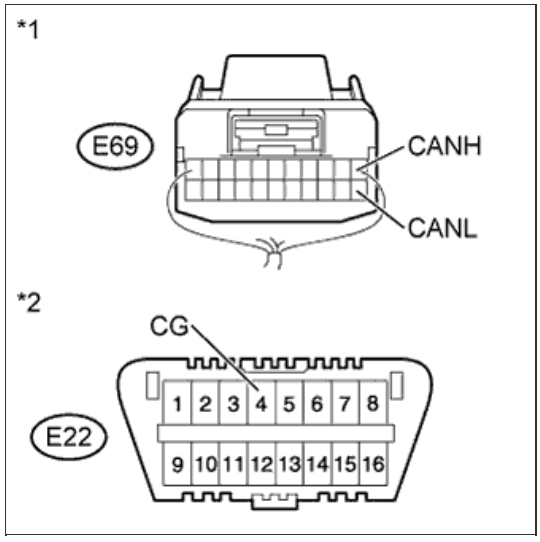
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

**12.CONNECT CONNECTOR**

a. Reconnect the E72 No. 1 junction connector connector.

NEXT

**13.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR SIDE)**

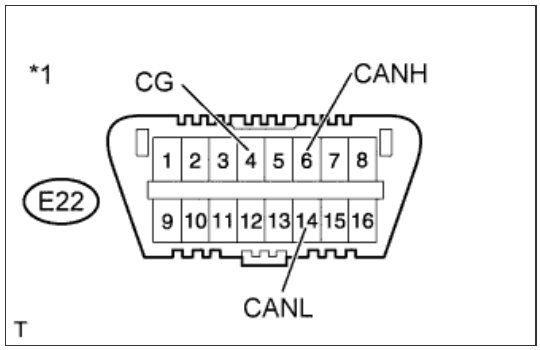
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 20

OK

## 14.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - DISPLAY AND NAVIGATION MODULE DISPLAY)

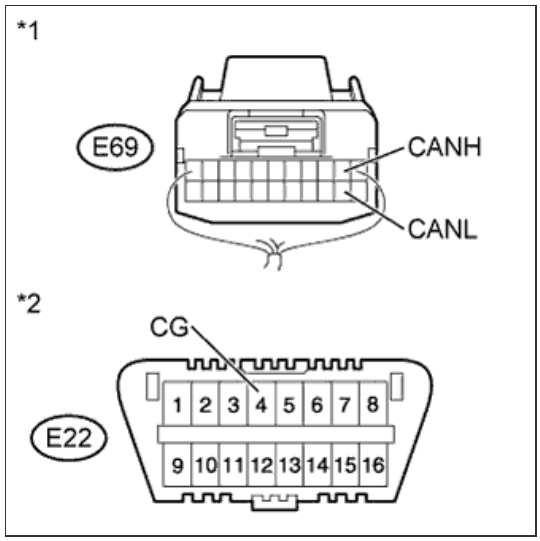
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 17

OK

## 15.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

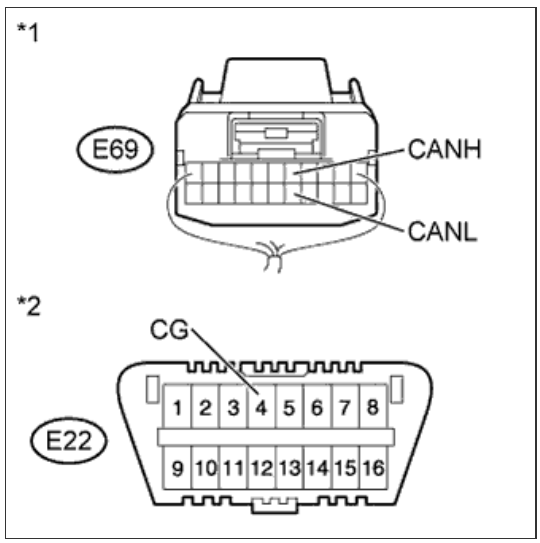
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |



NG → Go to step 18

OK

**16.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)**

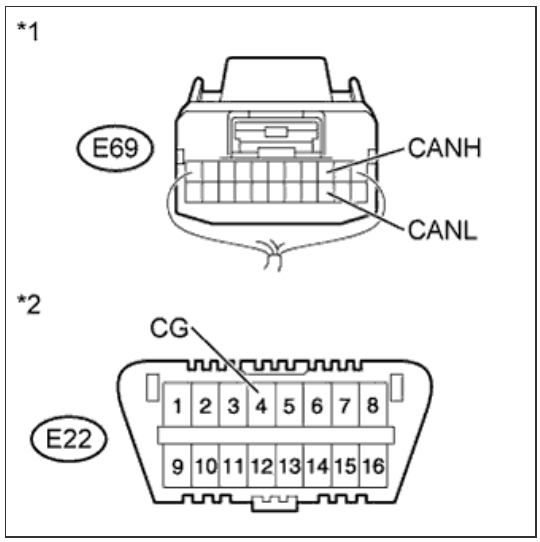
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 19

OK

**REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR**

**17.CHECK FOR SHORT TO GND IN CAN BUS WIRE (DISPLAY AND NAVIGATION MODULE DISPLAY)**

a. Disconnect the F58 display and navigation module display connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

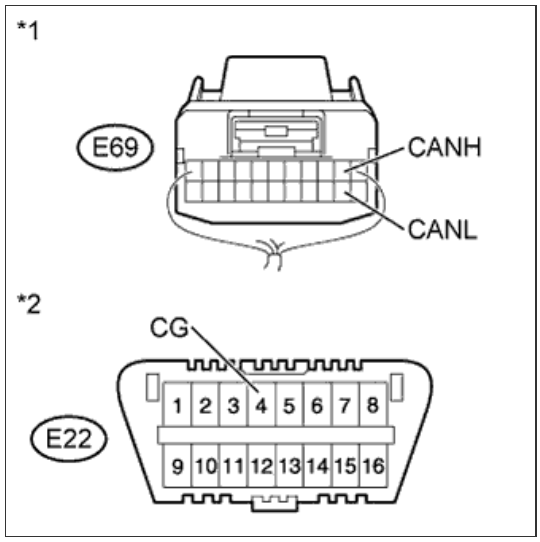
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |
| NG | C |




B → REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

C

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DISPLAY AND NAVIGATION MODULE DISPLAY (CANH, CANL)

A

REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

18.CHECK FOR SHORT TO GND IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

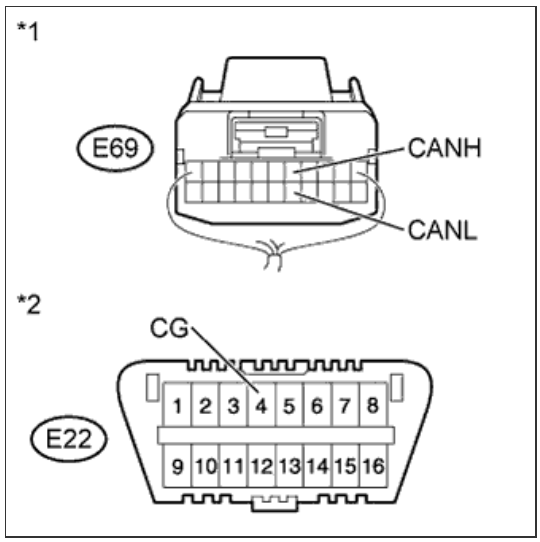
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

19.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

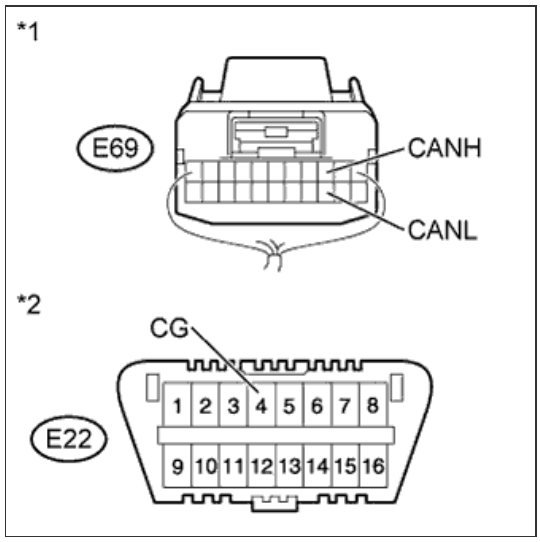
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG

REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

20.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector connector.

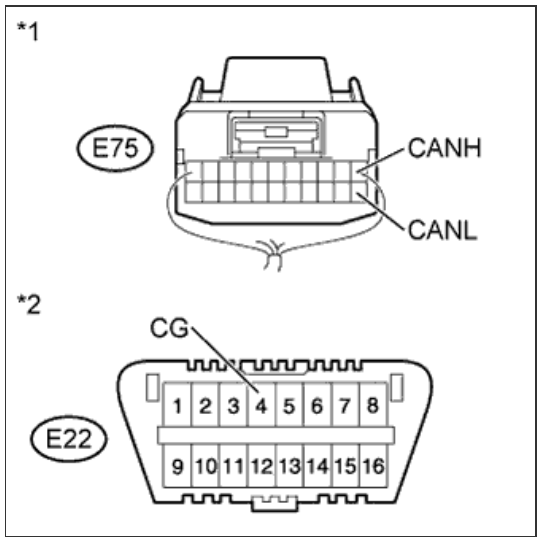
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

## 21.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

## 22.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - MAIN BODY)

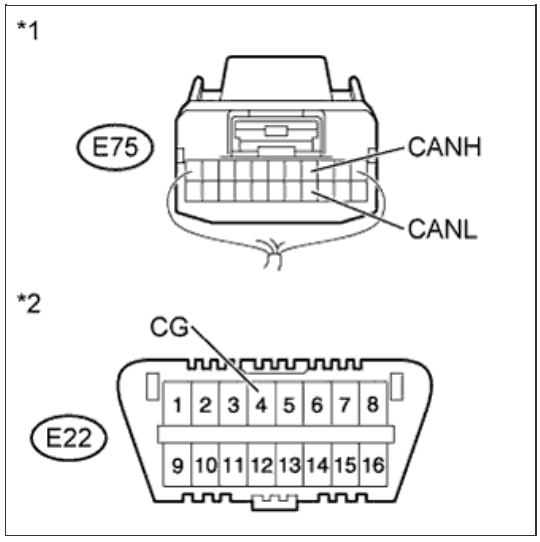
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 24

OK

## 23.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

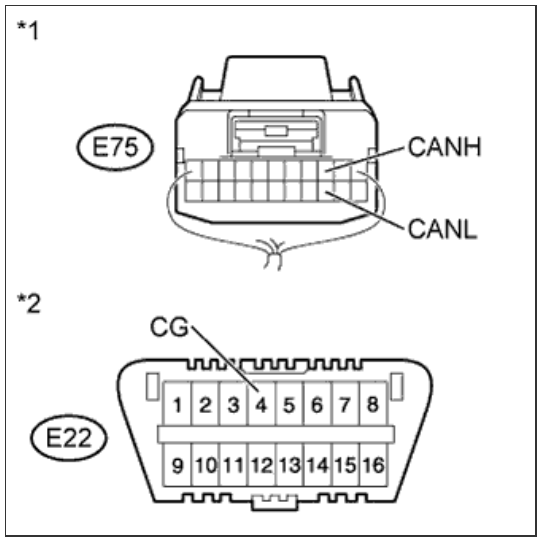
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 25

OK

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

## 24.CHECK FOR SHORT TO GND IN CAN BUS WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

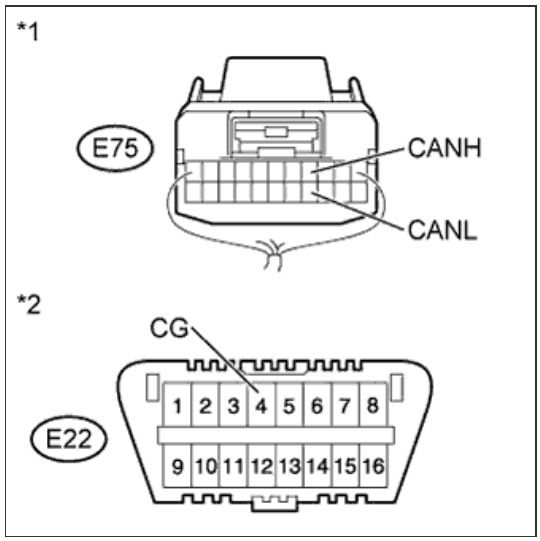
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (CANH, CANL)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 25.CHECK FOR SHORT TO GND IN CAN BUS WIRE (COMBINATION METER)

a. Disconnect the E77 combination meter connector.

b. Measure the resistance according to the value(s) in the table below.

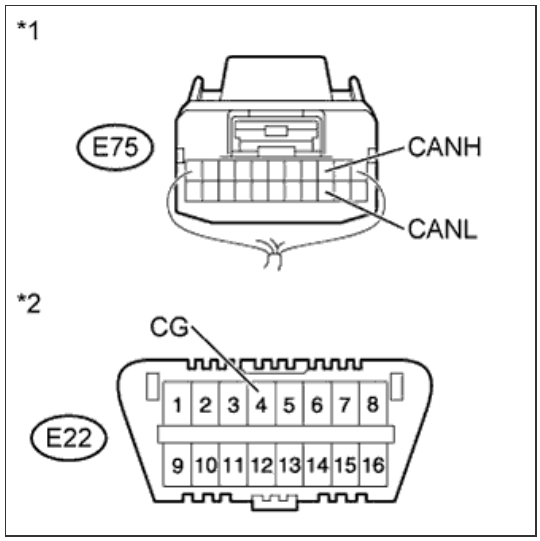
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK → REPLACE COMBINATION METER (Click here)

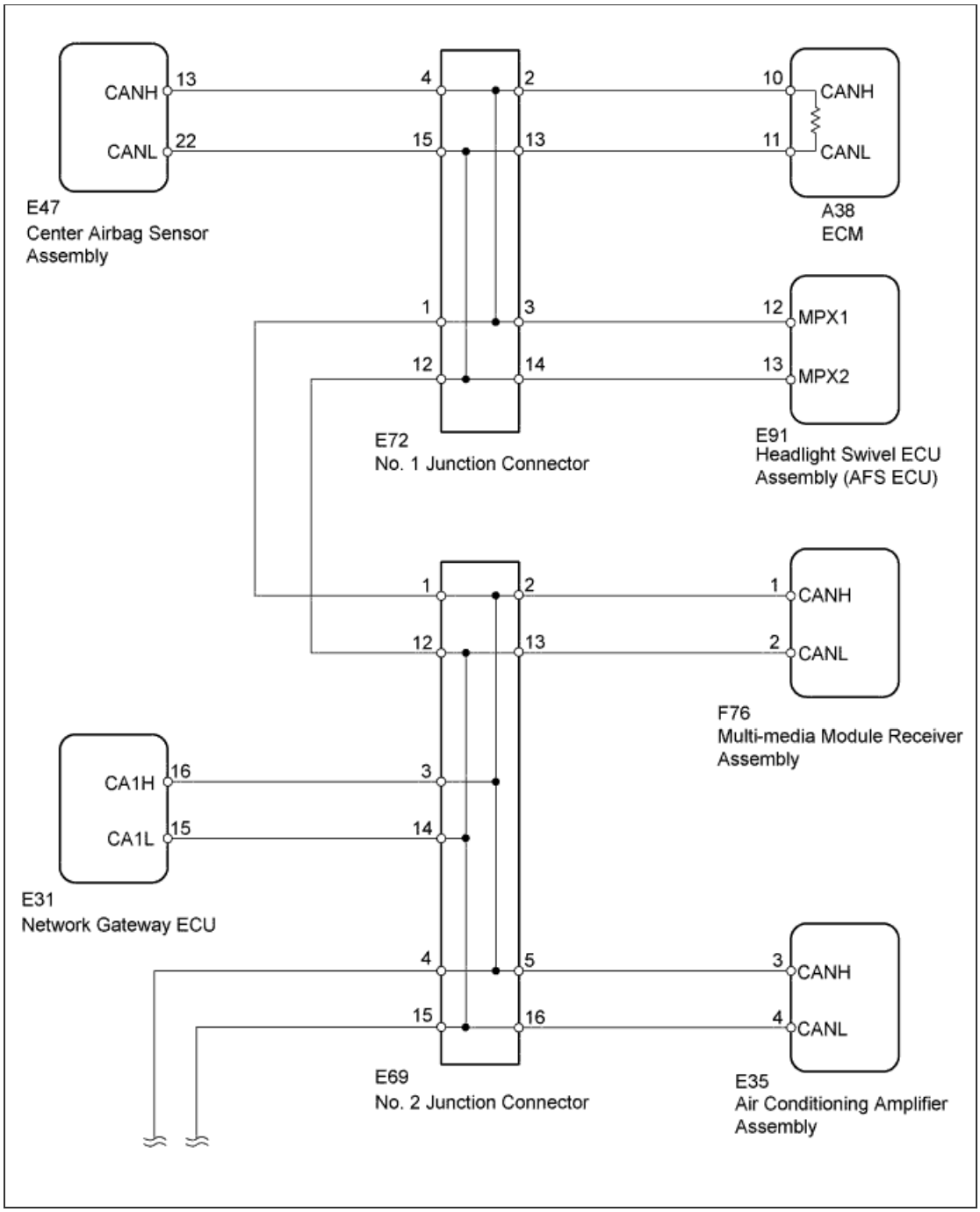
**for Preparation** Click here

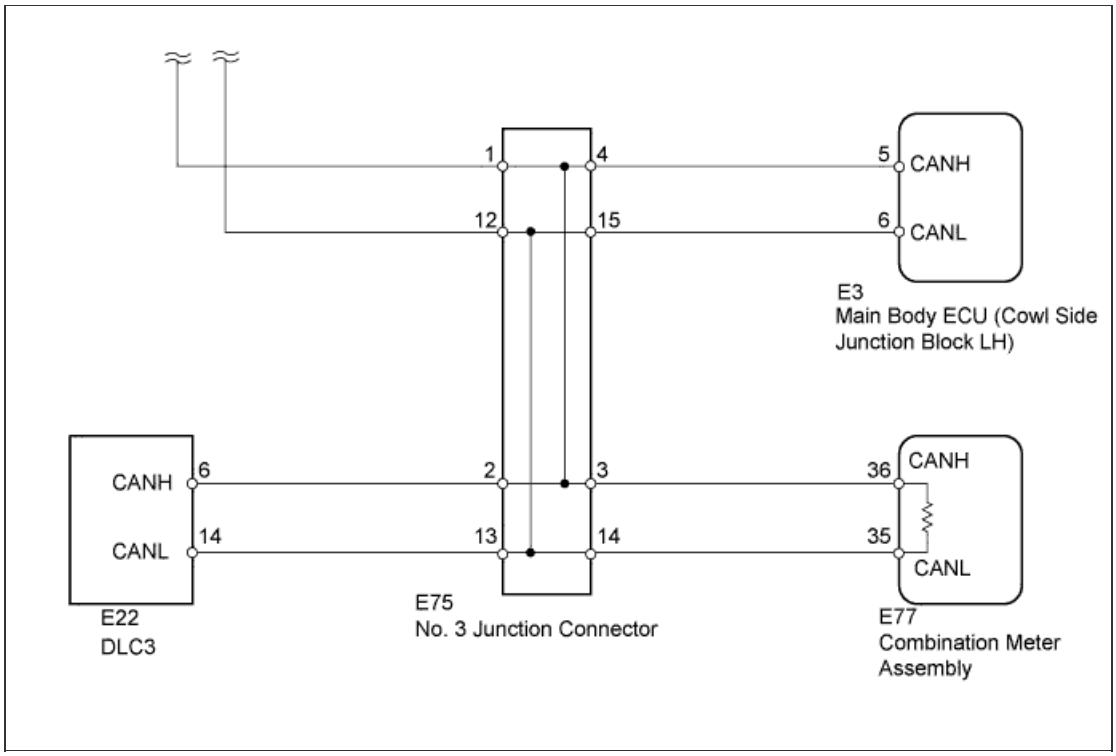
## DESCRIPTION

There may be a short circuit between the CAN bus line and GND when there is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3. | • Short to GND<br>• ECM<br>• Center airbag sensor assembly<br>• Headlight swivel ECU assembly (AFS ECU)<br>• Multi-media module receiver assembly<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM


CANH
13
CANL
22
E47
Center Airbag Sensor
Assembly
4
2
15
13
10
CANH
11
CANL
A38
ECM
1
3
12
14
E72
No. 1 Junction Connector
12
MPX1
13
MPX2
E91
Headlight Swivel ECU
Assembly (AFS ECU)
1
2
12
13
1
CANH
2
CANL
F76
Multi-media Module Receiver
Assembly
CA1H
16
CA1L
15
E31
Network Gateway ECU
3
14
4
5
15
16
3
CANH
4
CANL
E69
No. 2 Junction Connector
E35
Air Conditioning Amplifier
Assembly




## INSPECTION PROCEDURE

**NOTICE:**

The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the Precaution in the SRS (Click here).

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

### 3.CHECK FOR SHORT TO GND IN CAN BUS WIRE (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector.

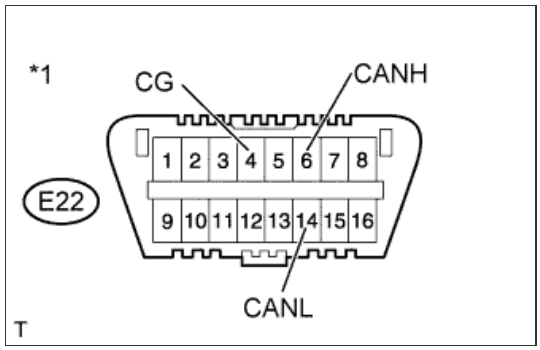
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

## 4.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector.

NEXT

## 5.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector.

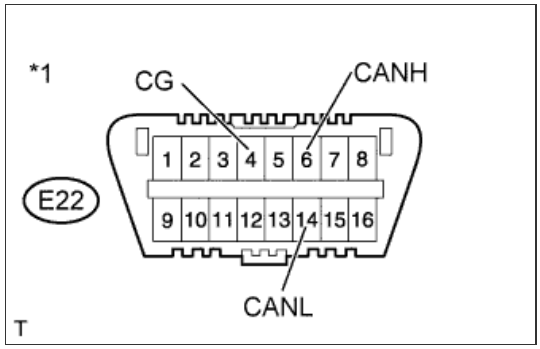
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 12

OK

## 6.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

a. Measure the resistance according to the value(s) in the table below.

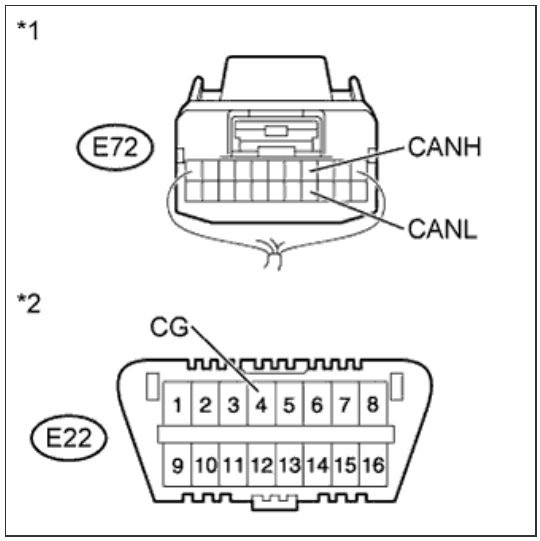
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector |

| | |
|---|---|
| | (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 9

OK

## 7.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - AFS ECU)

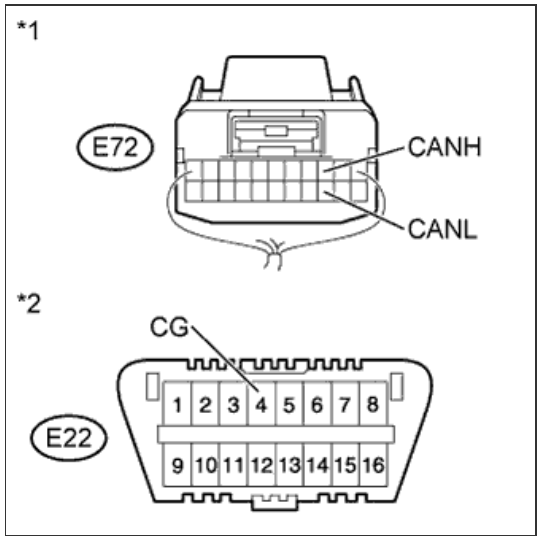
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 10

OK

## 8.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

a. Measure the resistance according to the value(s) in the table below.

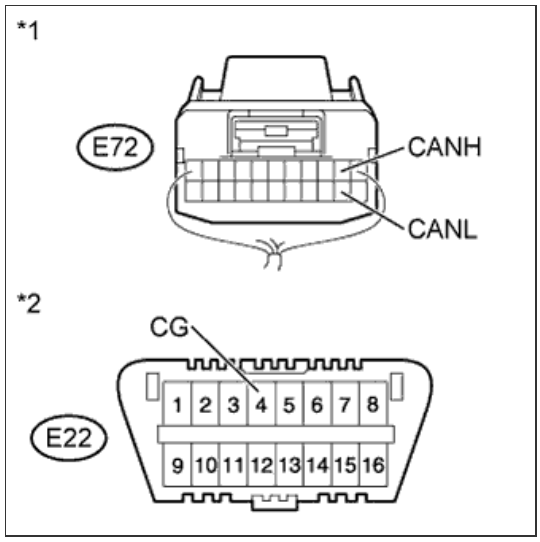
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |

| | |
|---|---|
| *2 | DLC3 |




NG → Go to step 11

OK

REPLACE NO. 1 JUNCTION CONNECTOR

## 9.CHECK FOR SHORT TO GND IN CAN BUS WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector (Click here).

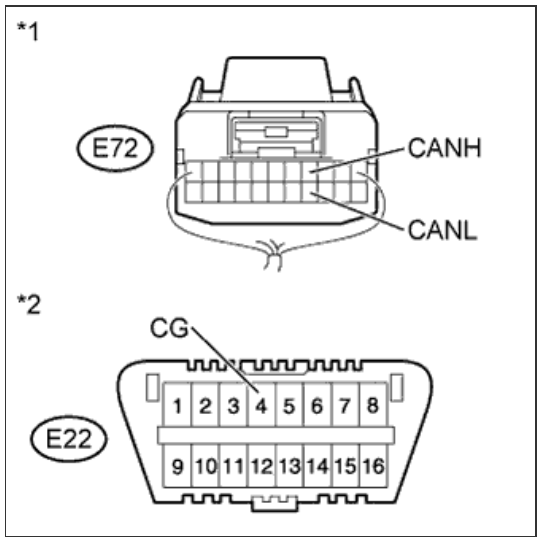
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 10.CHECK FOR SHORT TO GND IN CAN BUS WIRE (AFS ECU)

a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

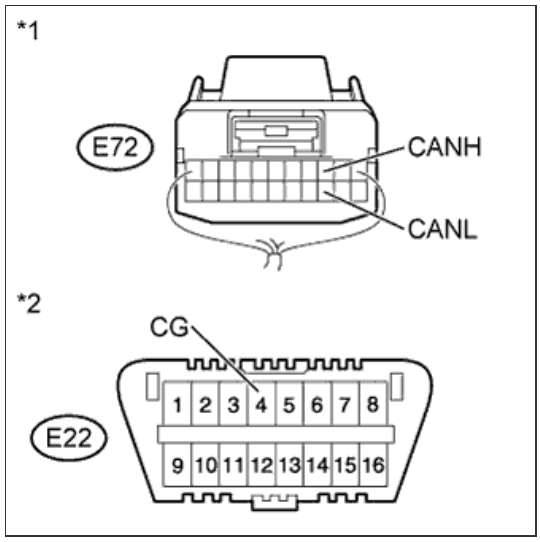
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK →

REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) (Click here)

**11.CHECK FOR SHORT TO GND IN CAN BUS WIRE (ECM)**

a. Disconnect the A38 ECM connector.

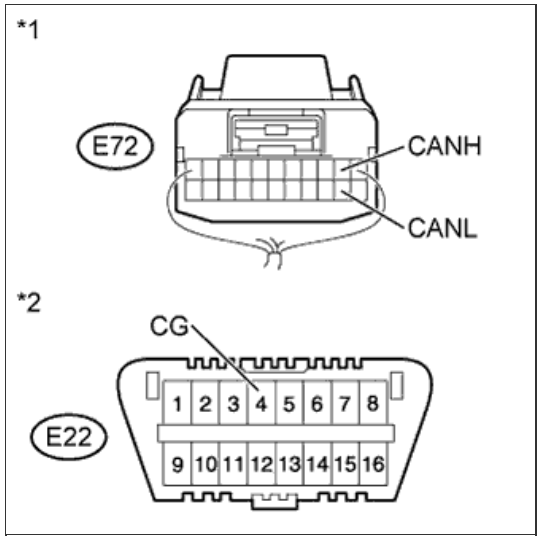
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

OK →

REPLACE ECM (Click here)

**12.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTO - NO. 1 JUNCTION CONNECTOR)**

a. Disconnect the E69 No. 2 junction connector.

b. Measure the resistance according to the value(s) in the table below.

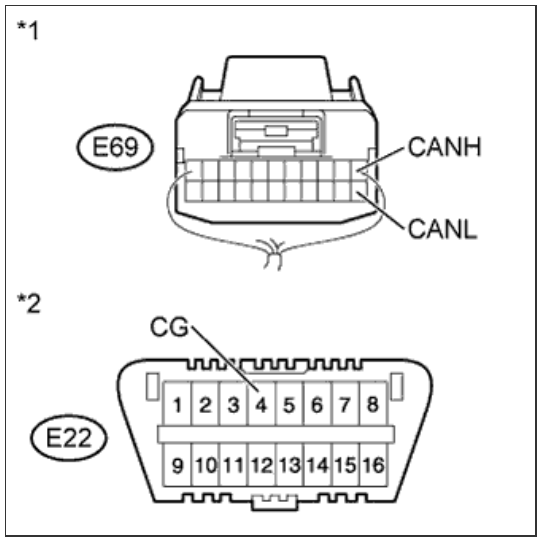
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E69-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 1 JUNCTION CONNECTOR)

OK

## 13.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector.

NEXT

## 14.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR SIDE)

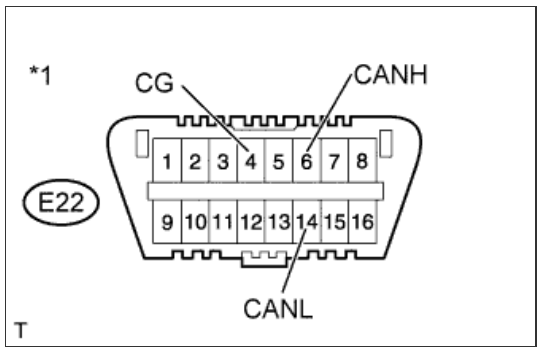
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 21

OK

## 15.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

a. Measure the resistance according to the value(s) in the table below.

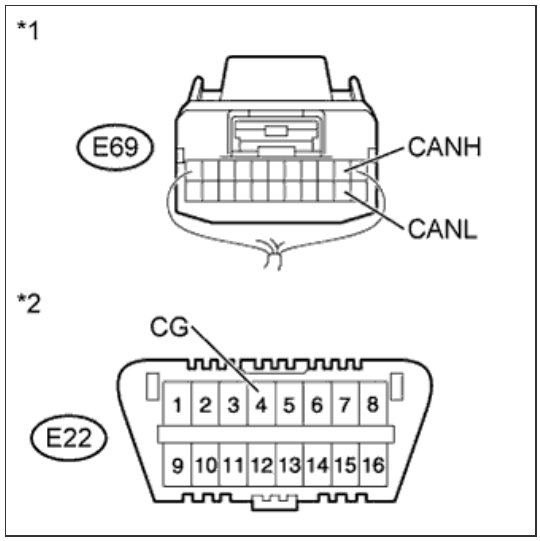
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-13 (CANL) - | Engine switch off | 200 Ω or higher |

| | |
|---|---|
| E22-4 (CG) | |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 18

OK

## 16.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

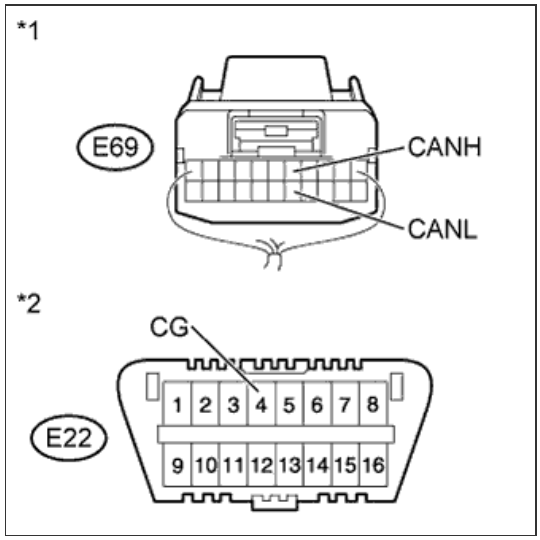
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 19

OK

## 17.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

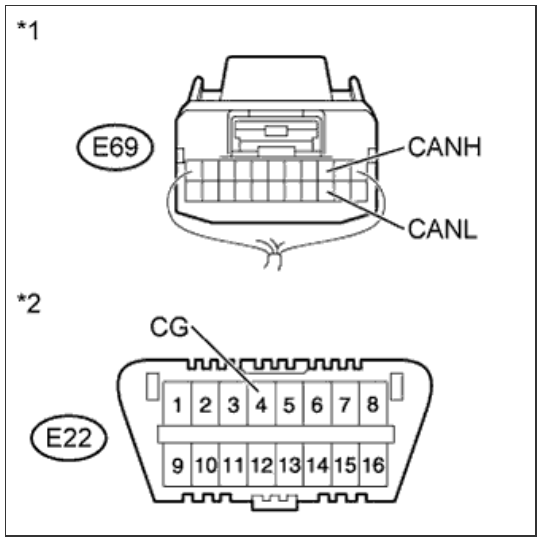
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

| | |
|---|---|
| *2 | DLC3 |




NG → Go to step 20

OK

REPLACE NO. 2 JUNCTION CONNECTOR

## 18.CHECK FOR SHORT TO GND IN CAN BUS WIRE (MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

a. Disconnect the F76 multi-media module receiver assembly connector.

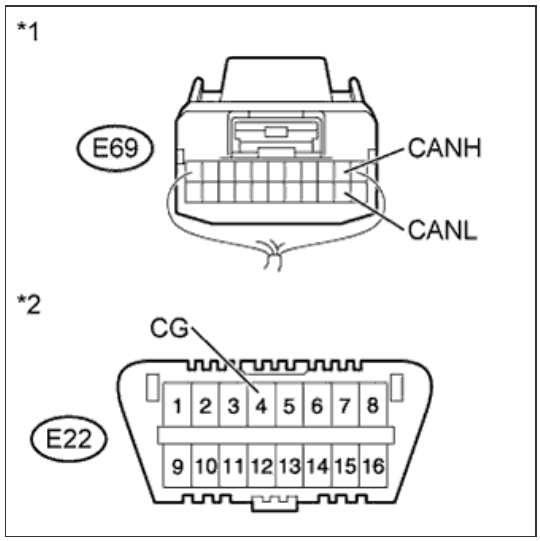
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTI-MEDIA MODULE RECEIVER ASSEMBLY (CANH, CANL)

OK

REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

## 19.CHECK FOR SHORT TO GND IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

b. Measure the resistance according to the value(s) in the table below.

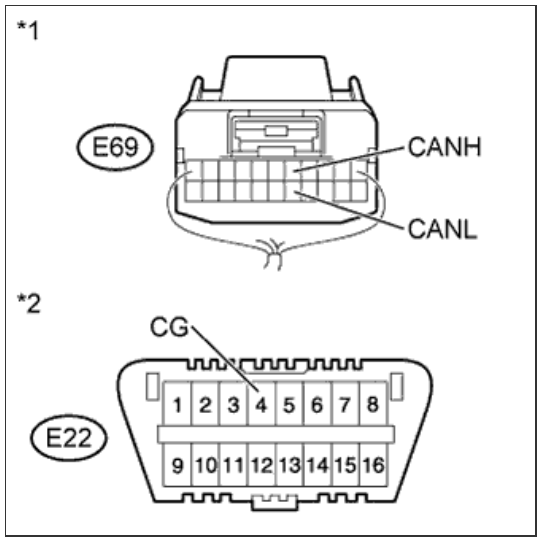
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-16 (CANL) - | | |

| | | |
|---|---|---|
| E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK →

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 20.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

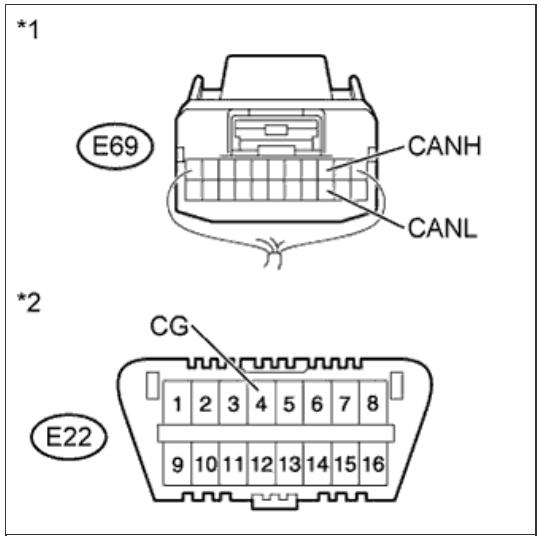
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK →

REPLACE NETWORK GATEWAY ECU (Click here)

## 21.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector.

b. Measure the resistance according to the value(s) in the table below.

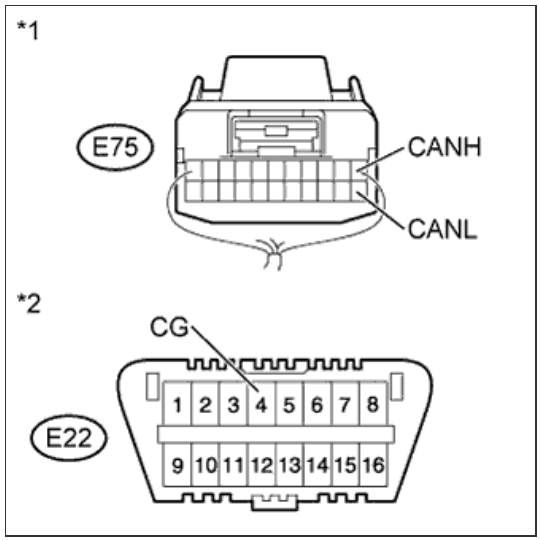
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E75-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

## 22.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector.

NEXT

## 23.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - MAIN BODY)

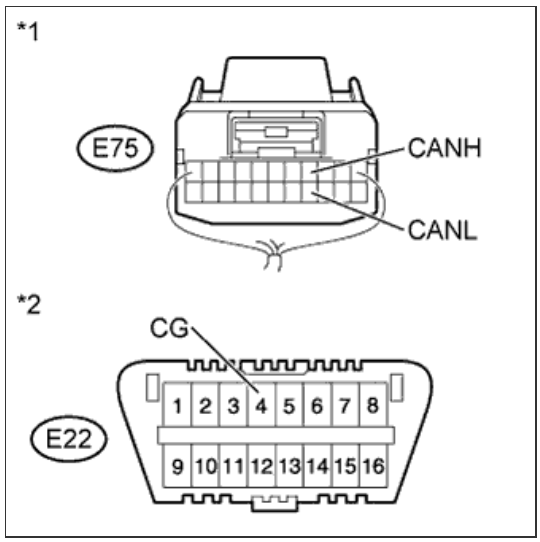
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 25

OK

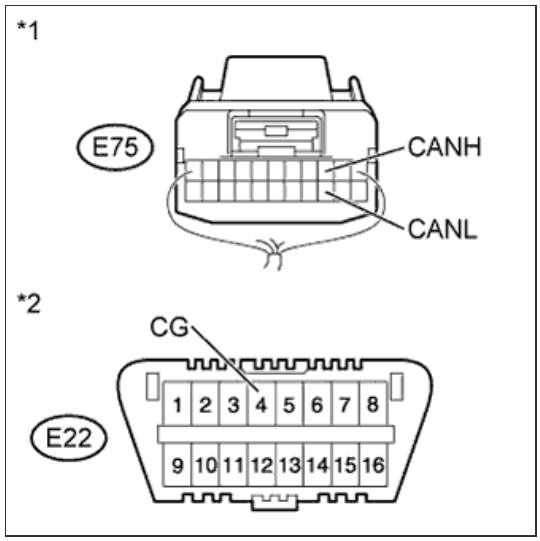
## 24.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified |
|---|---|---|

| | | Condition |
|---|---|---|
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 26

OK

REPLACE NO. 3 JUNCTION CONNECTOR

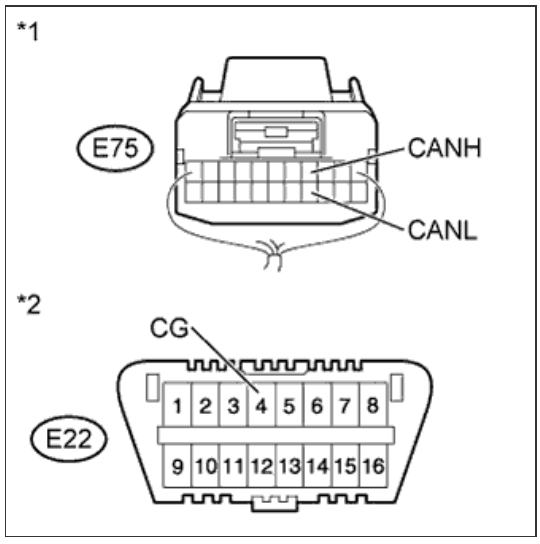
25.CHECK FOR SHORT TO GND IN CAN BUS WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (CANH, CANL)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

26.CHECK FOR SHORT TO GND IN CAN BUS WIRE (COMBINATION METER)

a. Disconnect the E77 combination meter connector.

b. Measure the resistance according to the value(s) in the table below.

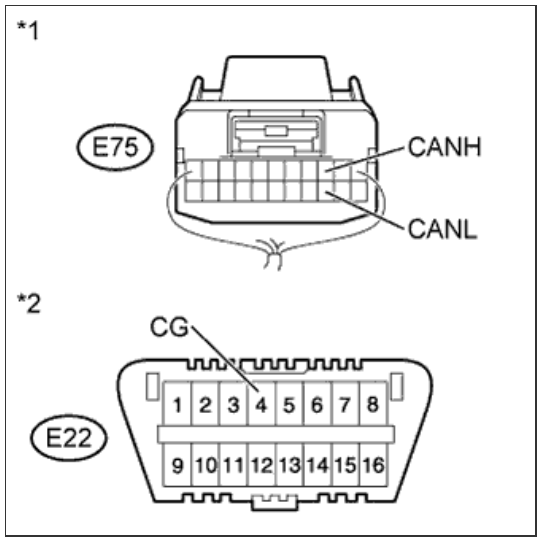
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-14 (CANL) - | | |

| | | |
|---|---|---|
| E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK → REPLACE COMBINATION METER ASSEMBLY (Click here)

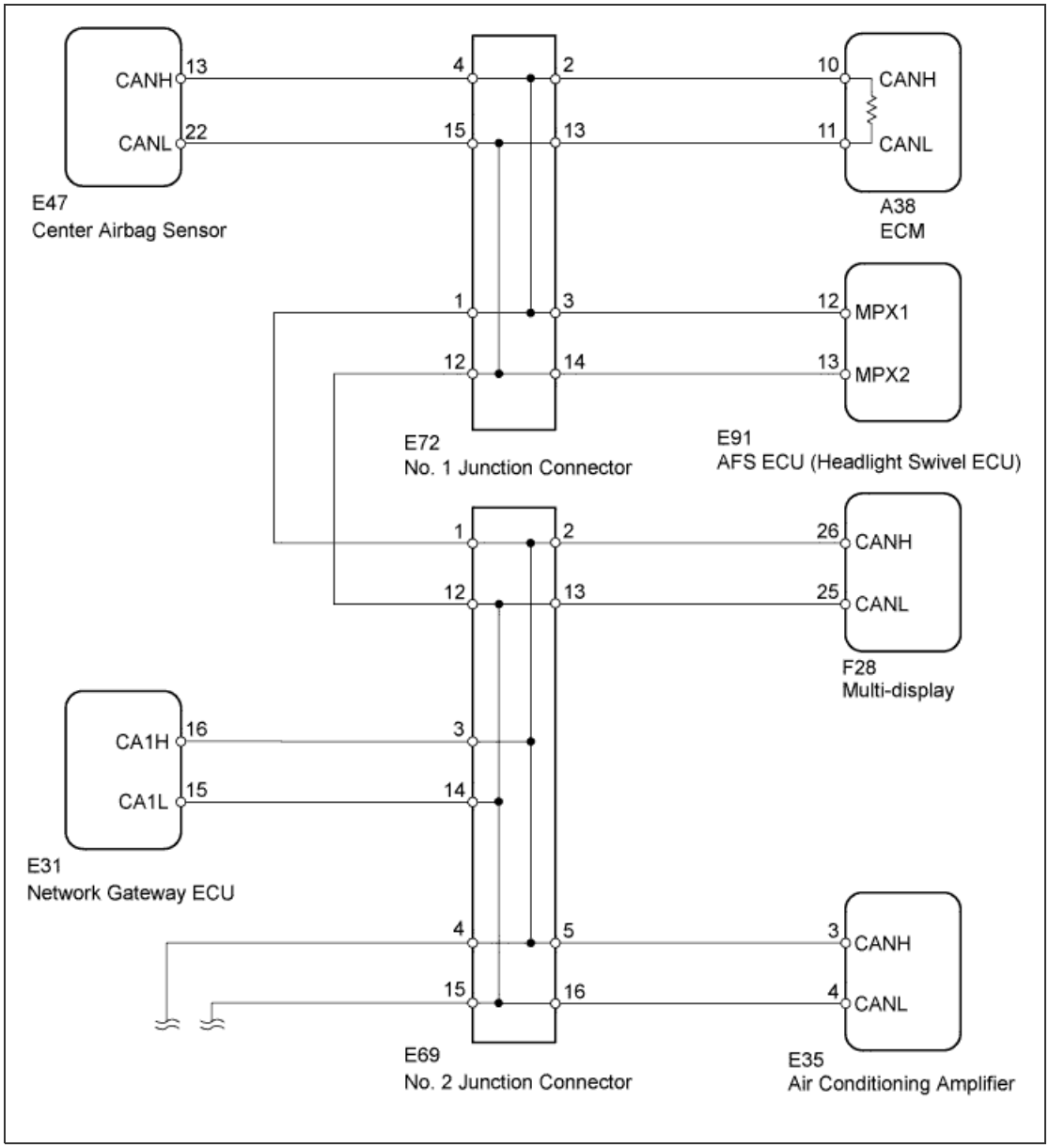
**for Preparation** Click here

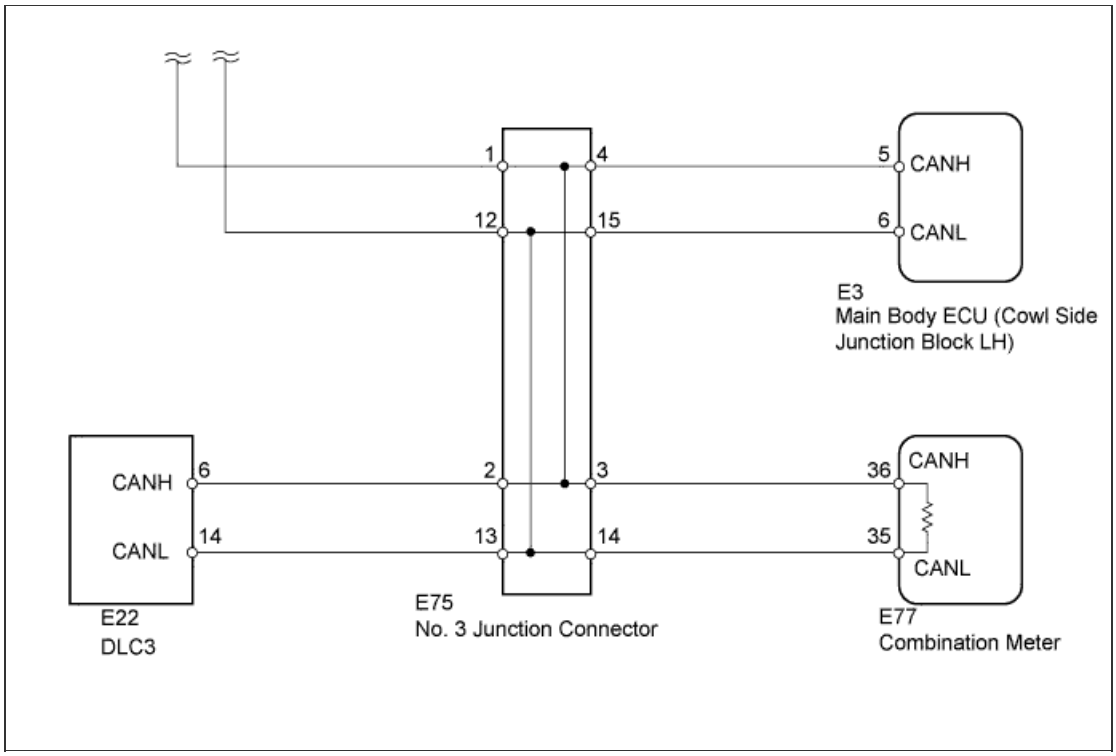
## DESCRIPTION

If 2 or more ECUs and/or sensors do not appear on the intelligent tester "Bus Check" screen, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| Symptom | Trouble Area |
|---|---|
| 2 or more ECUs and/or sensors do not appear on the intelligent tester "Bus Check" screen. | • One side of CAN branch wire is open<br>• Multi-display<br>• Center airbag sensor assembly<br>• Air conditioning amplifier assembly<br>• Main body ECU (cowl side junction block LH)<br>• AFS ECU (headlight swivel ECU assembly)<br>• Network gateway ECU |

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**HINT:**

- **Perform the following inspection for the ECUs (sensors) which are not displayed on the intelligent tester. If a malfunction cannot be identified, perform the following inspections for the ECUs (sensors) connected to the CAN communication system.**
- **Do not remove the center airbag sensor and ECM, as they are the end parts of the circuit. If removed, CAN communication will not be possible.**
- **The open circuit confirmation of the center airbag sensor, ECM and main wire is performed in the Check CAN Bus Line procedure of How to Proceed with Troubleshooting. This inspection only has procedures for checking for an open circuit on one side of the CAN branch wire.**

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

### 2.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MULTI-DISPLAY)

a. Disconnect the F28 multi-display connector.

b. Select "Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "AVN" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "AVN" not displayed on intelligent tester. | B |

**B** → **Go to step 4**

**A**

## 3.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MULTI-DISPLAY BRANCH WIRE)

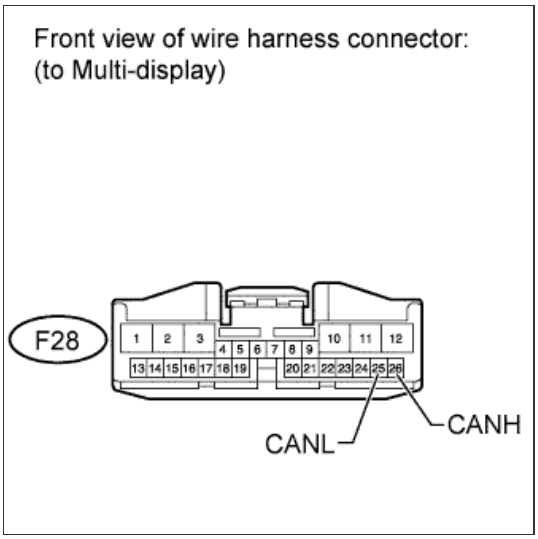
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F28-26 (CANH) - F28-25 (CANL) | Engine switch off | 54 to 69 Ω |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |
| NG | C |




B → REPLACE MULTI-DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (MULTI-DISPLAY)

A → REPLACE MULTI-DISPLAY (Click here)

## 4.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

b. Select "Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "SRS airbag" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "SRS airbag" not displayed on intelligent tester. | B |

B → Go to step 6

A

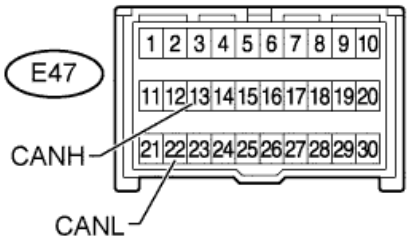
## 5.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR BRANCH WIRE)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Center Airbag Sensor)




T

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (CENTER AIRBAG SENSOR)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 6.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

b. Select "Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Air Conditioner" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "Air Conditioner" not displayed on intelligent tester. | B |

B → Go to step 8

A

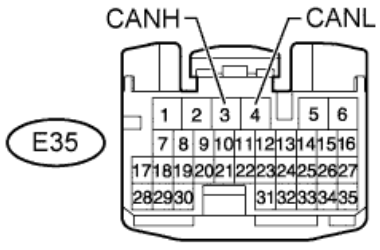
## 7.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER BRANCH WIRE)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Air Conditioning Amplifier)




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (AIR CONDITIONING AMPLIFIER)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

8.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Select "Bus Check" on the intelligent tester (Click here).

Result

| Result | Proceed to |
|---|---|
| "Main Body" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "Main Body" not displayed on intelligent tester. | B |

B → Go to step 10

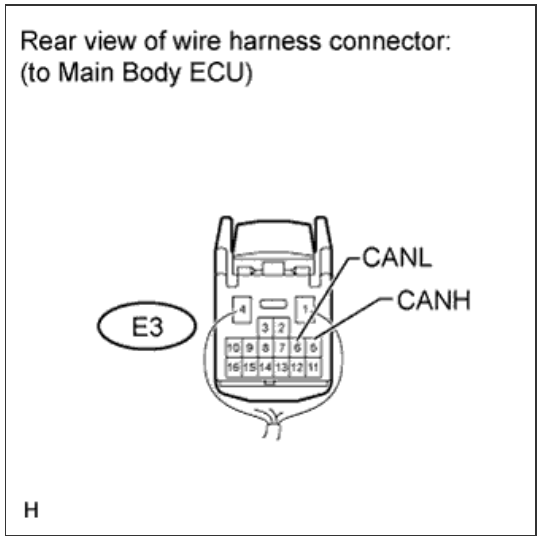
A

9.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU BRANCH WIRE)

a. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-5 (CANH) - E3-6 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (MAIN BODY ECU)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

10.CHECK FOR OPEN IN ONE SIDE OF CAN BRANCH WIRE (AFS ECU)

a. Disconnect the E91 AFS ECU (headlight swivel ECU) connector.

b. Select "Bus Check" on the intelligent tester (Click here).

Result

| Result | Proceed to |
|---|---|
| "AFS/HL AutoLeveling" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "AFS/HL AutoLeveling" not displayed on intelligent tester. | B |

B → Go to step 12

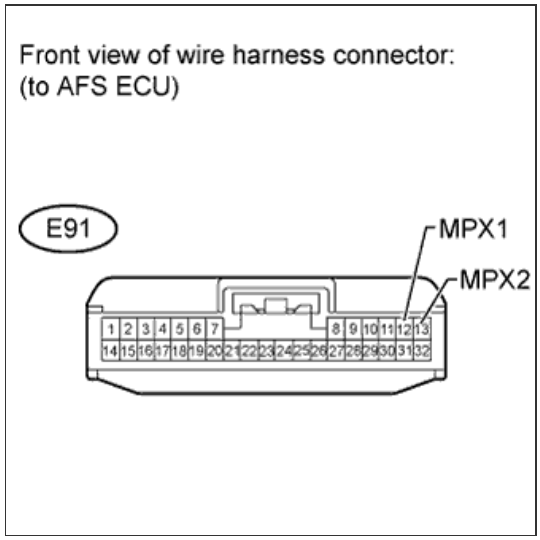
A

11.CHECK FOR OPEN IN ONE SIDE OF CAN BRANCH WIRE (AFS ECU BRANCH WIRE)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (AFS ECU)

OK

REPLACE AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (Click here)

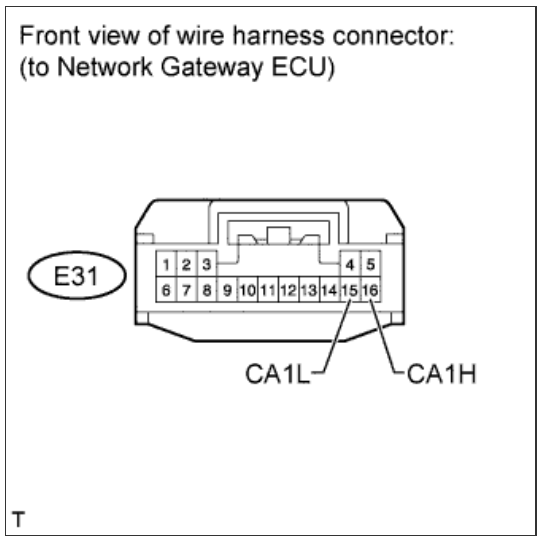
12.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (NETWORK GATEWAY ECU BRANCH WIRE)

a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (NETWORK GATEWAY ECU)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

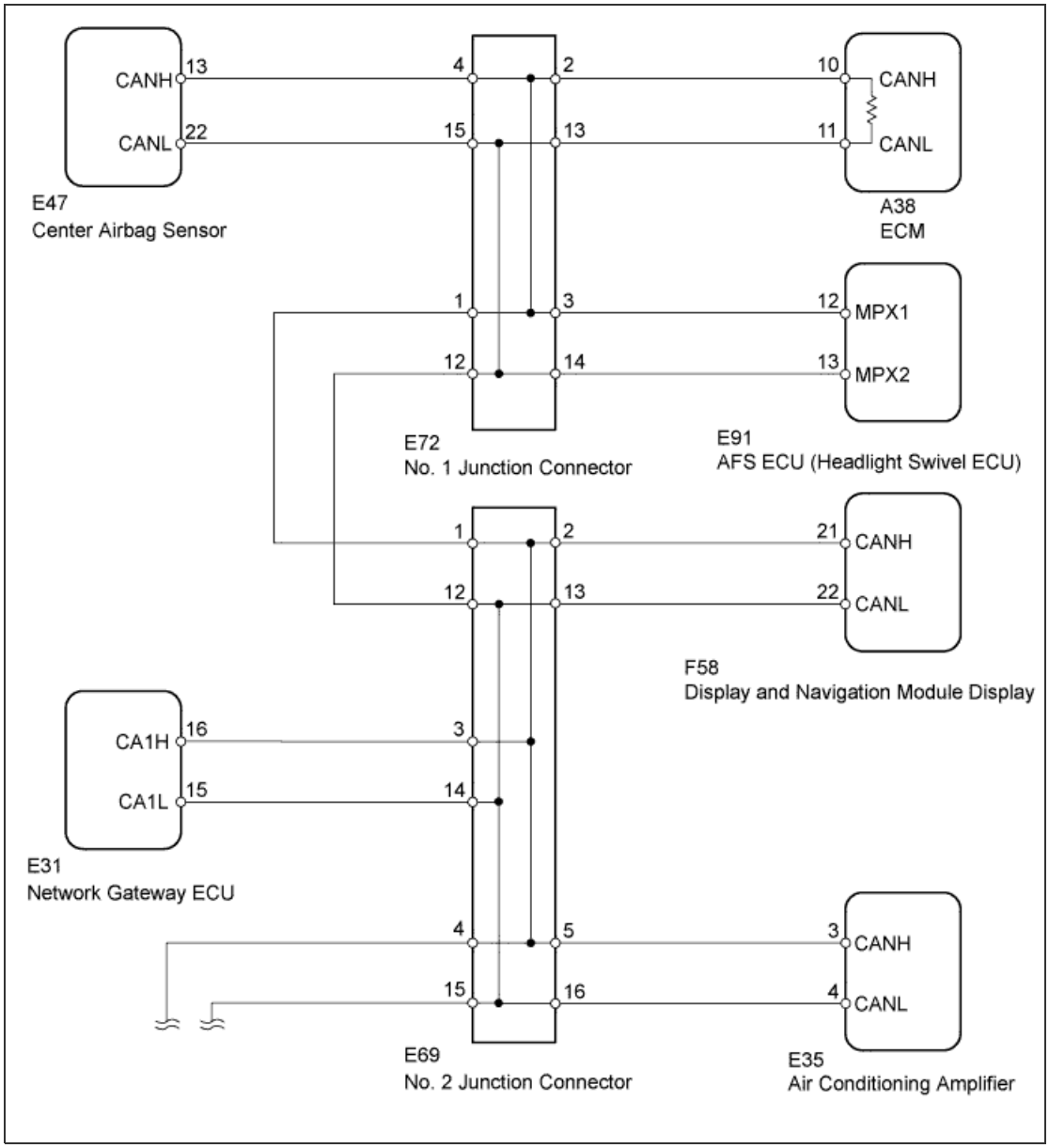
**for Preparation** Click here

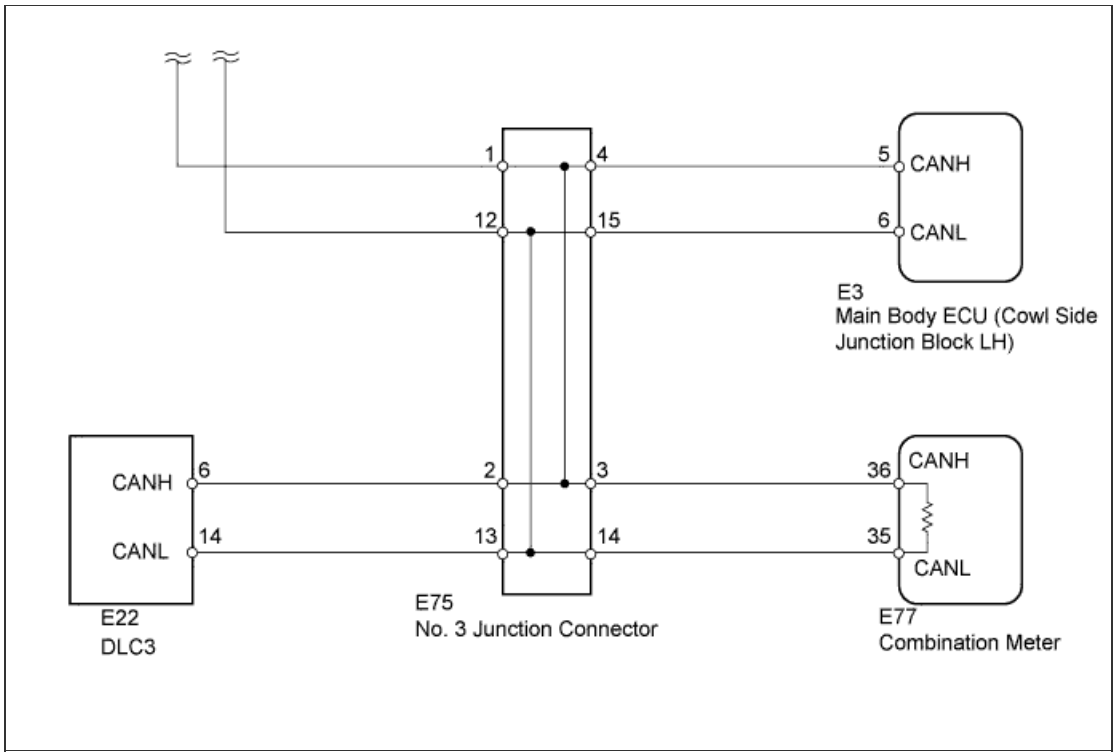
## DESCRIPTION

If 2 or more ECUs and/or sensors do not appear on the intelligent tester "CAN Bus Check" screen, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| Symptom | Trouble Area |
|---|---|
| 2 or more ECUs and/or sensors do not appear on the intelligent tester "CAN Bus Check" screen. | • One side of CAN branch wire is open<br>• Display and navigation module display<br>• Center airbag sensor assembly<br>• Air conditioning amplifier assembly<br>• Main body ECU (cowl side junction block LH)<br>• AFS ECU (headlight swivel ECU assembly)<br>• Network gateway ECU |

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**HINT:**

- **Perform the following inspection for the ECUs (sensors) which are not displayed on the intelligent tester. If a malfunction cannot be identified, perform the following inspections for the ECUs (sensors) connected to the CAN communication system.**
- **Do not remove the center airbag sensor and ECM, as they are the end parts of the circuit. If removed, CAN communication will not be possible.**
- **The open circuit confirmation of the center airbag sensor, ECM and main wire is performed in the Check CAN Bus Line procedure of How to Proceed with Troubleshooting. This inspection only has procedures for checking for an open circuit on one side of the CAN branch wire.**

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **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.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**NEXT**

### 2.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (DISPLAY AND NAVIGATION MODULE DISPLAY)

a. Disconnect the F58 display and navigation module display connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "AVN1" not displayed on the intelligent tester. | A |
| Several ECUs and sensors other than "AVN1" not displayed on the intelligent tester. | B |

B → Go to step 4

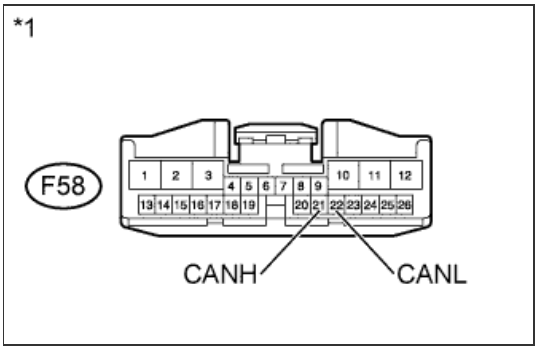
A

## 3.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (DISPLAY AND NAVIGATION MODULE DISPLAY BRANCH WIRE)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F58-21 (CANH) - F58-22 (CANL) | Engine switch off | 54 to 69 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Display and Navigation Module Display) |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |
| NG | C |

B → REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (DISPLAY AND NAVIGATION MODULE DISPLAY OR MULTI-DISPLAY)

A

REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

## 4.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "SRS airbag" not displayed on the intelligent tester. | A |
| Several ECUs and sensors other than "SRS airbag" not displayed on the intelligent tester. | B |

B → Go to step 6

A

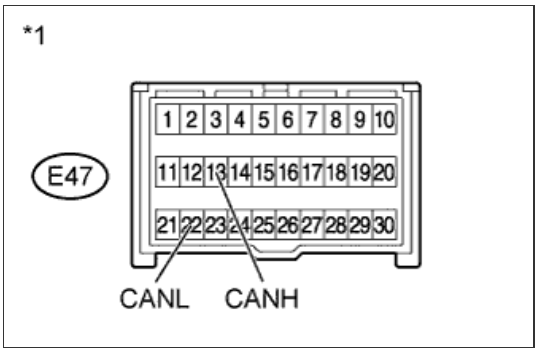
## 5.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR BRANCH WIRE)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified |
|---|---|---|

| | | Condition |
|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | Engine switch off | 54 to 69 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Center Airbag Sensor) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (CENTER AIRBAG SENSOR)

OK →

REPLACE CENTER AIRBAG SENSOR (Click here)

## 6.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Air Conditioner" not displayed on the intelligent tester. | A |
| Several ECUs and sensors other than "Air Conditioner" not displayed on the intelligent tester. | B |

B → Go to step 8

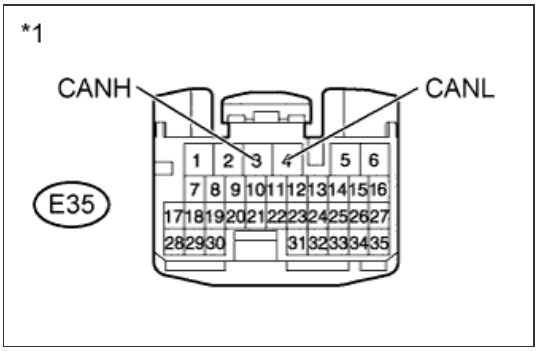
A →

## 7.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER BRANCH WIRE)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | Engine switch off | 54 to 69 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Air Conditioning Amplifier) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (AIR CONDITIONING AMPLIFIER)

OK →

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 8.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Main Body" not displayed on the intelligent tester. | A |
| Several ECUs and sensors other than "Main Body" not displayed on the intelligent tester. | B |

B → Go to step 10

A

## 9.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU BRANCH WIRE)

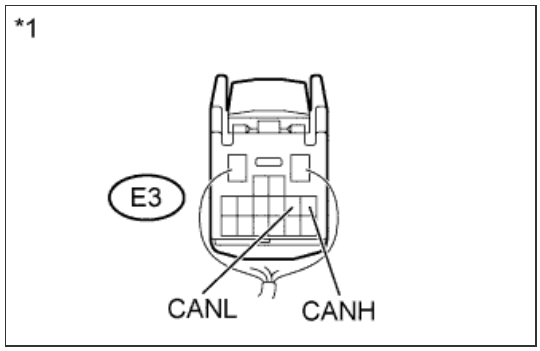
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-5 (CANH) - E3-6 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Main Body ECU) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (MAIN BODY ECU)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 10.CHECK FOR OPEN IN ONE SIDE OF CAN BRANCH WIRE (AFS ECU)

a. Disconnect the E91 AFS ECU (headlight swivel ECU) connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "AFS/HL Auto Leveling" not displayed on the intelligent tester. | A |
| Several ECUs and sensors other than "AFS/HL Auto Leveling" not displayed on the intelligent tester. | B |

B → Go to step 12

A

## 11.CHECK FOR OPEN IN ONE SIDE OF CAN BRANCH WIRE (AFS ECU BRANCH WIRE)

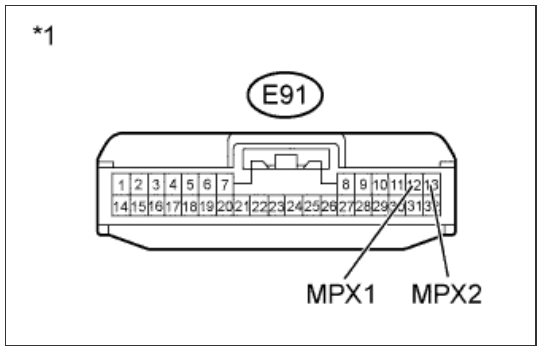
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to AFS ECU) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (AFS ECU)

OK

REPLACE AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (Click here)

12.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (NETWORK GATEWAY ECU BRANCH WIRE)

a. Disconnect the E31 network gateway ECU connector.

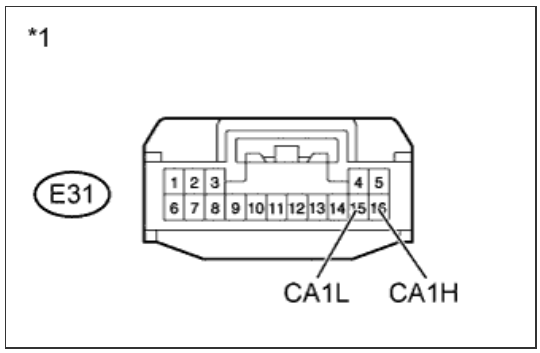
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Network Gateway ECU) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (NETWORK GATEWAY ECU)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

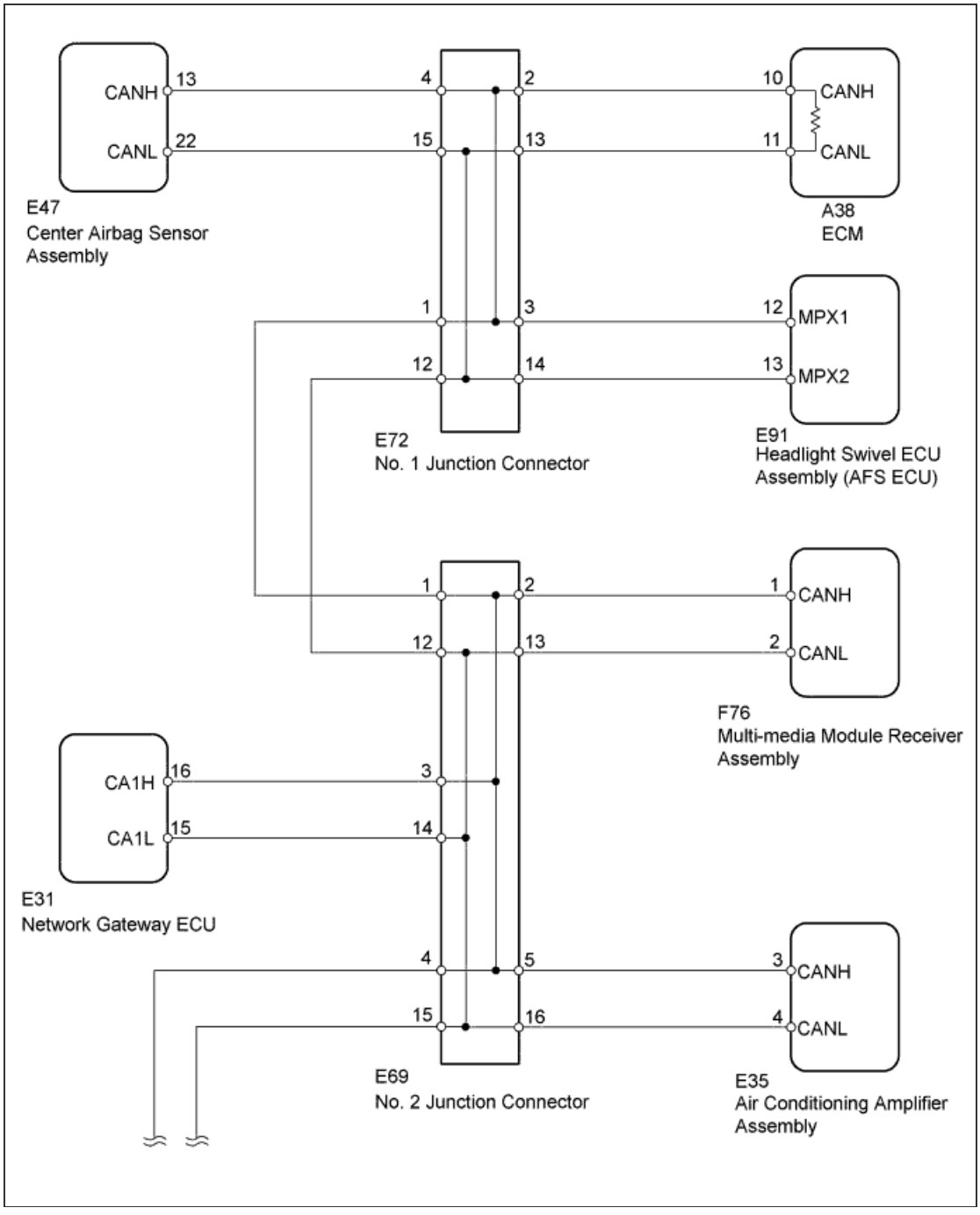
**for Preparation** Click here

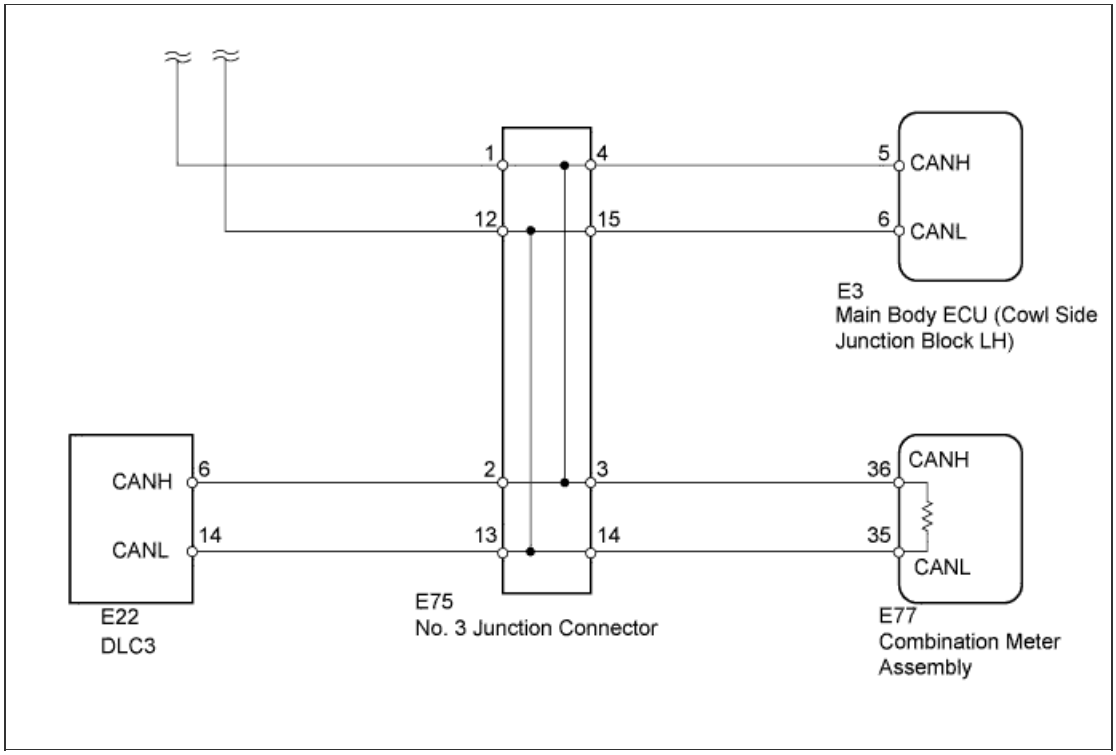
## DESCRIPTION

If 2 or more ECUs and/or sensors do not appear on the intelligent tester "Bus Check" screen, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/ or sensor is open).

| Symptom | Trouble Area |
|---|---|
| 2 or more ECUs and/or sensors do not appear on the intelligent tester "Bus Check" screen. | • One side of CAN branch wire is open<br>• Center airbag sensor assembly<br>• Multi-media module receiver assembly<br>• Air conditioning amplifier assembly<br>• Main body ECU (cowl side junction block LH)<br>• Headlight swivel ECU assembly (AFS ECU)<br>• Network gateway ECU |

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the Precaution in the SRS (Click here).**

**HINT:**

- **Perform the following inspection for the ECUs (sensors) which are displayed on the intelligent tester. If a malfunction cannot be identified, perform the following inspections for the ECUs (sensors) connected to the CAN communication system.**
- **Do not remove the combination meter assembly and ECM as they are the end parts of the circuit. If removed, CAN communication will not be possible.**
- **The open circuit confirmation of the combination meter assembly, ECM and CAN main wire is performed in the Check CAN Bus Line procedure of "How to Proceed with Troubleshooting". This inspection only has procedures for checking for an open circuit on one side of a CAN branch wire.**

### 1.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

a. Disconnect the F76 multi-media module receiver assembly connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Display and Navigation (AVN)" is not displayed on the intelligent tester | A |
| Several ECUs and sensors in addition to "Display and Navigation (AVN)" are displayed on the intelligent tester | B |

**B** → Go to step 3

**A**

### 2.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MULTI-MEDIA MODULE RECEIVER ASSEMBLY CAN BRANCH WIRE)

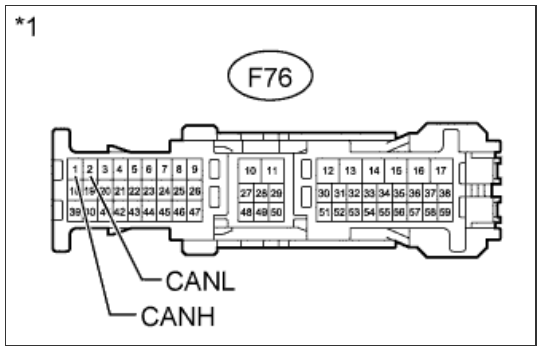
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F76-1 (CANH) - F76-2 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Multi-media Module Receiver Assembly) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

OK

REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

## 3.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR ASSEMBLY)

a. Disconnect the E47 center airbag sensor assembly connector (Click here).

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Airbag" is not displayed on the intelligent tester | A |
| Several ECUs and sensors in addition to "Airbag" are displayed on the intelligent tester | B |

B → Go to step 5

A

## 4.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR ASSEMBLY CAN BRANCH WIRE)

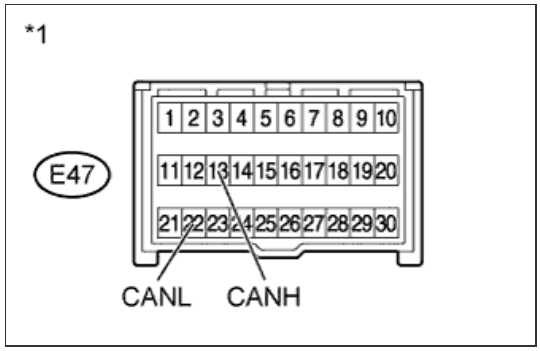
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| | | Specified |
|---|---|---|

| Tester Connection | Switch Condition | Condition |
|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Center Airbag Sensor Assembly) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (CENTER AIRBAG SENSOR ASSEMBLY)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 5.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER ASSEMBLY)

a. Disconnect the E35 air conditioning amplifier assembly connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Air Conditioning Amplifier" is not displayed on the intelligent tester | A |
| Several ECUs and sensors in addition to "Air Conditioning Amplifier" are displayed on the intelligent tester | B |

B → Go to step 7

A

## 6.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER ASSEMBLY CAN BRANCH WIRE)

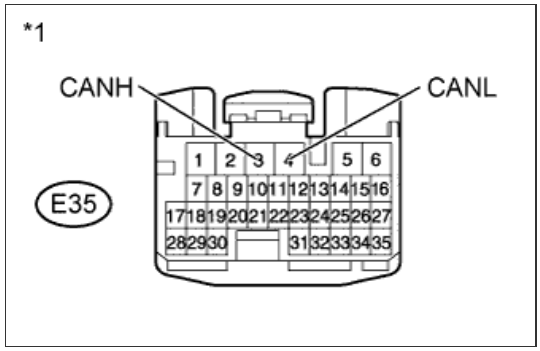
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Air Conditioning Amplifier Assembly) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (AIR CONDITIONING AMPLIFIER ASSEMBLY)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

7.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

Result

| Result | Proceed to |
|---|---|
| "Main Body" is not displayed on the intelligent tester | A |
| Several ECUs and sensors in addition to "Main Body" are displayed on the intelligent tester | B |

B → Go to step 9

A

8.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU CAN BRANCH WIRE)

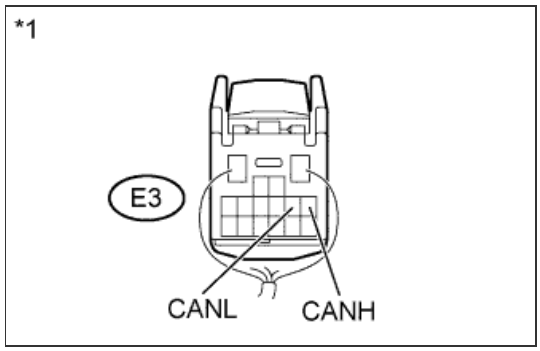
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-5 (CANH) - E3-6 (CANL) | Engine switch off | 54 to 69 Ω |

Text in Illustration

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (MAIN BODY ECU)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

9.CHECK FOR OPEN IN ONE SIDE OF CAN BRANCH WIRE (AFS ECU)

a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

Result

| Result | Proceed to |
|---|---|
| "Headlight swivel (AFS)" is not displayed on the intelligent tester | A |
| Several ECUs and sensors in addition to "Headlight | |

| | |
|---|---|
| swivel (AFS)" are displayed on the intelligent tester | B |

B → Go to step 11

A

## 10.CHECK FOR OPEN IN ONE SIDE OF CAN BRANCH WIRE (AFS ECU CAN BRANCH WIRE)

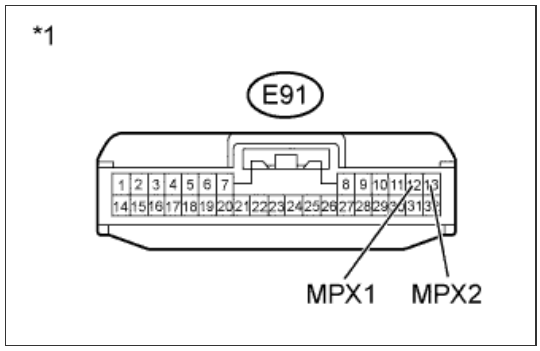
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Headlight Swivel ECU Assembly [AFS ECU]) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (AFS ECU)

OK

REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) (Click here)

## 11.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (NETWORK GATEWAY ECU CAN BRANCH WIRE)

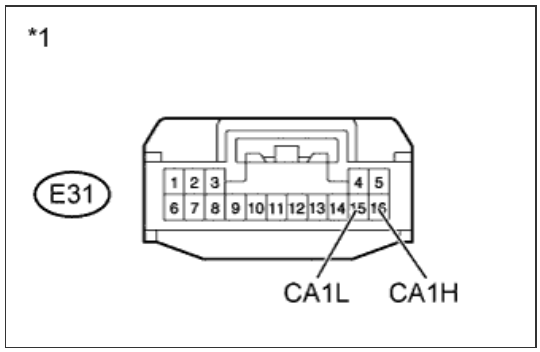
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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. Disconnect the E31 network gateway ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Network Gateway ECU) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (NETWORK GATEWAY ECU)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

**for Preparation** Click here

## 1.STEERING SYSTEM HANDLING PRECAUTIONS

a. Care must be taken when replacing parts. Incorrect replacement could affect the performance of the steering system and result in hazards when driving.

## 2.SRS AIRBAG SYSTEM HANDLING PRECAUTIONS

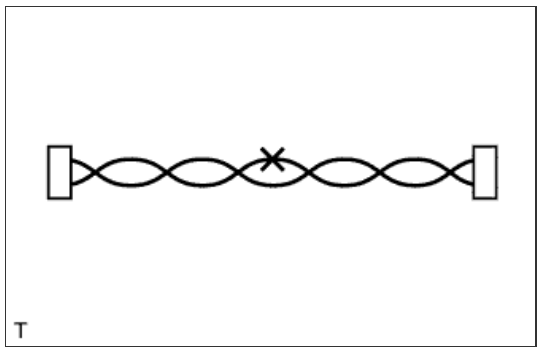
a. This vehicle is equipped with an SRS (Supplemental Restraint System), such as the driver airbag and front passenger airbag. Failure to carry out service operations in the correct sequence could cause unexpected SRS deployment during servicing and may lead to a serious accident. Before servicing (including installation/removal, inspection and replacement of parts), be sure to read the precautionary notice for the Supplemental Restraint System (Click here).

## 3.BUS LINE REPAIR

a. After repairing the bus line with solder, wrap the repaired part with vinyl tape (Click here).

**NOTICE:**

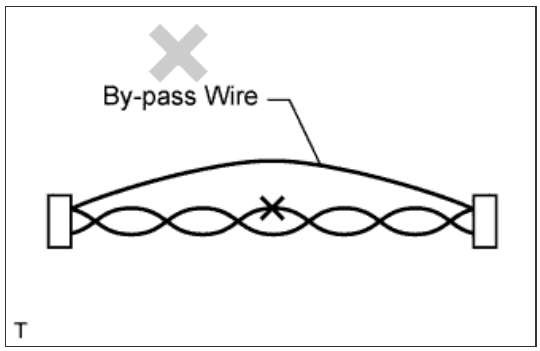
- **The CANL bus line and CANH bus line must be installed together.**
- **When installing the CAN bus lines, make sure to twist them.**
- **CAN bus lines are likely to be influenced by noise if the bus lines are not twisted together.**
- **The difference in length between the CANL bus line and CANH bus line should be less than 100 mm (3.94 in.).**
- **Leave approximately 80 mm (3.15 in.) loose in the twisted wires around the connectors.**




b. Do not use by-pass wiring between the connectors.

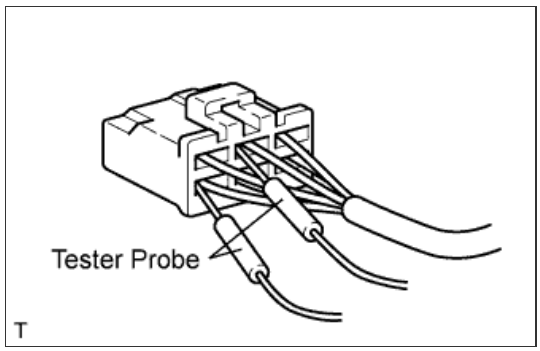
**NOTICE:**

The feature of the twisted wire harness will be lost if bypass wiring is used.

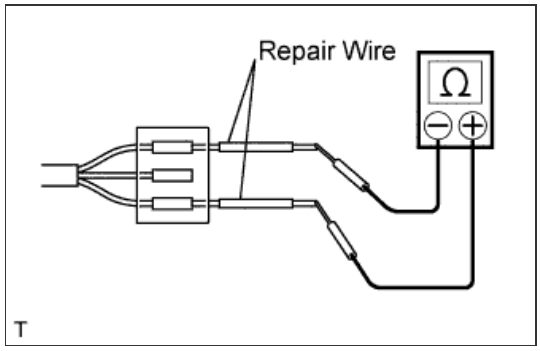



## 4.CONNECTOR HANDLING

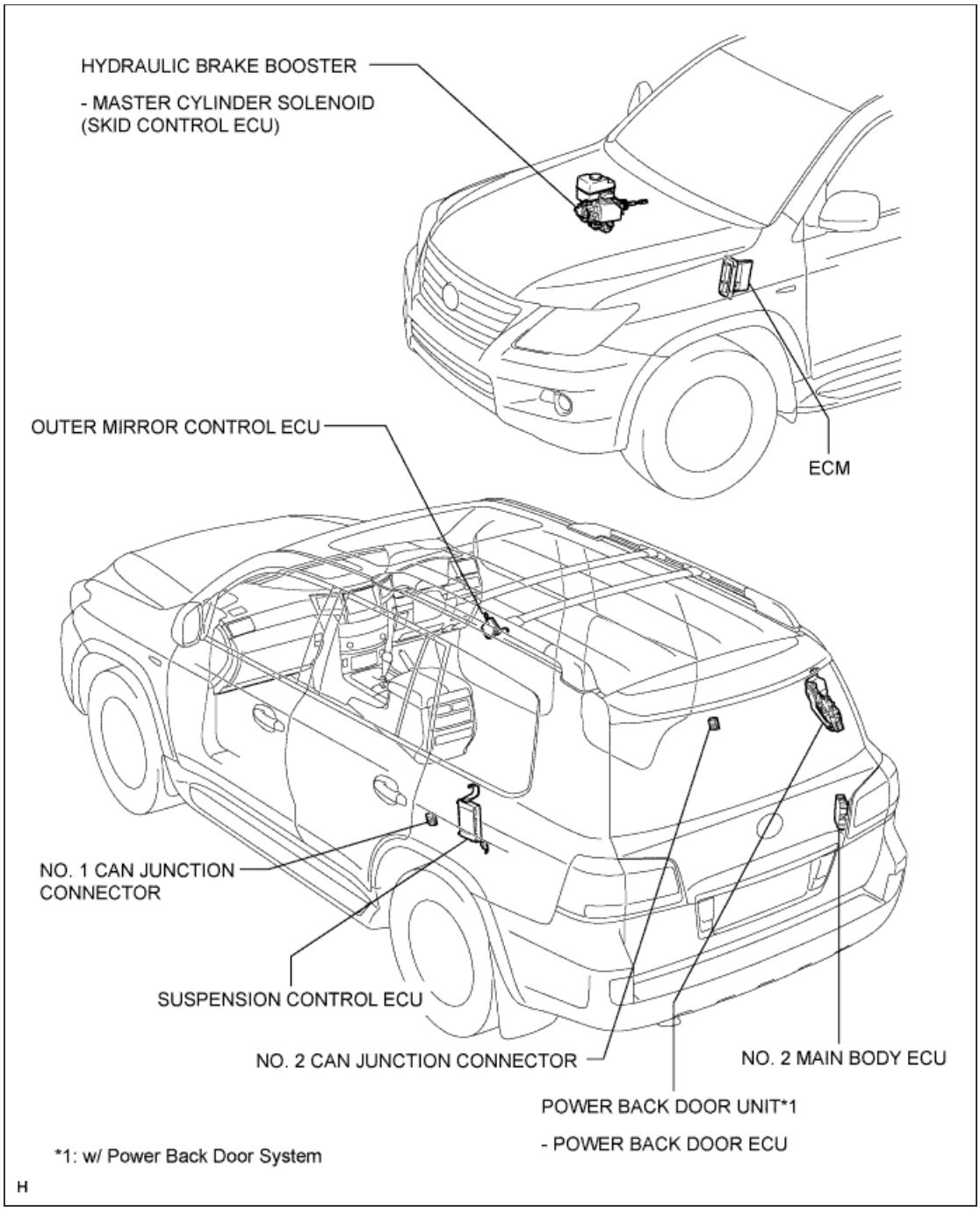
a. When inserting probes into a connector, insert them from the rear of the connector.

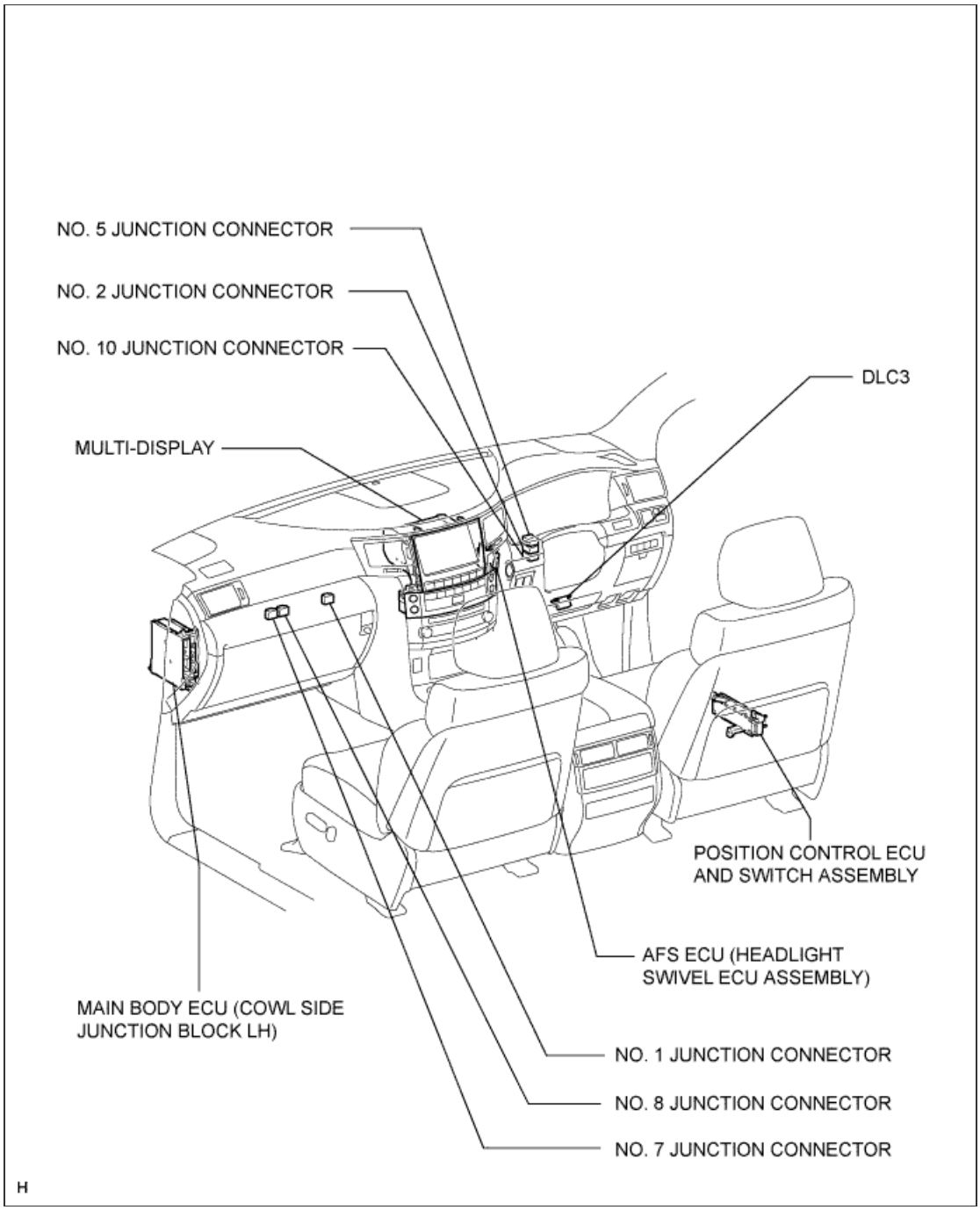


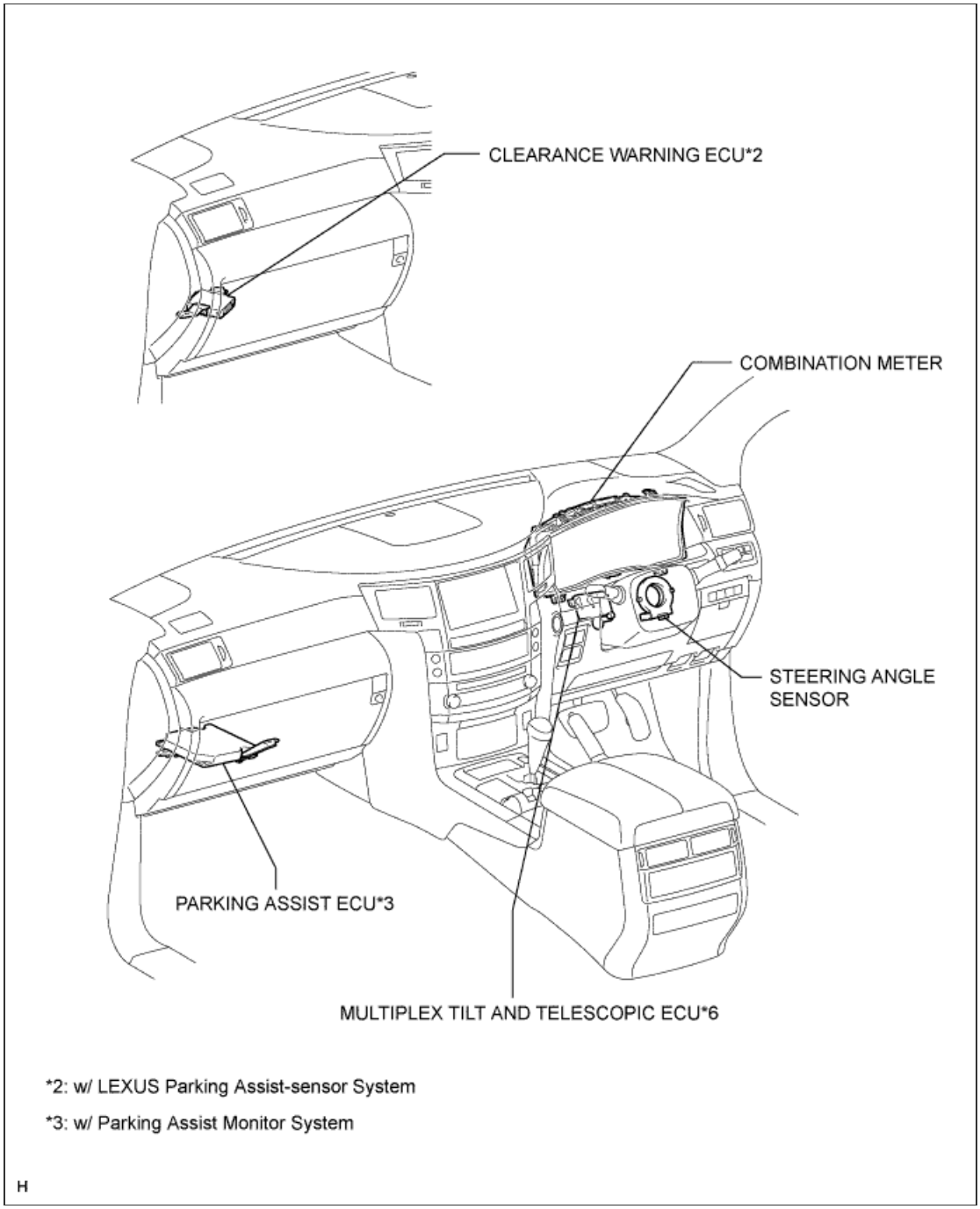
b. Use a repair wire to check the connector if it is impossible to check resistance from the rear of the connector.



**for Preparation** Click here



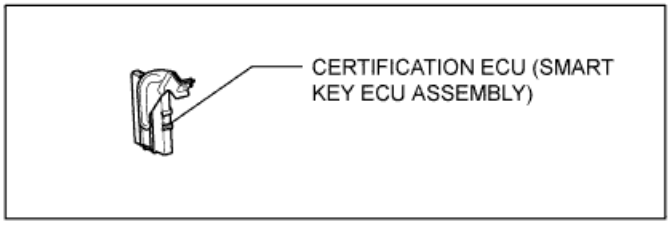

NO. 5 JUNCTION CONNECTOR
NO. 2 JUNCTION CONNECTOR
NO. 10 JUNCTION CONNECTOR
DLC3
MULTI-DISPLAY
POSITION CONTROL ECU
AND SWITCH ASSEMBLY
AFS ECU (HEADLIGHT
SWIVEL ECU ASSEMBLY)
MAIN BODY ECU (COWL SIDE
JUNCTION BLOCK LH)
NO. 1 JUNCTION CONNECTOR
NO. 8 JUNCTION CONNECTOR
NO. 7 JUNCTION CONNECTOR
H



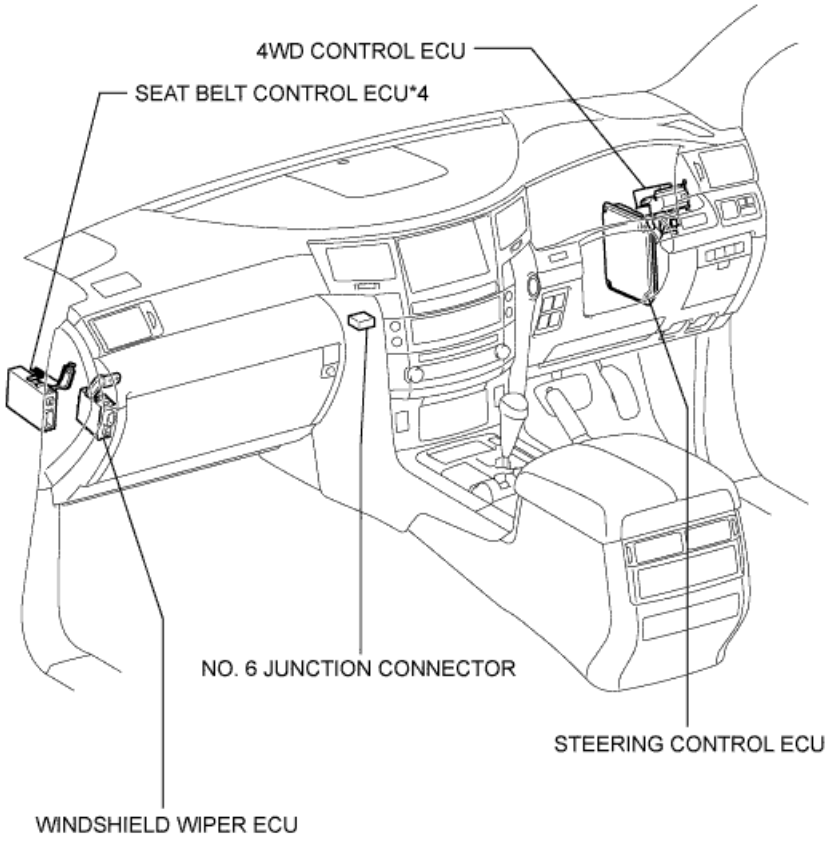

*2: w/ LEXUS Parking Assist-sensor System

*3: w/ Parking Assist Monitor System

H

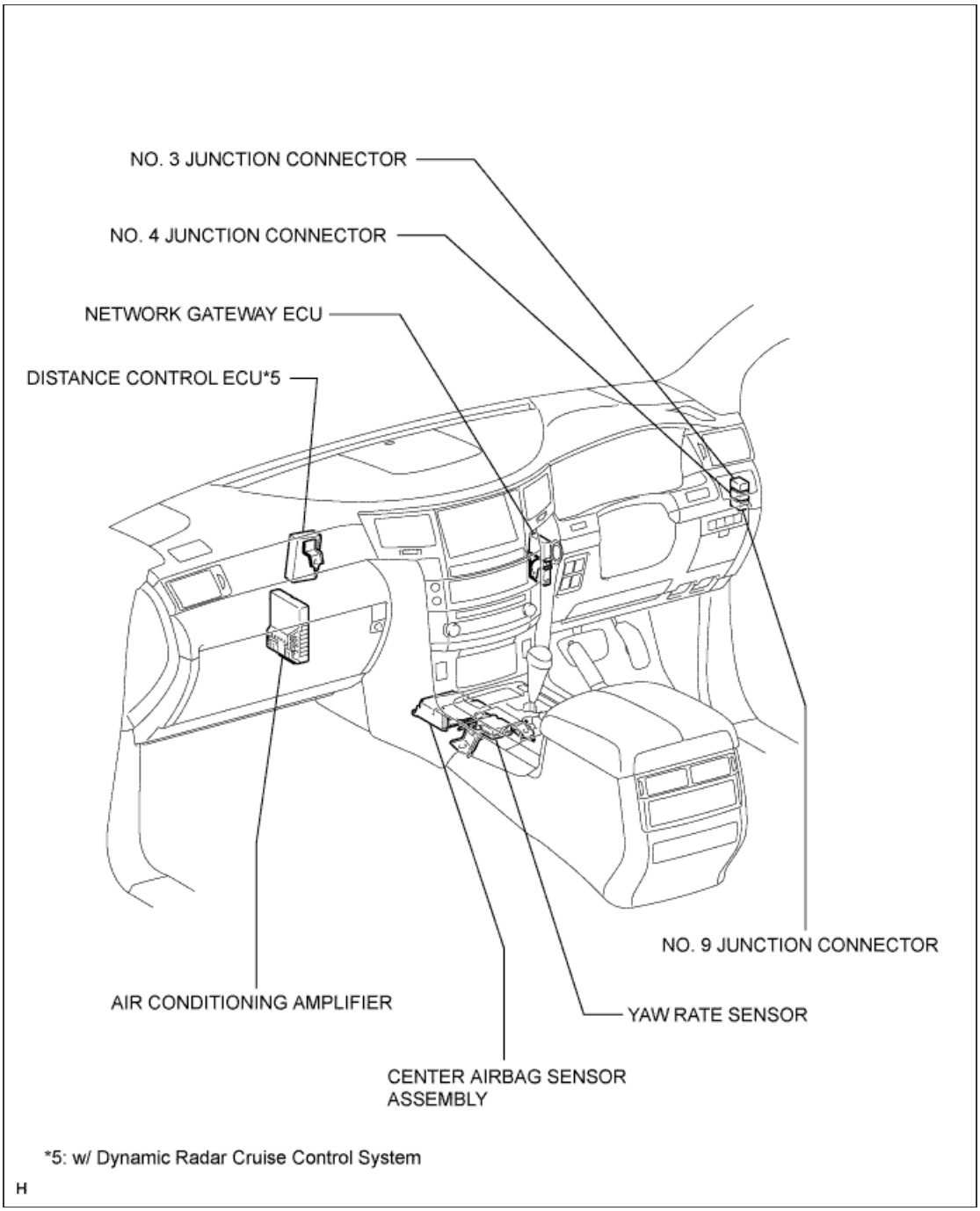



Refer to Service Bulletin for installation position.




*4: w/ Pre-Crash Safety System

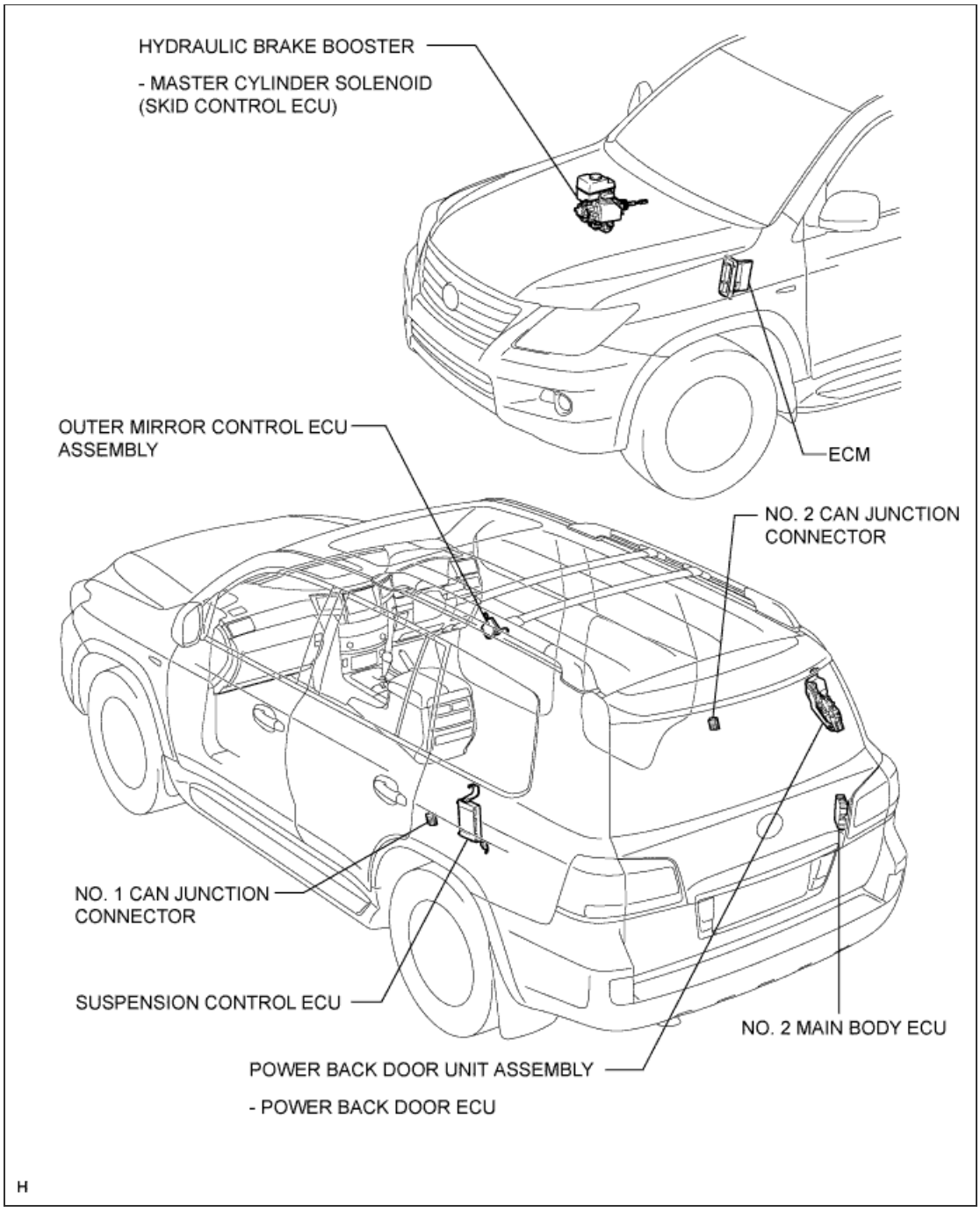
H

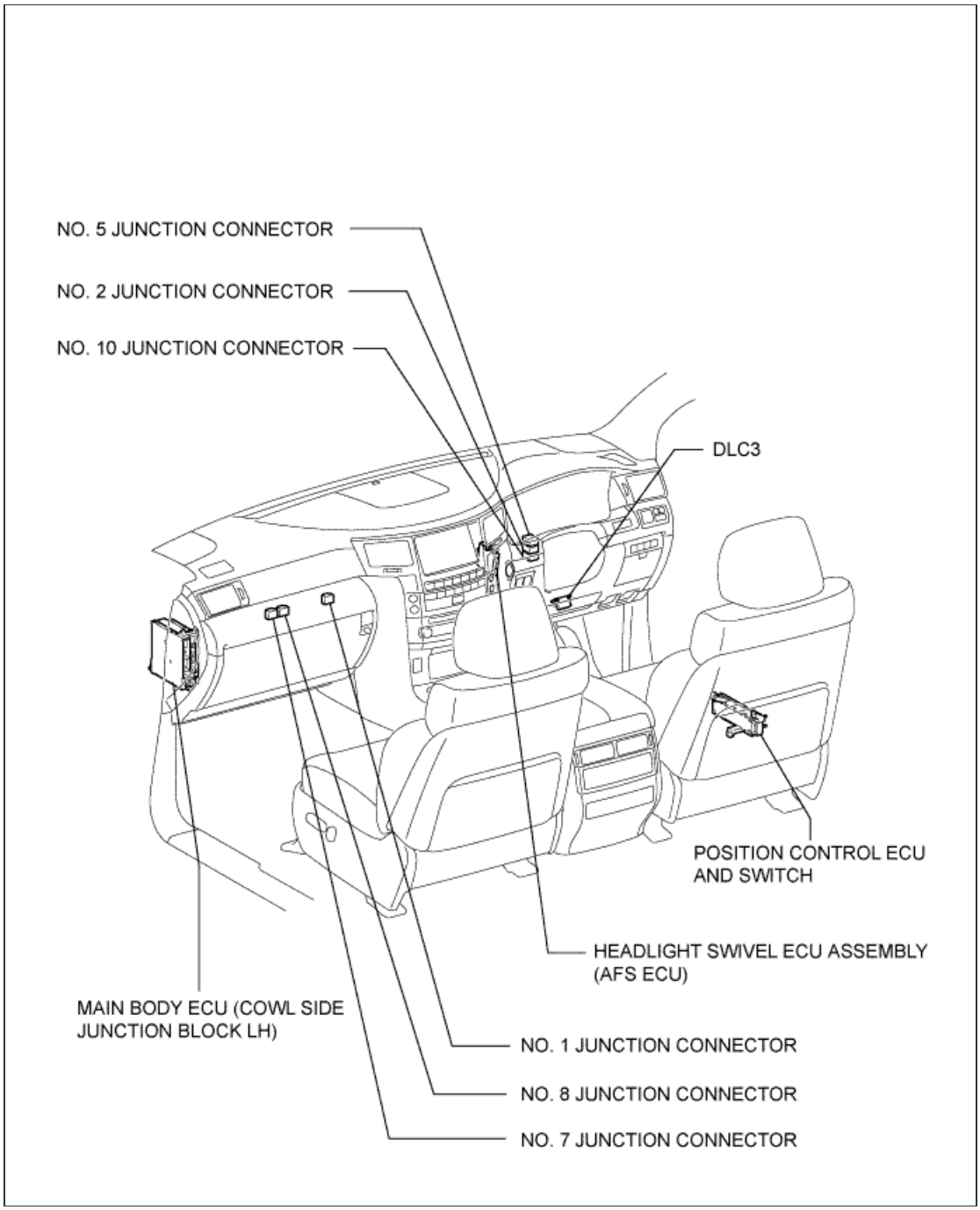


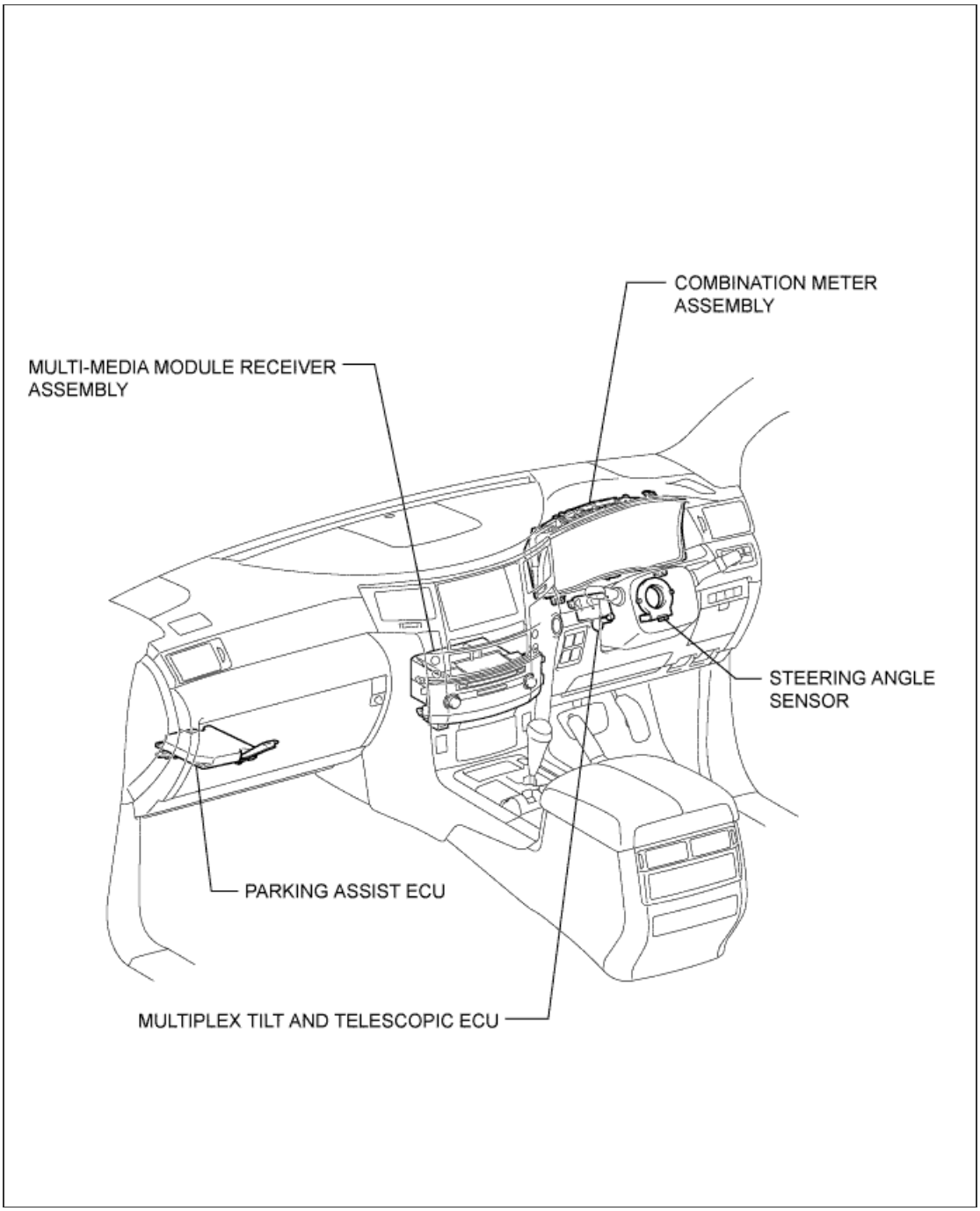

*5: w/ Dynamic Radar Cruise Control System

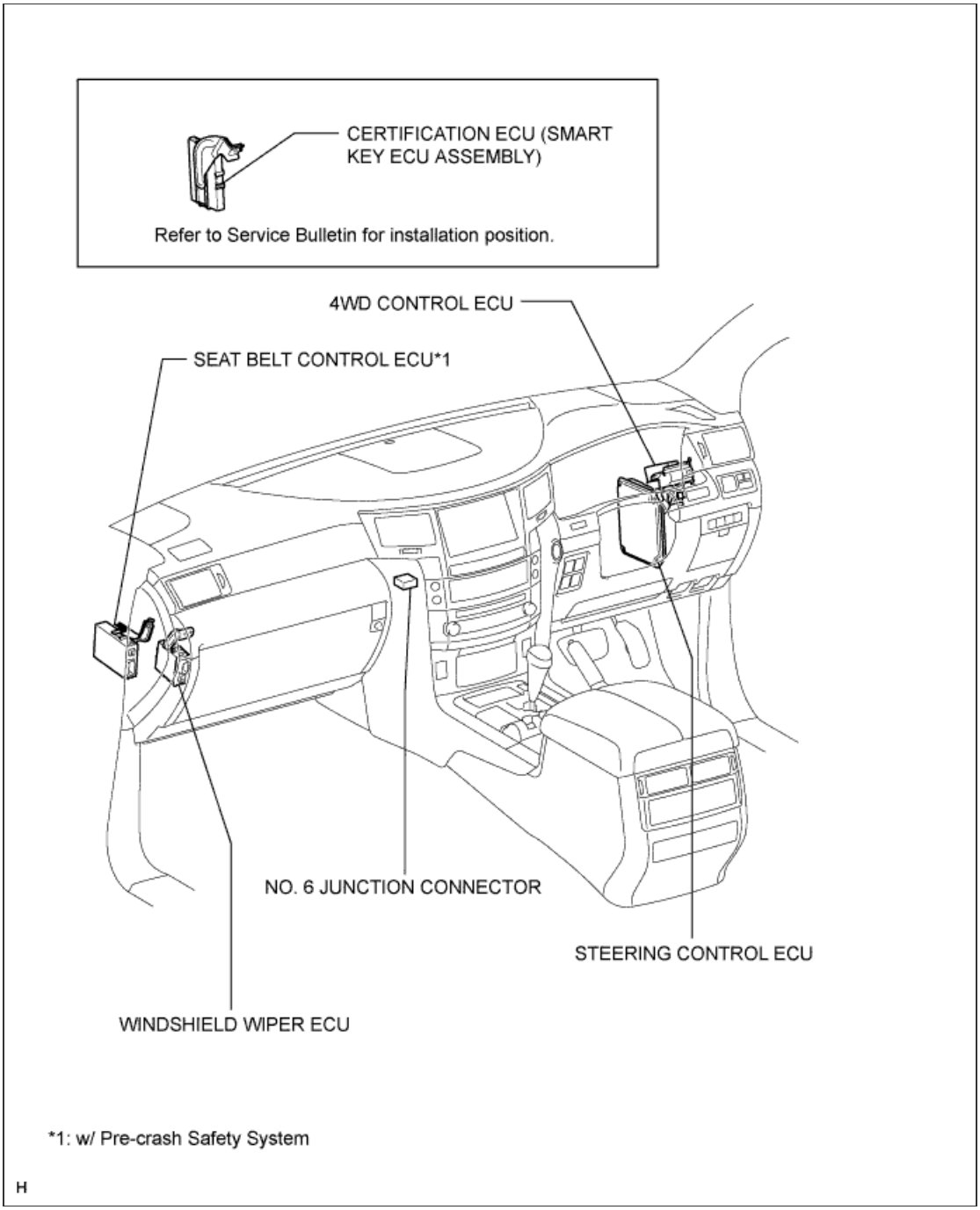
H

**for Preparation** Click here



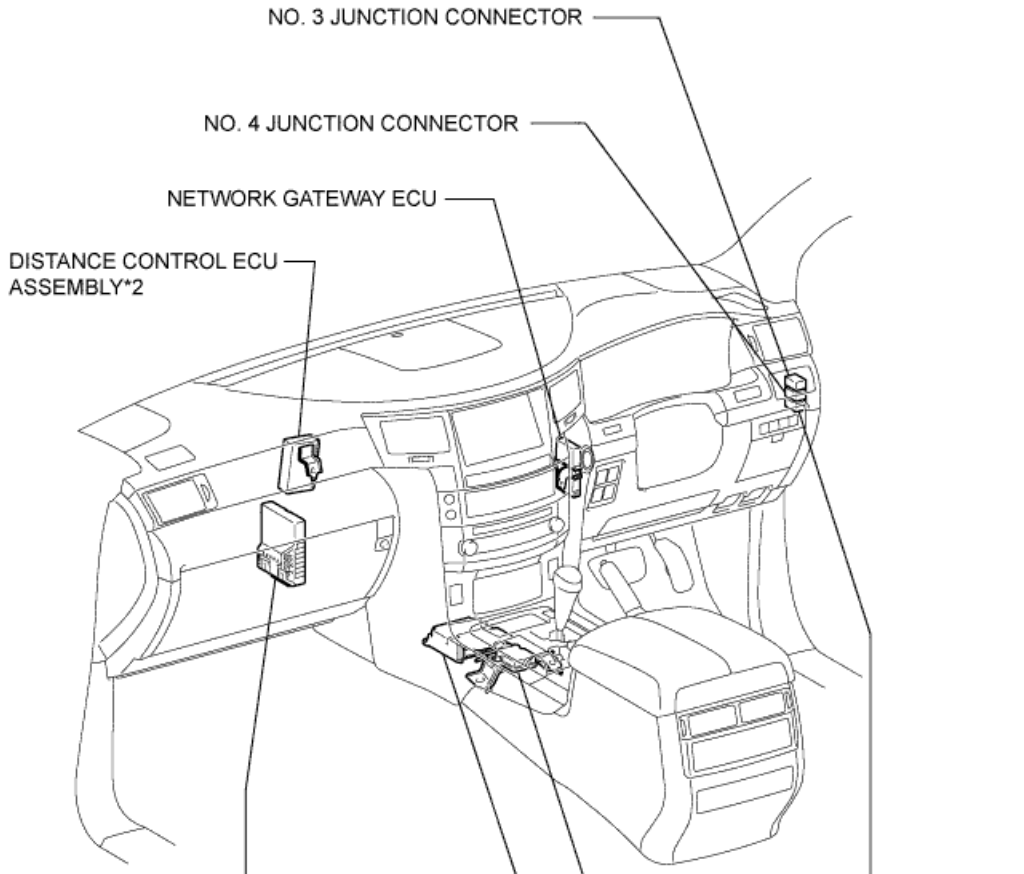

NO. 5 JUNCTION CONNECTOR
NO. 2 JUNCTION CONNECTOR
NO. 10 JUNCTION CONNECTOR
DLC3
POSITION CONTROL ECU AND SWITCH
HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU)
MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)
NO. 1 JUNCTION CONNECTOR
NO. 8 JUNCTION CONNECTOR
NO. 7 JUNCTION CONNECTOR


COMBINATION METER ASSEMBLY
MULTI-MEDIA MODULE RECEIVER ASSEMBLY
STEERING ANGLE SENSOR
PARKING ASSIST ECU
MULTIPLEX TILT AND TELESCOPIC ECU




*1: w/ Pre-crash Safety System

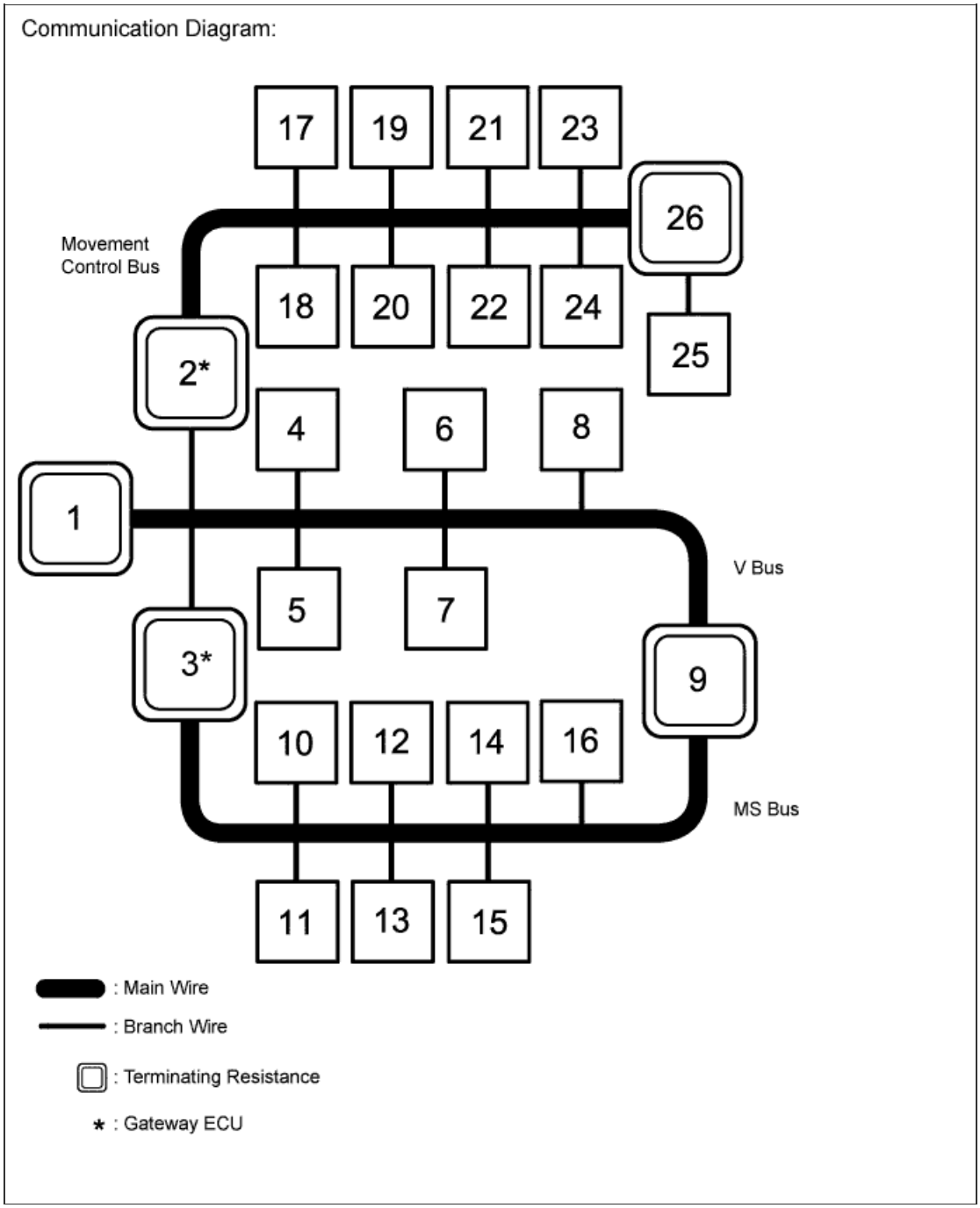
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*2: w/ Dynamic Radar Cruise Control System

H

**for Preparation** Click here

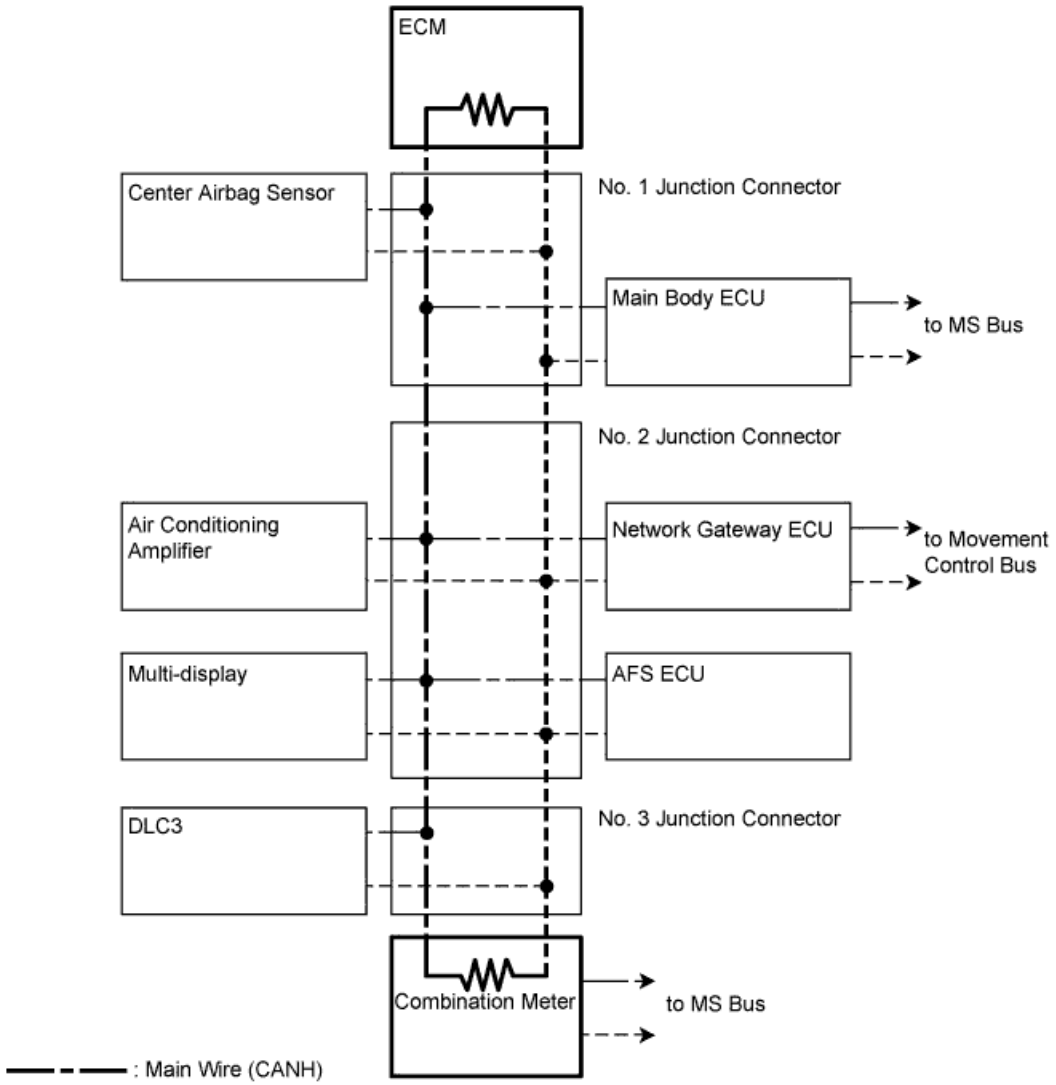



| No. | ECU/Sensor Name |
|---|---|
| 1 | ECM |
| 2 | Network Gateway ECU |
| 3 | Main Body ECU (Cowl Side Junction Block LH) |
| 4 | DLC3 |
| 5 | Air Conditioning Amplifier |
| 6 | Center Airbag Sensor |
| 7 | Multi-display |
| 8 | AFS ECU (Headlight Swivel ECU) |
| 9 | Combination Meter |
| 10 | Certification ECU (Smart Key ECU) |
| 11 | Multiplex Tilt and Telescopic ECU |
| | |

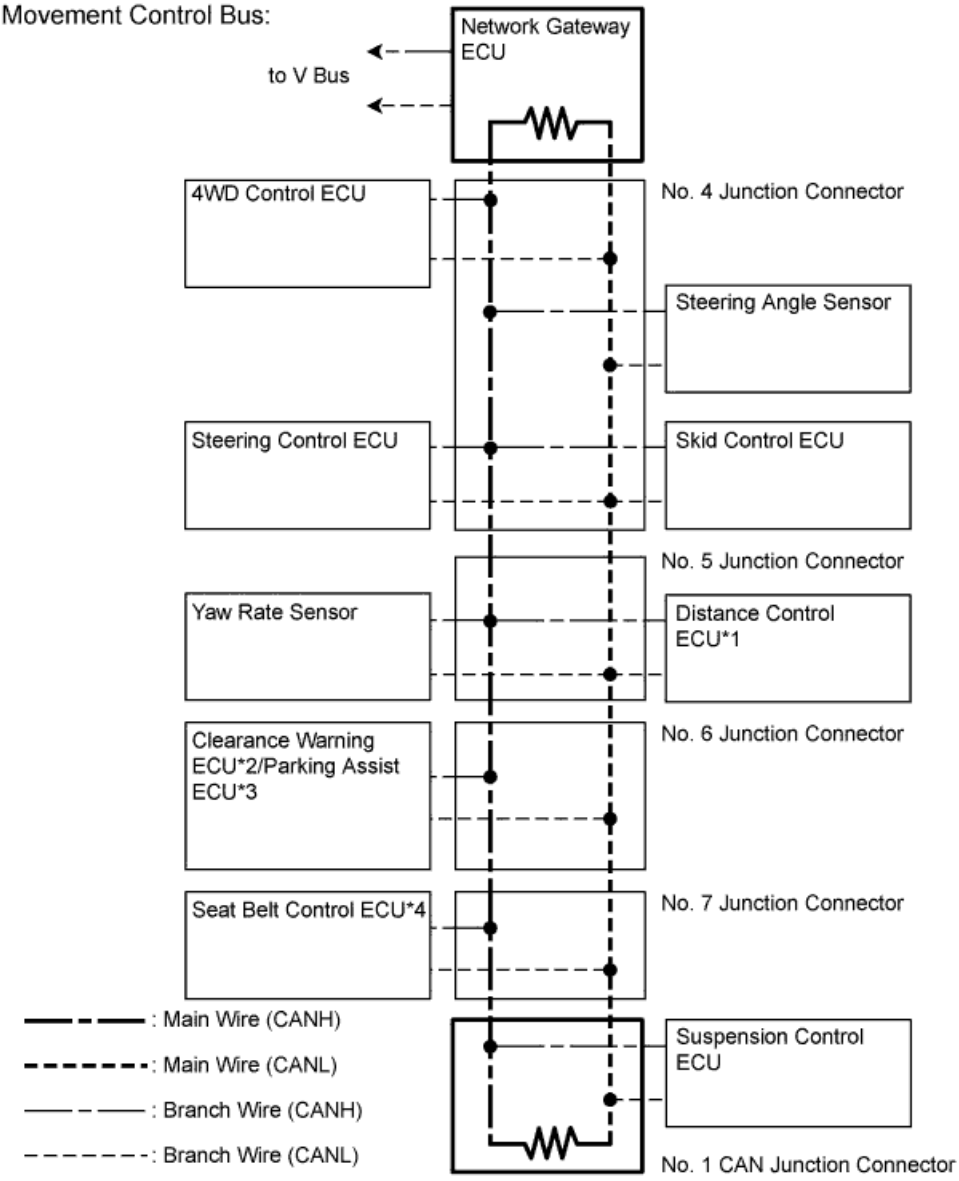
| | |
|---|---|
| 12 | Outer Mirror Control ECU |
| 13 | Position Control ECU and Switch |
| 14 | No. 2 Main Body ECU |
| 15 | Power Back Door Unit (Power Back Door ECU)*1 |
| 16 | Windshield Wiper ECU |
| 17 | Master Cylinder Solenoid (Skid Control ECU) |
| 18 | Yaw Rate Sensor |
| 19 | Steering Angle Sensor |
| 20 | 4WD Control ECU |
| 21 | Parking Assist ECU*2<br>Clearance Warning ECU*3 |
| 22 | Seat Belt Control ECU*4 |
| 23 | Distance Control ECU*5 |
| 24 | Steering Control ECU |
| 25 | Suspension Control ECU |
| 26 | No. 1 CAN Junction Connector |

*1: w/ Power Back Door System
*2: w/ Parking Assist Monitor System
*3: w/ LEXUS Parking Assist-sensor System
*4: w/ Pre-Crash Safety System
*5: w/ Dynamic Radar Cruiser Control System

V Bus:


ECM
Center Airbag Sensor
No. 1 Junction Connector
Main Body ECU
to MS Bus
No. 2 Junction Connector
Air Conditioning Amplifier
Network Gateway ECU
to Movement Control Bus
Multi-display
AFS ECU
DLC3
No. 3 Junction Connector
Combination Meter
to MS Bus
: Main Wire (CANH)
: Main Wire (CANL)
: Branch Wire (CANH)
: Branch Wire (CANL)

Movement Control Bus:

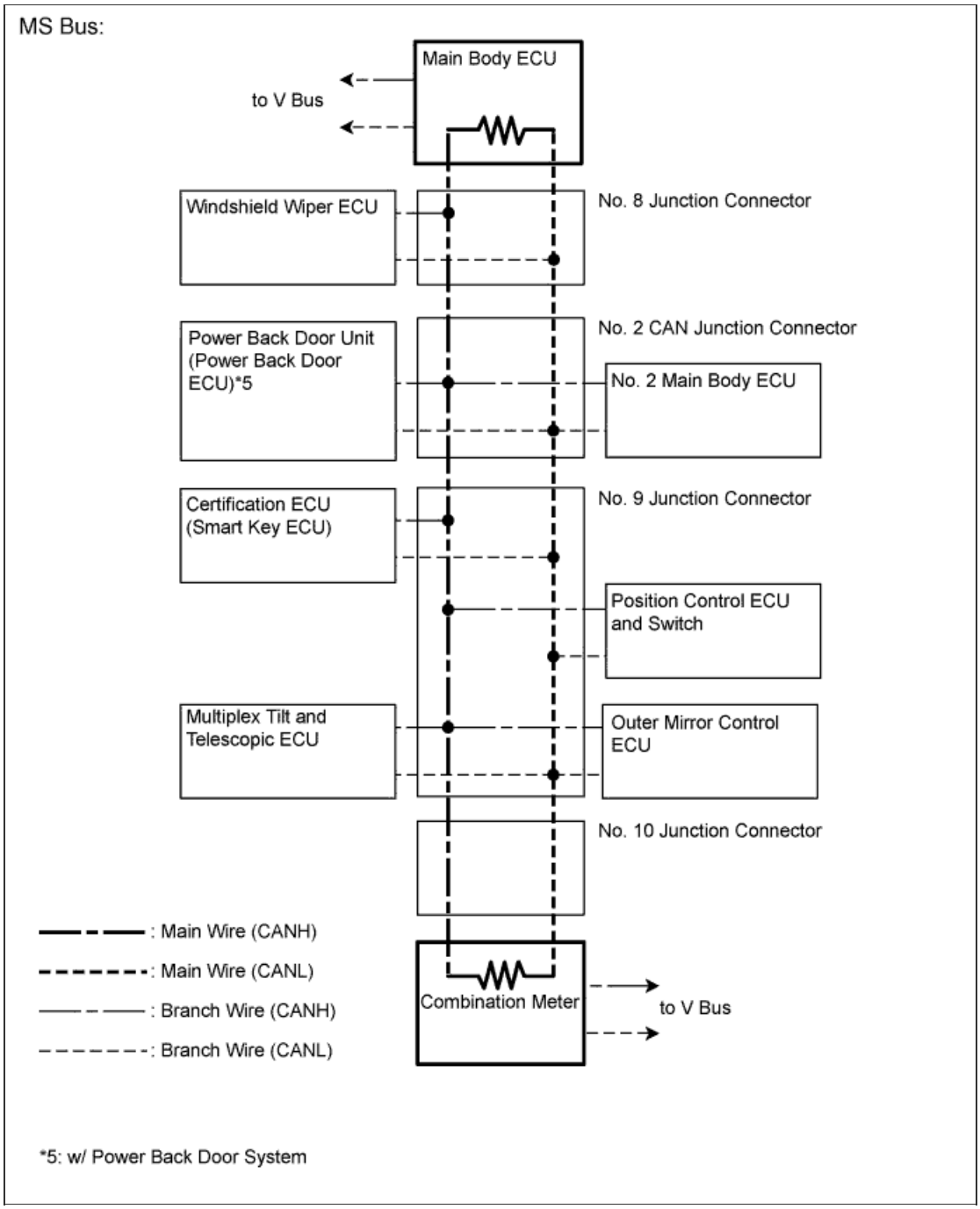



*1: w/ Dynamic Radar Cruise Control System

*2: w/ LEXUS Parking Assist-sensor System

*3: w/ Parking Assist Monitor System

*4: w/ Pre-Crash Safety System




**HINT:**

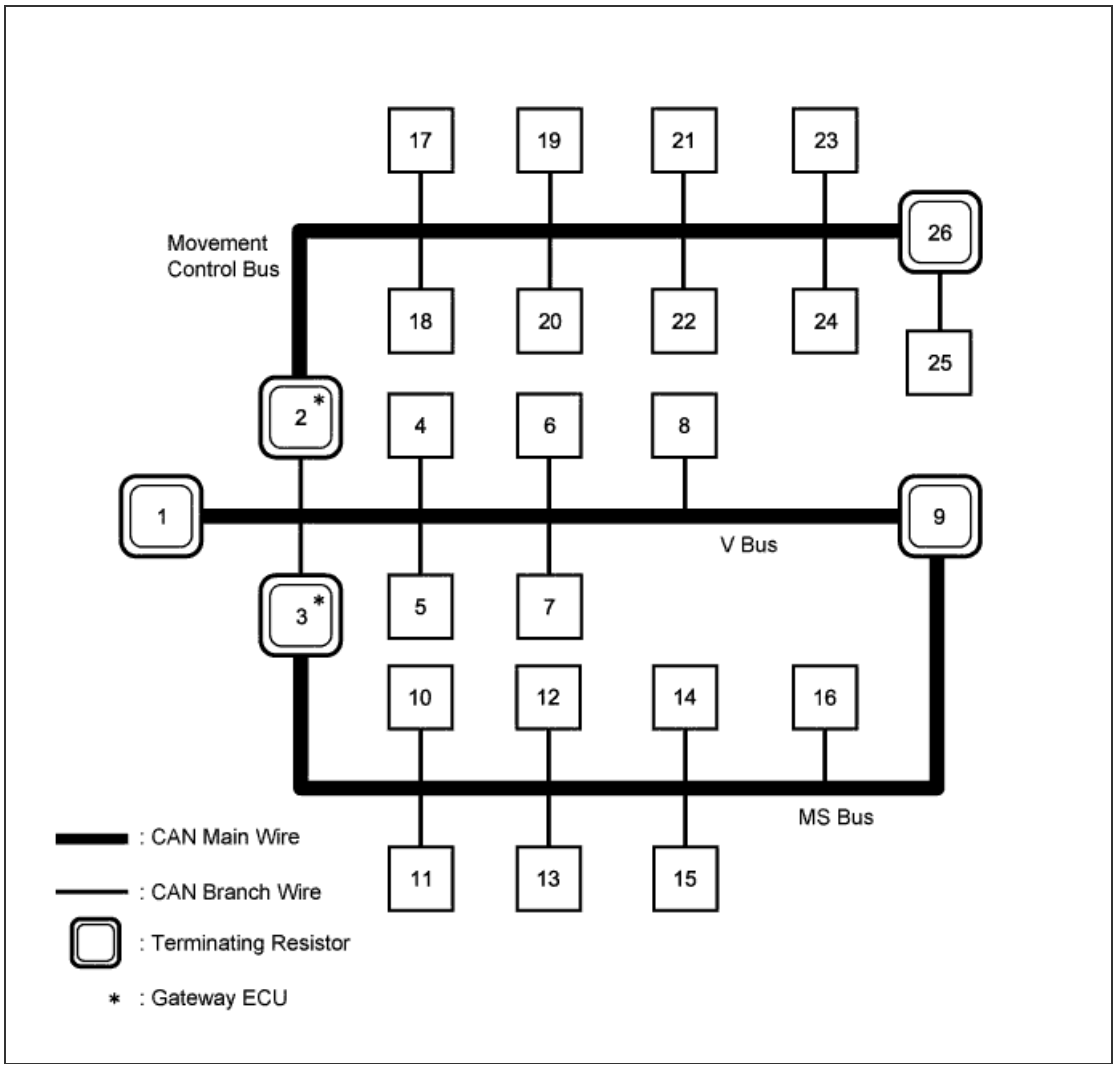
- **The master cylinder solenoid (skid control ECU) stores steering sensor and yaw rate sensor DTCs and performs DTC communication by receiving information from the steering sensor and yaw rate sensor.**
- **The ECM uses the CAN communication system to perform DTC communication instead of the conventional communication line (SIL).**

**for Preparation** Click here

**HINT:**

- **The master cylinder solenoid (skid control ECU) stores steering sensor and yaw rate sensor assembly DTCs and performs DTC communication by receiving information from the steering sensor and yaw rate sensor.**
- **The ECM uses the CAN communication system to perform DTC communication instead of the conventional communication line (SIL).**

## System Diagram

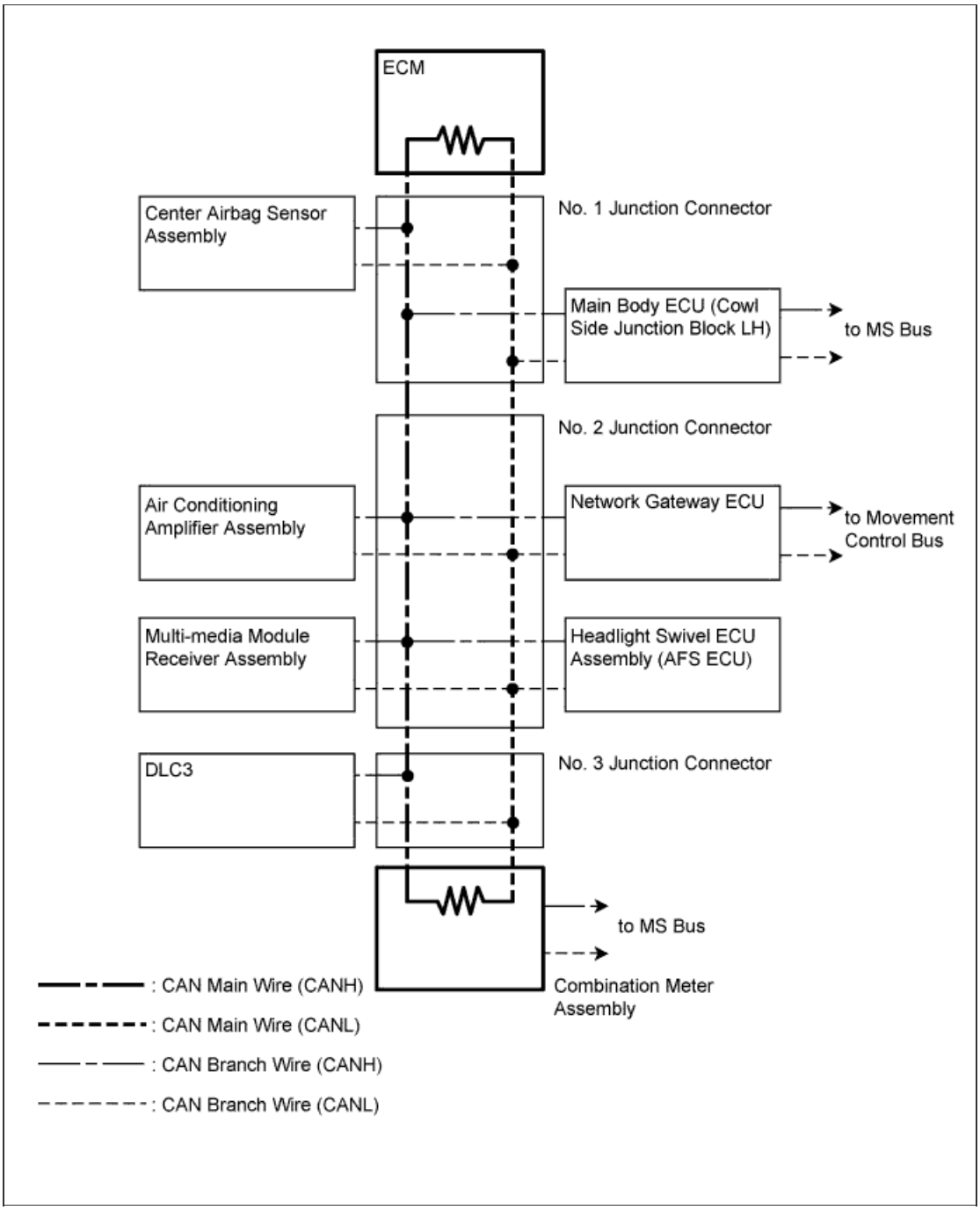



| No. | ECU/Sensor Name |
|---|---|
| 1 | ECM |
| 2 | Network gateway ECU |
| 3 | Main body ECU (cowl side junction block LH) |
| 4 | DLC3 |
| 5 | Air conditioning amplifier assembly |
| 6 | Center airbag sensor assembly |
| 7 | Multi-media module receiver assembly |
| 8 | Headlight Swivel ECU assembly (AFS ECU) |
| 9 | Combination meter assembly |
| 10 | Certification ECU (smart key ECU assembly) |
| 11 | Multiplex tilt and telescopic ECU |
| 12 | Outer mirror control ECU assembly |

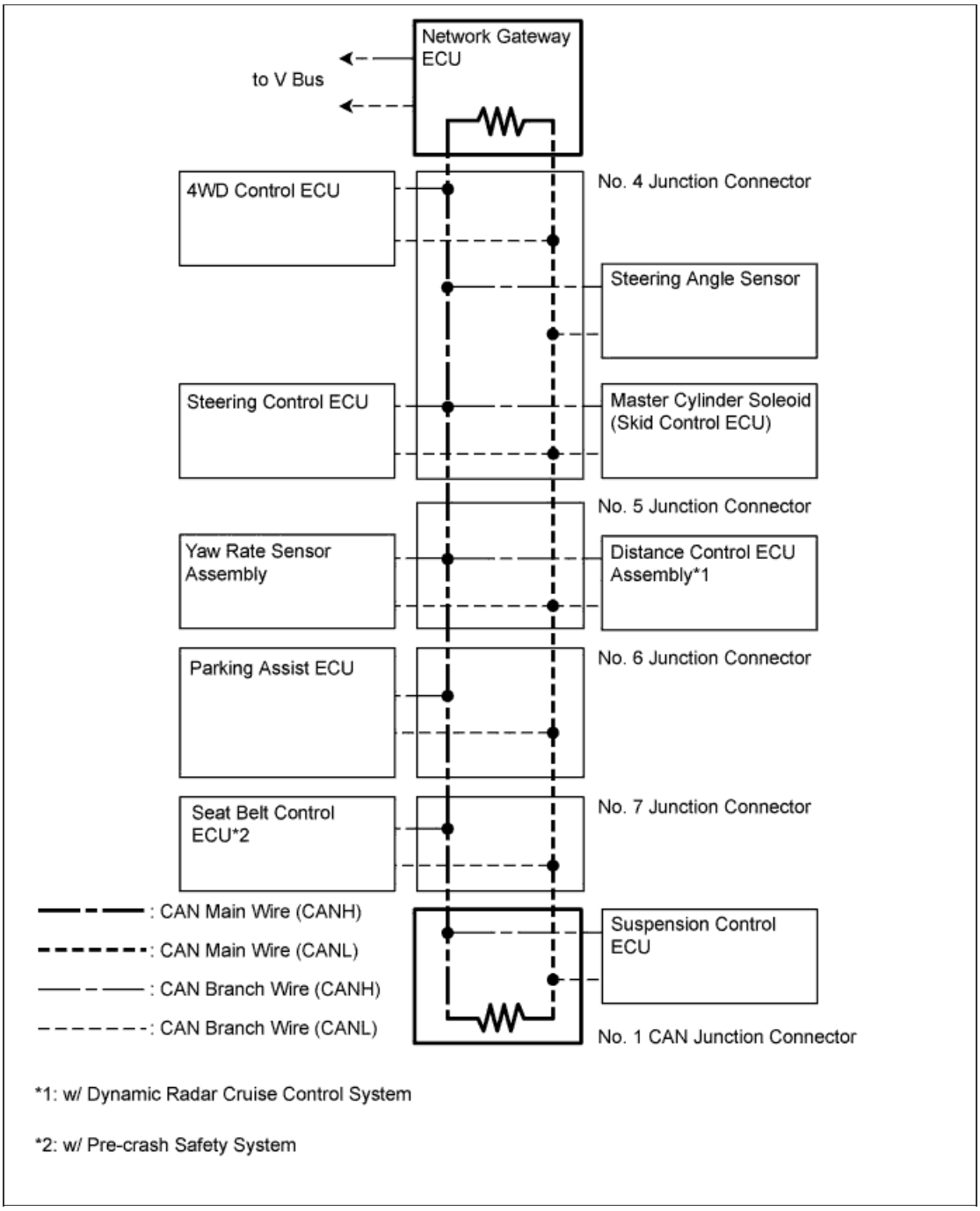
| | |
|---|---|
| 13 | Position control ECU and switch |
| 14 | No. 2 main body ECU |
| 15 | Power back door unit assembly (power back door ECU) |
| 16 | Windshield wiper ECU |
| 17 | Master cylinder solenoid (skid control ECU) |
| 18 | Yaw rate sensor assembly |
| 19 | Steering angle sensor |
| 20 | 4WD control ECU |
| 21 | Parking assist ECU |
| 22 | Seat belt control ECU*1 |
| 23 | Distance control ECU assembly*2 |
| 24 | Steering control ECU |
| 25 | Suspension control ECU |
| 26 | No. 1 CAN junction connector |

*1: w/ Pre-crash Safety System
*2: w/ Dynamic Radar Cruiser Control System

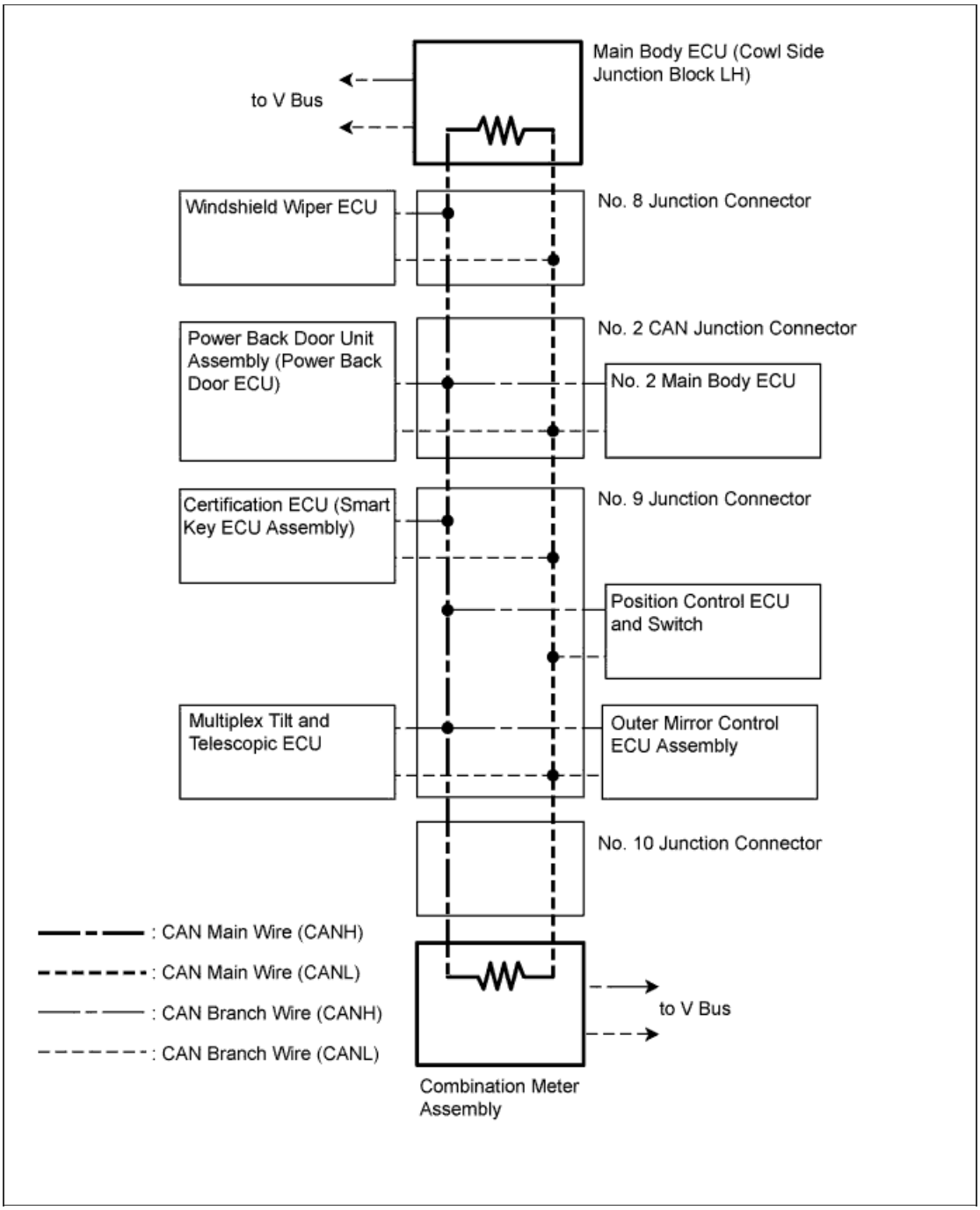
**V Bus**




**Movement Control Bus**


Network Gateway ECU
to V Bus
4WD Control ECU
No. 4 Junction Connector
Steering Angle Sensor
Steering Control ECU
Master Cylinder Soleoid (Skid Control ECU)
No. 5 Junction Connector
Yaw Rate Sensor Assembly
Distance Control ECU Assembly*1
Parking Assist ECU
No. 6 Junction Connector
Seat Belt Control ECU*2
No. 7 Junction Connector
: CAN Main Wire (CANH)
: CAN Main Wire (CANL)
: CAN Branch Wire (CANH)
: CAN Branch Wire (CANL)
Suspension Control ECU
No. 1 CAN Junction Connector
*1: w/ Dynamic Radar Cruise Control System
*2: w/ Pre-crash Safety System

MS Bus


Main Body ECU (Cowl Side Junction Block LH)
to V Bus
Windshield Wiper ECU
No. 8 Junction Connector
Power Back Door Unit Assembly (Power Back Door ECU)
No. 2 CAN Junction Connector
No. 2 Main Body ECU
Certification ECU (Smart Key ECU Assembly)
No. 9 Junction Connector
Position Control ECU and Switch
Multiplex Tilt and Telescopic ECU
Outer Mirror Control ECU Assembly
No. 10 Junction Connector
: CAN Main Wire (CANH)
: CAN Main Wire (CANL)
: CAN Branch Wire (CANH)
: CAN Branch Wire (CANL)
to V Bus
Combination Meter Assembly

**for Preparation** Click here

## BRIEF DESCRIPTION

a. The CAN (Controller Area Network) is a serial data communication system for real time application. It is a vehicle multiplex communication system which has a high communication speed (500 kbps, 250 kbps) and the ability to detect malfunctions.

b. By pairing the CANH and CANL bus lines, the CAN performs communication based on differential voltages.

c. Many ECUs (sensors) installed on the vehicle operate by sharing information and communicating with each other.

d. The CAN has 2 resistors of 120 Ω which are necessary to communicate with the main wire.

## DEFINITION OF TERMS

a. Main wire

    i. The main wire is a wire harness between the 2 termination circuits on the bus (communication line). This is the main bus in the CAN communication system.

b. Branch wire

    i. The branch wire is a wire harness which diverges from the main wire to an ECU or sensor.

c. Termination circuits

    i. The termination circuit is a circuit which converts the communication current of the CAN communication into the bus voltage. It consists of a resistor and condenser. 2 termination circuits are necessary on a bus.

d. CAN junction connector

    i. The CAN junction connector is designed so that it can be used with CAN communication which has a termination circuit and CAN communication which does not have a termination circuit.

## CIRCUIT DESCRIPTION

a. The V bus, movement control bus and MS bus each have termination circuits with resistance of 120 Ω x 2. High speed communication at 500 kbps and 250 kbps is possible.

## ECU OR SENSOR WHICH COMMUNICATE VIA CAN COMMUNICATION SYSTEM

a. Master cylinder solenoid (skid control ECU)

b. Air conditioning amplifier

c. ECM

d. Main body ECU (cowl side junction block LH)

e. Combination meter

f. Center airbag sensor

g. Multi-display

h. Steering angle sensor

i. Yaw rate sensor

j. Seat belt control ECU*1

k. Clearance warning ECU*2

l. Parking assist ECU*3

m. Outer mirror control ECU

n. Multiplex tilt and telescopic ECU

o. Certification ECU (smart key ECU)

p. Position control ECU and switch

q. Network gateway ECU

r. 4WD control ECU

s. No. 2 main body ECU

t. Power back door unit (power back door ECU)*4

u. Distance control ECU*5

v. Steering control ECU

w. Suspension control ECU

x. AFS ECU (headlight swivel ECU)

y. Windshield wiper ECU

*1: w/ Pre-Crash Safety System
*2: w/ LEXUS Parking Assist-sensor System
*3: w/ Parking Assist Monitor System
*4: w/ Power Back Door System
*5: w/ Dynamic Radar Cruise Control System

## DIAGNOSTIC CODES FOR CAN COMMUNICATION SYSTEM

a. DTCs for the CAN communication system are as follows: U0073, U0100, U0101, U0114/38, U0122, U0123, U0124, U0126, U0129, U0130, U0132, U0140, U0141, U0151, U0155, U0199, U0208, U0230, U0327, U1002 (CAN MS BUS), U1002 (CAN No. 2 BUS), U1100, U1101, U1110, U1111, U1115, U1117, B1499, B2427, B2621, B2624, C1AEF and C2179.

## NOTES REGARDING TROUBLESHOOTING

a. Trouble in the CAN bus (communication line) can be checked through the DLC3 (except when there is a wire break in the branch wire of the DLC3).

b. DTCs regarding the CAN communication system can be checked using the intelligent tester.

c. The CAN communication system cannot detect trouble in the branch line of the DLC3 even though the DLC3 is also connected to the CAN communication system.

## HOW TO DISTINGUISH CAN JUNCTION CONNECTOR CONNECTOR

a. In the CAN communication system, the shape of all connectors connected to the CAN junction connector is the same.
The connectors connected to the CAN junction connector can be distinguished by the colors of the bus line and the connecting side of the connector.

**HINT:**

See "Terminals of ECU" (Click here) for bus line color or the type of connecting surface.

**for Preparation** Click here

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a. The CAN (Controller Area Network) is a serial data communication system for real time application. It is a vehicle multiplex communication system which has a high communication speed (500 kbps, 250 kbps) and the ability to detect malfunctions.

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## ECU OR SENSOR WHICH COMMUNICATE VIA CAN COMMUNICATION SYSTEM

a. Master cylinder solenoid (skid control ECU)

b. Air conditioning amplifier

c. ECM

d. Main body ECU (cowl side junction block LH)

e. Combination meter

f. Center airbag sensor

g. Display and navigation module display

h. Steering angle sensor

i. Yaw rate sensor

j. Seat belt control ECU*1

k. Clearance warning ECU*2

l. Parking assist ECU*3

m. Outer mirror control ECU

n. Multiplex tilt and telescopic ECU

o. Certification ECU (smart key ECU)

p. Position control ECU and switch

q. Network gateway ECU

r. 4WD control ECU

s. No. 2 main body ECU

t. Power back door unit (power back door ECU)*4

u. Distance control ECU*5

v. Steering control ECU

w. Suspension control ECU

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y. Windshield wiper ECU

*1: w/ Pre-Crash Safety System
*2: w/ LEXUS Parking Assist-sensor System
*3: w/ Parking Assist Monitor System
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## NOTES REGARDING TROUBLESHOOTING

a. Trouble in the CAN bus (communication line) can be checked through the DLC3 (except when there is a wire break in the branch wire of the DLC3).

b. DTCs regarding the CAN communication system can be checked using the intelligent tester.

c. The CAN communication system cannot detect trouble in the branch line of the DLC3 even though the DLC3 is also connected to the CAN communication system.

## HOW TO DISTINGUISH CAN JUNCTION CONNECTOR CONNECTOR

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**for Preparation** Click here

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## CIRCUIT DESCRIPTION

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## ECU OR SENSOR WHICH COMMUNICATE VIA CAN COMMUNICATION SYSTEM

a. Master cylinder solenoid (skid control ECU)

b. Air conditioning amplifier assembly

c. ECM

d. Main body ECU (cowl side junction block LH)

e. Combination meter assembly

f. Center airbag sensor assembly

g. Multi-media module receiver assembly

h. Steering angle sensor

i. Yaw rate sensor assembly

j. Seat belt control ECU*1

k. Parking assist ECU

l. Outer mirror control ECU assembly

m. Multiplex tilt and telescopic ECU

n. Certification ECU (smart key ECU assembly)

o. Position control ECU and switch

p. Network gateway ECU

q. 4WD control ECU

r. No. 2 main body ECU

s. Power back door unit assembly (power back door ECU)

t. Distance control ECU assembly*2

u. Steering control ECU

v. Suspension control ECU

w. Headlight swivel ECU assembly (AFS ECU)

x. Windshield wiper ECU

*1: w/ Pre-crash Safety System
*2: w/ Dynamic Radar Cruise Control System

## DIAGNOSTIC CODES FOR CAN COMMUNICATION SYSTEM

a. DTCs for the CAN communication system are as follows: U0073, U0100, U0101, U0104, U0114/38, U0122, U0123, U0124, U0125, U0126, U0129, U0130, U0132, U0140, U0141, U0151, U0155, U0199, U0208, U0230, U0235, U0327, U1002 (CAN MS BUS), U1002 (CAN No. 2 BUS), U1100, U1101, U1102, U110B, U1111, U1115, B2427, B2621 and B2624.

## NOTES REGARDING TROUBLESHOOTING

a. Trouble in the CAN bus (communication line) can be checked through the DLC3 (except when there is a wire break in the branch wire of the DLC3).

b. DTCs regarding the CAN communication system can be checked using the intelligent tester.

c. The CAN communication system cannot detect trouble in the branch line of the DLC3 even though the DLC3 is also connected to the CAN communication system.

## HOW TO DISTINGUISH CAN JUNCTION CONNECTOR CONNECTOR

a. In the CAN communication system, the shape of all connectors connected to the CAN junction connector is the same.
The connectors connected to the CAN junction connector can be distinguished by the colors of the bus line and the connecting side of the connector.

**HINT:**

See "Terminals of ECU" (Click here) for bus line color or the type of connecting surface.

**for Preparation** Click here

Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **DTCs for the CAN communication system are as follows: U0073, U0100, U0101, U0114/38, U0122, U0123, U0124, U0126, U0129, U0130, U0132, U0140, U0141, U0151, U0155, U0199, U0208, U0230, U0327, U1002 (CAN MS BUS), U1002 (CAN No. 2 BUS), U1100, U1101, U1110, U1111, U1115, U1117, B1499, B2427, B2621, B2624, C1AEF and C2179.**
- **Refer to the troubleshooting procedures of each system if DTCs regarding the CAN communication system are not output.**
- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

- **Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.**
- ***: 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 AND CLEAR DTC*

a. Using the intelligent tester, perform the all DTCs check.

**NOTICE:**

- **If there is a CAN communication trouble code that indicates that an ECU or sensor has a power malfunction or interior malfunction which is causing a communication stop, the problem may not be in the communication line.**
- **When CAN communication related connectors are disconnected with the engine switch on (IG) or on (ACC), the ECU related to the connector and ECUs of related systems will store a CAN communication DTC.**

**NEXT**

## 4.CHECK INSTALLED SYSTEMS (ECU AND SENSOR) THAT USE CAN COMMUNICATION

a. Based on the vehicle equipment and specifications, confirm the systems that use CAN communication ( Click here).

**NEXT**

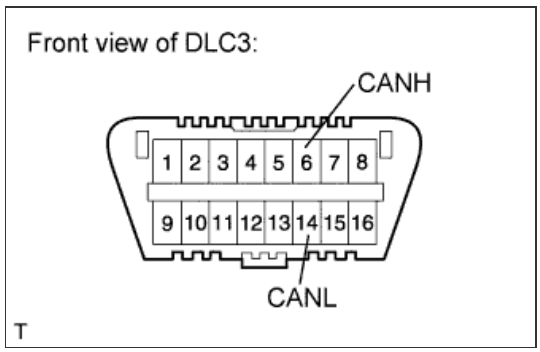
## 5.CHECK DLC3 BRANCH WIRE AND V BUS CIRCUIT MAIN WIRE (CANH - CANL)

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

b. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Proceed to |
|---|---|---|---|
| 6 (CANH) - 14 (CANL) | Engine switch off | OK (54 to 69 Ω) | A |
| 6 (CANH) - 14 (CANL) | Engine switch off | NG (70 Ω or higher) | B |
| 6 (CANH) - 14 (CANL) | Engine switch off | NG (Below 54 Ω) | C |




B. Go to CAN MAIN WIRE FOR DISCONNECTION (Click here)

C. Go to CHECK CAN BUS LINES FOR SHORT CIRCUIT (Click here)

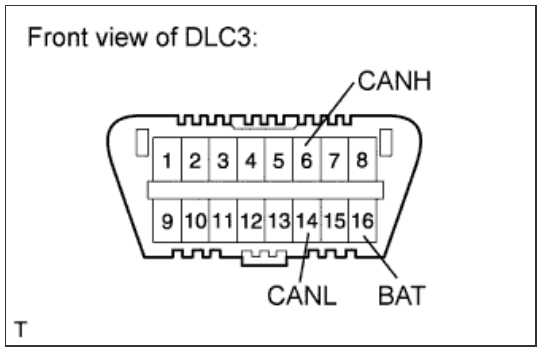
A

## 6.CHECK V BUS CIRCUIT +B (CANH, CANL - BAT)

a. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (CANH) - 16 (BAT) | Engine switch off | 6 kΩ or higher |
| 14 (CANL) - 16 (BAT) | Engine switch off | 6 kΩ or higher |




NG. Go to CHECK CAN BUS LINE FOR SHORT TO +B (Click here)

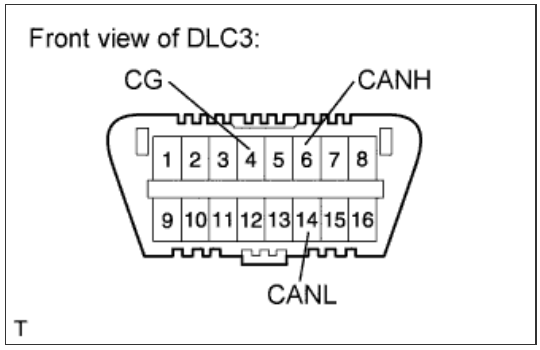
OK

## 7.CHECK V BUS CIRCUIT GND (CANH, CANL - CG)

a. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (CANH) - 4 (CG) | Engine switch off | 200 Ω or higher |
| 14 (CANL) - 4 (CG) | Engine switch off | 200 Ω or higher |




NG. Go to CHECK CAN BUS LINE FOR SHORT TO GND (Click here)

OK

## 8.CHECK ECUS CONNECTED TO CAN BUS*

a. 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).

b. Select "Bus Check" from "System Select".

c. Wait 1 minute and then check the display of the connected ECUs and sensors.

**Result**

| Inspection Result | Proceed to |
|---|---|
| All ECUs and sensors connected to the CAN communication system are displayed on the screen. | A |
| Except for the main body ECU (cowl side junction block LH), no ECUs connected to the MS bus are displayed.<br>The main body ECU (cowl side junction block LH) outputs the MS bus trouble code (U1002) (the MS bus main wire open or short malfunction). | B |
| No ECUs connected to the MS bus are displayed (the branch wire between the main body ECU (cowl side junction block LH) and V bus circuit is open). | C |
| Except for the network gateway ECU, no ECUs connected to the movement control bus are displayed.<br>The network gateway ECU outputs the movement control bus trouble code (U1002) (the movement control bus main wire open or short malfunction). | D |
| No ECUs connected to the movement control bus are displayed (the branch wire between the network gateway ECU and movement control bus is open). | E |
| An ECU or sensor that should be connected to the CAN communication system is not displayed (the ECU or sensor branch wire is open). | F |
| An ECU or sensor that should be connected to the CAN communication system is not displayed or display is intermittent during check (the ECU or sensor branch wire is open on one side). | G |

**NOTICE:**

The ECUs and sensors that are not present will not be displayed. Be careful not to mistake them for communication stop malfunctions.

**HINT:**

- **If the display of an ECU is intermittent during the check, one side of an ECU or sensor branch wire is open (The signal of the ECU is treated as noise, which affects the response and display of the intelligent tester).**
- **The main body ECU (cowl side junction block LH) checks for proper ECU communication for ECUs that are connected to the CAN MS bus circuit, and the results are displayed on the intelligent tester.**
- **The gateway ECU built into the main body ECU (cowl side junction block LH) may be malfunctioning if both of the following occurs: 1) all ECUs connected to the MS bus are not displayed on the intelligent tester; and 2) DTC U1002 is not output.**
- **If communication stops between an ECU and the main body ECU (cowl side junction block LH) or network gateway ECU for 10 seconds or more, the ECU disappears from the intelligent tester display.**
- **For communication stop mode of ECUs connected to the CAN MS bus circuit or movement control bus, refer to the DTC flowchart of the respective communication stop.**

| | |
|---|---|
| B. | Go to DTC U1002 FLOWCHART (Click here) |
| C. | Go to MAIN BODY ECU COMMUNICATION STOP MODE FLOWCHART (Click here) |
| D. | Go to DTC U1002 FLOWCHART (Click here) |
| E. | Go to NETWORK GATEWAY ECU COMMUNICATION STOP MODE FLOWCHART (Click here) |
| F. | Go to PROBLEM SYMPTOMS TABLE (Click here) |
| G. | Go to OPEN IN ONE SIDE OF CAN BRANCH WIRE FLOWCHART (Click here) |

A

## 9.CHECK COMMUNICATION MALFUNCTION DTC (PAST DTC CHECK)*

a. Select "Bus Check" from "System Select".

b. Write down all of the DTCs stored in each ECU.

**HINT:**

- **If there are communication malfunction DTCs stored but the intelligent tester "Bus Check - Communication Bus Check" screen displays all of the ECUs and sensors connected to the CAN system, the communication malfunction DTCs may be past malfunctions that are no longer present.**
- **For V bus main wire malfunctions, related ECUs are also detected. Therefore, determine the malfunctioning area based on all of the DTCs that are output.**
- **For MS bus malfunctions, DTCs are stored based on the detection of communication stop malfunctions and network malfunctions of ECUs that are connected by the main body ECU (cowl side junction block LH).**
- **For movement control bus malfunctions, DTCs are stored based on the detection of communication stop malfunctions and network malfunctions of ECUs that are connected by the network gateway ECU.**

**Result**

| Inspection Result | Proceed to |
|---|---|
| An ECU connected to the V bus main wire has stored a communication trouble code (V bus main wire past malfunction). | A |
| The main body ECU (cowl side junction block LH) outputs the MS bus trouble code (U1002) (MS bus past malfunction). | B |
| The main body ECU (cowl side junction block LH) outputs a trouble code other than MS bus trouble code (U1002) (past malfunction of ECU branch wire connected to MS bus). | C |
| The network gateway ECU outputs the movement control bus trouble code (U1002) (movement control bus past malfunction). | D |
| The network gateway ECU outputs a trouble code other than movement control bus trouble code (U1002) (past malfunction of branch wire connected to movement control bus). | E |

| | |
|---|---|
| **B.** | **Go to DTC U1002 FLOWCHART (Click here)** |
| **C.** | **Go to PROBLEM SYMPTOMS TABLE (Click here)** |
| **D.** | **Go to DTC U1002 FLOWCHART (Click here)** |
| **E.** | **Go to PROBLEM SYMPTOMS TABLE (Click here)** |

**A**

## 10.CHECK DTC COMBINATION TABLE (V BUS CIRCUIT BRANCH WIRE OPEN PAST MALFUNCTION)

a. Based on the combination of stored CAN communication system DTCs, determine which ECUs and sensors have a communication stop malfunction (Click here).

**NEXT**

## 11.PERFORM MALFUNCTION SIMULATION TEST (V BUS CIRCUIT MAIN WIRE PAST MALFUNCTION)*

a. Using the intelligent tester, clear all DTCs.

b. Perform a malfunction simulation test on all harnesses and connectors related to the V bus circuit main wire.

c. Check the DTCs that were stored as a result of the malfunction simulation test. Then determine the malfunctioning area.

**NEXT**

## 12.ADJUST, REPAIR AND REPLACE

**NEXT**

## 13.CONFIRMATION TEST


NEXT
END

**for Preparation** Click here

Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **DTCs for the CAN communication system are as follows: U0073, U0100, U0101, U0114/38, U0122, U0123, U0124, U0126, U0129, U0130, U0132, U0140, U0141, U0151, U0155, U0164, U0199, U0208, U0230, U0327, U1002 (CAN MS BUS), U1002 (CAN No. 2 BUS), U1100, U1101, U1110, U1111, U1115, U1117, B1499, B2427, B2621, B2624, C1AEF and C2179.**
- **Refer to the troubleshooting procedures of each system if DTCs regarding the CAN communication system are not output.**
- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

- **Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.**
- ***: 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 AND CLEAR DTC*

a. Using the intelligent tester, perform the all DTCs check.

**NOTICE:**

- **If there is a CAN communication trouble code that indicates that an ECU or sensor has a power malfunction or interior malfunction which is causing a communication stop, the problem may not be in the communication line.**
- **When CAN communication related connectors are disconnected with the engine switch on (IG) or on (ACC), the ECU related to the connector and ECUs of related systems will store a CAN communication DTC.**

**NEXT**

## 4.CHECK INSTALLED SYSTEMS (ECU AND SENSOR) THAT USE CAN COMMUNICATION

a. Based on the vehicle equipment and specifications, confirm the systems that use CAN communication ( Click here).

**NEXT**

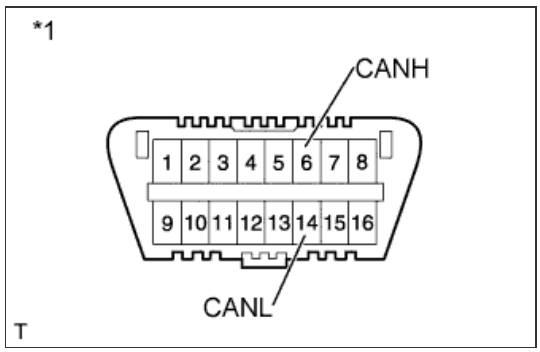
## 5.CHECK DLC3 BRANCH WIRE AND V BUS CIRCUIT MAIN WIRE (CANH - CANL)

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

b. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Proceed to |
|---|---|---|---|
| 6 (CANH) - 14 (CANL) | Engine switch off | OK (54 to 69 Ω) | A |
| 6 (CANH) - 14 (CANL) | Engine switch off | NG (70 Ω or higher) | B |
| 6 (CANH) - 14 (CANL) | Engine switch off | NG (Below 54 Ω) | C |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

**B.** → Go to CAN MAIN WIRE FOR DISCONNECTION (Click here)

**C.** → Go to CHECK CAN BUS LINES FOR SHORT CIRCUIT (Click here)

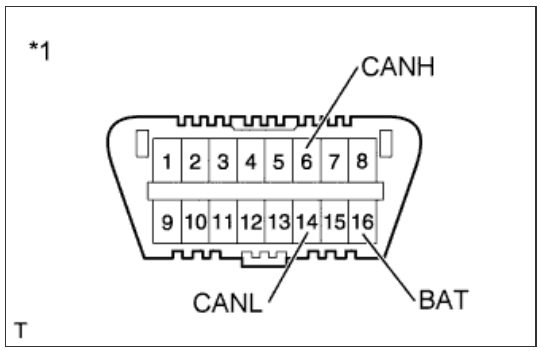
**A**

## 6.CHECK V BUS CIRCUIT +B (CANH, CANL - BAT)

a. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (CANH) - 16 (BAT) | Engine switch off | 6 kΩ or higher |
| 14 (CANL) - 16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

**NG.** → Go to CHECK CAN BUS LINE FOR SHORT TO +B (Click here)

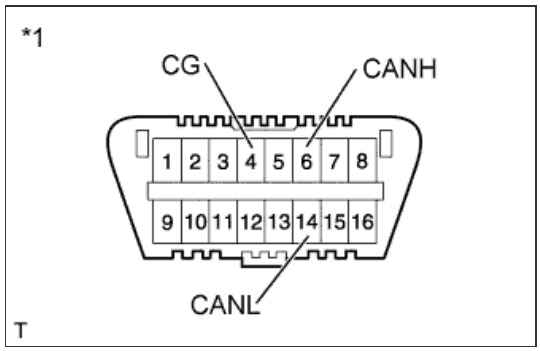
**OK**

## 7.CHECK V BUS CIRCUIT GND (CANH, CANL - CG)

a. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (CANH) - 4 (CG) | Engine switch off | 200 Ω or higher |
| 14 (CANL) - 4 (CG) | Engine switch off | 200 Ω or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG. → Go to CHECK CAN BUS LINE FOR SHORT TO GND (Click here)

OK

## 8.CHECK ECUS CONNECTED TO CAN BUS*

a. 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).

b. Select "Bus Check" from "System Select".

c. Wait 1 minute and then check the display of the connected ECUs and sensors.

**Result**

| Inspection Result | Proceed to |
|---|---|
| All ECUs and sensors connected to the CAN communication system are displayed on the screen. | A |
| Except for the main body ECU (cowl side junction block LH), no ECUs connected to the MS bus are displayed.<br>The main body ECU (cowl side junction block LH) outputs the MS bus trouble code (U1002) (the MS bus main wire open or short malfunction). | B |
| No ECUs connected to the MS bus are displayed (the branch wire between the main body ECU (cowl side junction block LH) and V bus circuit is open). | C |
| Except for the network gateway ECU, no ECUs connected to the movement control bus are displayed.<br>The network gateway ECU outputs the movement control bus trouble code (U1002) (the movement control bus main wire open or short malfunction). | D |
| No ECUs connected to the movement control bus are displayed (the branch wire between the network gateway ECU and movement control bus is open). | E |
| An ECU or sensor that should be connected to the CAN communication system is not displayed (the ECU or sensor branch wire is open). | F |
| An ECU or sensor that should be connected to the CAN communication system is not displayed or display is intermittent during check (the ECU or sensor branch wire is open on one side). | G |

**NOTICE:**

The ECUs and sensors that are not present will not be displayed. Be careful not to mistake them for communication stop malfunctions.

**HINT:**

- **If the display of an ECU is intermittent during the check, one side of an ECU or sensor branch wire is open (The signal of the ECU is treated as noise, which affects the response and display of the intelligent tester).**
- **The main body ECU (cowl side junction block LH) checks for proper ECU communication for ECUs that are connected to the CAN MS bus circuit, and the results are displayed on the intelligent tester.**
- **The gateway ECU built into the main body ECU (cowl side junction block LH) may be malfunctioning if both of the following occurs: 1) all ECUs connected to the MS bus are not displayed on the intelligent tester; and 2) DTC U1002 is not output.**
- **If communication stops between an ECU and the main body ECU (cowl side junction block LH) or network gateway ECU for 10 seconds or more, the ECU disappears from the intelligent tester display.**
- **For communication stop mode of ECUs connected to the CAN MS bus circuit or movement control bus, refer to the DTC flowchart of the respective communication stop.**

B. → Go to DTC U1002 FLOWCHART (Click here)

C. → Go to MAIN BODY ECU COMMUNICATION STOP MODE FLOWCHART (Click here)

D. → Go to DTC U1002 FLOWCHART (Click here)

E. → Go to NETWORK GATEWAY ECU COMMUNICATION STOP MODE FLOWCHART (Click here)

F. → Go to PROBLEM SYMPTOMS TABLE (Click here)

G. → Go to OPEN IN ONE SIDE OF CAN BRANCH WIRE FLOWCHART (Click here)

A

## 9.CHECK COMMUNICATION MALFUNCTION DTC (PAST DTC CHECK)*

a. Select "Bus Check" from "System Select".

b. Write down all of the DTCs stored in each ECU.

**HINT:**

- **If there are communication malfunction DTCs stored but the intelligent tester "Bus Check - Communication Bus Check" screen displays all of the ECUs and sensors connected to the CAN system, the communication malfunction DTCs may be past malfunctions that are no longer present.**
- **For V bus main wire malfunctions, related ECUs are also detected. Therefore, determine the malfunctioning area based on all of the DTCs that are output.**
- **For MS bus malfunctions, DTCs are stored based on the detection of communication stop malfunctions and network malfunctions of ECUs that are connected by the main body ECU (cowl side junction block LH).**
- **For movement control bus malfunctions, DTCs are stored based on the detection of communication stop malfunctions and network malfunctions of ECUs that are connected by the network gateway ECU.**

**Result**

| Inspection Result | Proceed to |
|---|---|
| An ECU connected to the V bus main wire has stored a communication trouble code (V bus main wire past malfunction). | A |
| The main body ECU (cowl side junction block LH) outputs the MS bus trouble code (U1002) (MS bus past malfunction). | B |
| The main body ECU (cowl side junction block LH) outputs a trouble code other than MS bus trouble code (U1002) (past malfunction of ECU branch wire connected to MS bus). | C |
| The network gateway ECU outputs the movement control bus trouble code (U1002) (movement control bus past malfunction). | D |
| The network gateway ECU outputs a trouble code other than movement control bus trouble code (U1002) (past malfunction of branch wire connected to movement control bus). | E |

**B.** Go to DTC U1002 FLOWCHART (Click here)

**C.** Go to PROBLEM SYMPTOMS TABLE (Click here)

**D.** Go to DTC U1002 FLOWCHART (Click here)

**E.** Go to PROBLEM SYMPTOMS TABLE (Click here)

**A**

## 10.CHECK DTC COMBINATION TABLE (V BUS CIRCUIT BRANCH WIRE OPEN PAST MALFUNCTION)

a. Based on the combination of stored CAN communication system DTCs, determine which ECUs and sensors have a communication stop malfunction (Click here).

**NEXT**

## 11.PERFORM MALFUNCTION SIMULATION TEST (V BUS CIRCUIT MAIN WIRE PAST MALFUNCTION)*

a. Using the intelligent tester, clear all DTCs.

b. Perform a malfunction simulation test on all harnesses and connectors related to the V bus circuit main wire.

c. Check the DTCs that were stored as a result of the malfunction simulation test. Then determine the malfunctioning area.

**NEXT**

## 12.ADJUST, REPAIR AND REPLACE

NEXT

13.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **DTCs for the CAN communication system are as follows: U0073, U0100, U0101, U0104, U0114/38, U0122, U0123, U0124, U0125, U0126, U0129, U0130, U0132, U0140, U0141, U0151, U0155, U0199, U0208, U0230, U0235, U0327, U1002 (CAN MS BUS), U1002 (CAN No. 2 BUS), U1100, U1101, U1102, U110B, U1111, U1115, B2427, B2621 and B2624.**
- **Refer to the troubleshooting procedures of each system if DTCs regarding the CAN communication system are not output.**
- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

**HINT:**

- **Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.**
- ***: 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 AND CLEAR DTC*

a. Using the intelligent tester, perform the all DTCs check.

**NOTICE:**

- **If there is a CAN communication trouble code that indicates that an ECU or sensor has a power malfunction or interior malfunction which is causing a communication stop, the problem may not be in the communication line.**
- **When CAN communication related connectors are disconnected with the engine switch on (IG) or on (ACC), the ECU related to the connector and ECUs of related systems will store a CAN communication DTC.**

**NEXT**

## 4.CHECK INSTALLED SYSTEMS (ECU AND SENSOR) THAT USE CAN COMMUNICATION

a. Based on the vehicle equipment and specifications, confirm the systems that use CAN communication ( Click here).

**NEXT**

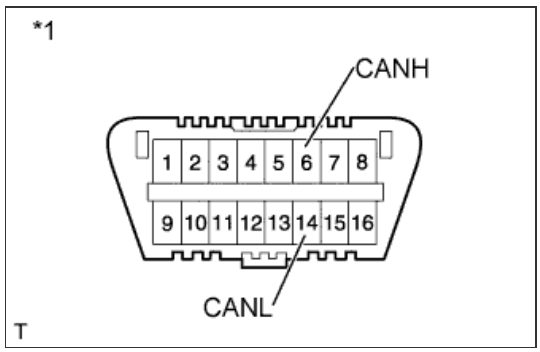
## 5.CHECK DLC3 BRANCH WIRE AND V BUS CIRCUIT MAIN WIRE (CANH - CANL)

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

b. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Proceed to |
|---|---|---|---|
| 6 (CANH) - 14 (CANL) | Engine switch off | OK (54 to 69 Ω) | A |
| 6 (CANH) - 14 (CANL) | Engine switch off | NG (70 Ω or higher) | B |
| 6 (CANH) - 14 (CANL) | Engine switch off | NG (Below 53 Ω) | C |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

**B.** → Go to CAN MAIN WIRE FOR DISCONNECTION (Click here)

**C.** → Go to CHECK CAN BUS LINES FOR SHORT CIRCUIT (Click here)

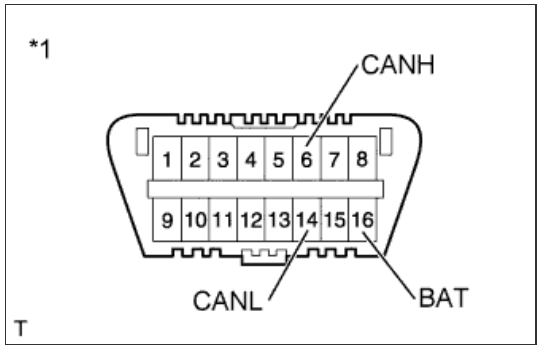
**A**

## 6.CHECK V BUS CIRCUIT +B (CANH, CANL - BAT)

a. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (CANH) - 16 (BAT) | Engine switch off | 6 kΩ or higher |
| 14 (CANL) - 16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

**NG.** → Go to CHECK CAN BUS LINE FOR SHORT TO +B (Click here)

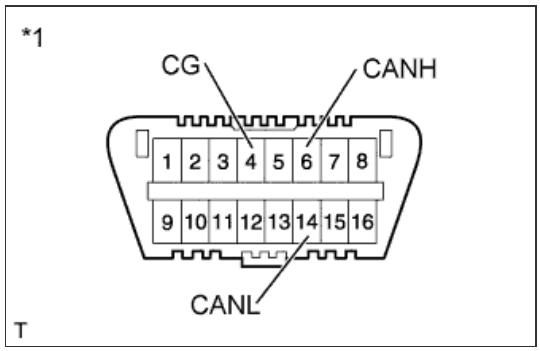
**OK**

## 7.CHECK V BUS CIRCUIT GND (CANH, CANL - CG)

a. Measure the resistance of the DLC3.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| 6 (CANH) - 4 (CG) | Engine switch off | 200 Ω or higher |
| 14 (CANL) - 4 (CG) | Engine switch off | 200 Ω or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG. → Go to CHECK CAN BUS LINE FOR SHORT TO GND (Click here)

OK

## 8.CHECK ECUS CONNECTED TO CAN BUS*

a. 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).

b. Select "Bus Check" from "System Select" ( Click here).

c. Wait 1 minute and then check the display of the connected ECUs and sensors.

**Result**

| Inspection Result | Proceed to |
|---|---|
| All ECUs and sensors connected to the CAN communication system are displayed on the screen. | A |
| Except for the main body ECU (cowl side junction block LH), no ECUs connected to the MS bus are displayed.<br>The main body ECU (cowl side junction block LH) outputs the MS bus trouble code (U1002) (the MS bus main wire open or short malfunction). | B |
| No ECUs connected to the MS bus are displayed (the branch wire between the main body ECU (cowl side junction block LH) and V bus circuit is open). | C |
| Except for the network gateway ECU, no ECUs connected to the movement control bus are displayed.<br>The network gateway ECU outputs the movement control bus trouble code (U1002) (the movement control bus main wire open or short malfunction). | D |
| No ECUs connected to the movement control bus are displayed (the branch wire between the network gateway ECU and movement control bus is open). | E |
| An ECU or sensor that should be connected to the CAN communication system is not displayed (the ECU or sensor branch wire is open). | F |
| An ECU or sensor that should be connected to the CAN communication system is not displayed or display is intermittent during check (the ECU or sensor branch wire is open on one side). | G |

**NOTICE:**

The ECUs and sensors that are not present will not be displayed. Be careful not to mistake them for communication stop malfunctions.

**HINT:**

- **If the display of an ECU is intermittent during the check, one side of an ECU or sensor branch wire is open (The signal of the ECU is treated as noise, which affects the response and display of the intelligent tester).**
- **The main body ECU (cowl side junction block LH) checks for proper ECU communication for ECUs that are connected to the CAN MS bus circuit, and the results are displayed on the intelligent tester.**
- **The gateway ECU built into the main body ECU (cowl side junction block LH) may be malfunctioning if both of the following occurs: 1) all ECUs connected to the MS bus are not displayed on the intelligent tester; and 2) DTC U1002 is not output.**
- **If communication stops between an ECU and the main body ECU (cowl side junction block LH) or network gateway ECU for 10 seconds or more, the ECU disappears from the intelligent tester display.**
- **For communication stop mode of ECUs connected to the CAN MS bus circuit or movement control bus, refer to the DTC flowchart of the respective communication stop.**

B. → Go to DTC U1002 FLOWCHART (Click here)

C. → Go to MAIN BODY ECU COMMUNICATION STOP MODE FLOWCHART (Click here)

D. → Go to DTC U1002 FLOWCHART (Click here)

E. → Go to NETWORK GATEWAY ECU COMMUNICATION STOP MODE FLOWCHART (Click here)

F. → Go to PROBLEM SYMPTOMS TABLE (Click here)

G. → Go to OPEN IN ONE SIDE OF CAN BRANCH WIRE FLOWCHART (Click here)

A

## 9.CHECK COMMUNICATION MALFUNCTION DTC (PAST DTC CHECK)*

a. Select "Bus Check" from "System Select" (Click here).

b. Write down all of the DTCs stored in each ECU.

**HINT:**

- **If there are communication malfunction DTCs stored but the intelligent tester "Bus Check - Communication Bus Check" screen displays all of the ECUs and sensors connected to the CAN system, the communication malfunction DTCs may be past malfunctions that are no longer present.**
- **For V bus main wire malfunctions, related ECUs are also detected. Therefore, determine the malfunctioning area based on all of the DTCs that are output.**
- **For MS bus malfunctions, DTCs are stored based on the detection of communication stop malfunctions and network malfunctions of ECUs that are connected by the main body ECU (cowl side junction block LH).**
- **For movement control bus malfunctions, DTCs are stored based on the detection of communication stop malfunctions and network malfunctions of ECUs that are connected by the network gateway ECU.**

**Result**

| Inspection Result | Proceed to |
|---|---|
| An ECU connected to the V bus main wire has stored a communication trouble code (V bus main wire past malfunction). | A |
| The main body ECU (cowl side junction block LH) outputs the MS bus trouble code (U1002) (MS bus past malfunction). | B |
| The main body ECU (cowl side junction block LH) outputs a trouble code other than MS bus trouble code (U1002) (past malfunction of ECU branch wire connected to MS bus). | C |
| The network gateway ECU outputs the movement control bus trouble code (U1002) (movement control bus past malfunction). | D |
| The network gateway ECU outputs a trouble code other than movement control bus trouble code (U1002) (past malfunction of branch wire connected to movement control bus). | E |

**B.** Go to DTC U1002 FLOWCHART (**Click here**)

**C.** Go to PROBLEM SYMPTOMS TABLE (**Click here**)

**D.** Go to DTC U1002 FLOWCHART (**Click here**)

**E.** Go to PROBLEM SYMPTOMS TABLE (**Click here**)

**A**

## 10.CHECK DTC COMBINATION TABLE (V BUS CIRCUIT BRANCH WIRE OPEN PAST MALFUNCTION)

a. Based on the combination of stored CAN communication system DTCs, determine which ECUs and sensors have a communication stop malfunction (Click here).

**NEXT**

## 11.PERFORM MALFUNCTION SIMULATION TEST (V BUS CIRCUIT MAIN WIRE PAST MALFUNCTION)*

a. Using the intelligent tester, clear all DTCs.

b. Perform a malfunction simulation test on all harnesses and connectors related to the V bus circuit main wire.

c. Check the DTCs that were stored as a result of the malfunction simulation test. Then determine the malfunctioning area.

**NEXT**

## 12.ADJUST, REPAIR AND REPLACE

NEXT

13.CONFIRMATION TEST

NEXT

END

**for Preparation** Click here

**HINT:**

- **Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.**
- **Inspect the fuses and relays related to this system before inspecting the suspected areas below.**

**Result List of Check CAN Bus Line**

| Symptom | Suspected Area | See page |
|---|---|---|
| The result of "How to Proceed with Troubleshooting" is "Open in CAN Main Wire". | Open in CAN Main Wire | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short in CAN Bus Lines". | Short in CAN Bus Lines | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short to +B in CAN Bus Line". | Short to B+ in CAN Bus Line | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short to GND in CAN Bus Line". | Short to GND in CAN Bus Line | Click here |
| The result of "How to Proceed with Troubleshooting" is "Open in One Side of CAN Branch Line". | Open in One Side of CAN Branch Line | Click here |

**Communication Stop Mode Table**

| Symptom | Suspected Area | See page |
|---|---|---|
| "Air Conditioner" not displayed on the intelligent tester. | Air Conditioning Amplifier Communication Stop Mode | Click here |
| "CAN Gateway" not displayed on the intelligent tester. | Gateway ECU Communication Stop Mode | Click here |
| "Engine" not displayed on the intelligent tester. | ECM Communication Stop Mode | Click here |
| "Main Body" not displayed on the intelligent tester. | Main Body ECU (cowl side junction block LH) Communication Stop Mode | Click here |
| "Combination Meter" not displayed on the intelligent tester. | Combination Meter ECU Communication Stop Mode | Click here |
| "SRS Airbag" not displayed on the intelligent tester. | Airbag ECU Communication Stop Mode | Click here |
| "AFS/HL AutoLeveling" not displayed on the intelligent tester. | AFS ECU Communication Stop Mode | Click here |
| "AVN" not displayed on the intelligent tester. | Display and Navigation Assembly Communication Stop Mode | 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.**

**Result List of Check CAN Bus Line**

| Symptom | Suspected Area | See page |
|---|---|---|
| The result of "How to Proceed with Troubleshooting" is "Open in CAN Main Wire". | Open in CAN Main Wire | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short in CAN Bus Lines". | Short in CAN Bus Lines | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short to +B in CAN Bus Line". | Short to B+ in CAN Bus Line | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short to GND in CAN Bus Line". | Short to GND in CAN Bus Line | Click here |
| The result of "How to Proceed with Troubleshooting" is "Open in One Side of CAN Branch Line". | Open in One Side of CAN Branch Line | Click here |

**Communication Stop Mode Table**

| Symptom | Suspected Area | See page |
|---|---|---|
| "Air Conditioner" not displayed on the intelligent tester. | Air Conditioning Amplifier Communication Stop Mode | Click here |
| "CAN Gateway" not displayed on the intelligent tester. | Gateway ECU Communication Stop Mode | Click here |
| "Engine" not displayed on the intelligent tester. | ECM Communication Stop Mode | Click here |
| "Main Body" not displayed on the intelligent tester. | Main Body ECU (cowl side junction block LH) Communication Stop Mode | Click here |
| "Combination Meter" not displayed on the intelligent tester. | Combination Meter ECU Communication Stop Mode | Click here |
| "SRS Airbag" not displayed on the intelligent tester. | Airbag ECU Communication Stop Mode | Click here |
| "AFS/HL AutoLeveling" not displayed on the intelligent tester. | AFS ECU Communication Stop Mode | Click here |
| "AVN" not displayed on the intelligent tester. | Display and Navigation Assembly Communication Stop Mode | 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.**

**Result List of Check CAN Bus Line**

| Symptom | Suspected Area | See page |
|---|---|---|
| The result of "How to Proceed with Troubleshooting" is "Open in CAN Main Wire". | Open in CAN Main Wire | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short in CAN Bus Lines". | Short in CAN Bus Lines | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short to +B in CAN Bus Line". | Short to B+ in CAN Bus Line | Click here |
| The result of "How to Proceed with Troubleshooting" is "Short to GND in CAN Bus Line". | Short to GND in CAN Bus Line | Click here |
| The result of "How to Proceed with Troubleshooting" is "Open in One Side of CAN Branch Line". | Open in One Side of CAN Branch Line | Click here |

**Communication Stop Mode Table**

| Symptom | Suspected Area | See page |
|---|---|---|
| "Air Conditioning Amplifier" not displayed on the intelligent tester. | Air Conditioning Amplifier Communication Stop Mode | Click here |
| "CAN Gateway" not displayed on the intelligent tester. | Gateway ECU Communication Stop Mode | Click here |
| "ECM (Engine)" not displayed on the intelligent tester. | ECM Communication Stop Mode | Click here |
| "Main Body" not displayed on the intelligent tester. | Main Body ECU Communication Stop Mode | Click here |
| "Combination Meter" not displayed on the intelligent tester. | Combination Meter ECU Communication Stop Mode | Click here |
| "Airbag" not displayed on the intelligent tester. | Center Airbag Sensor Communication Stop Mode | Click here |
| "Headlight swivel (AFS)" not displayed on the intelligent tester. | AFS ECU Communication Stop Mode | Click here |
| "Display and Navigation (AVN)" not displayed on the intelligent tester. | Multi-media Module Receiver Assembly Communication Stop Mode | Click here |

**for Preparation** Click here

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

## DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

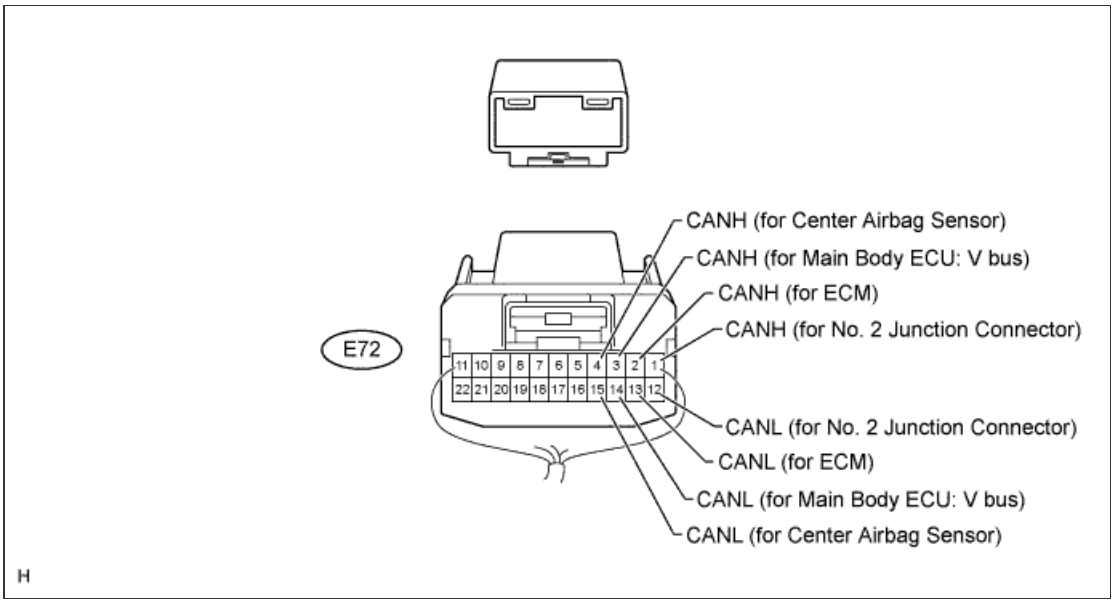
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

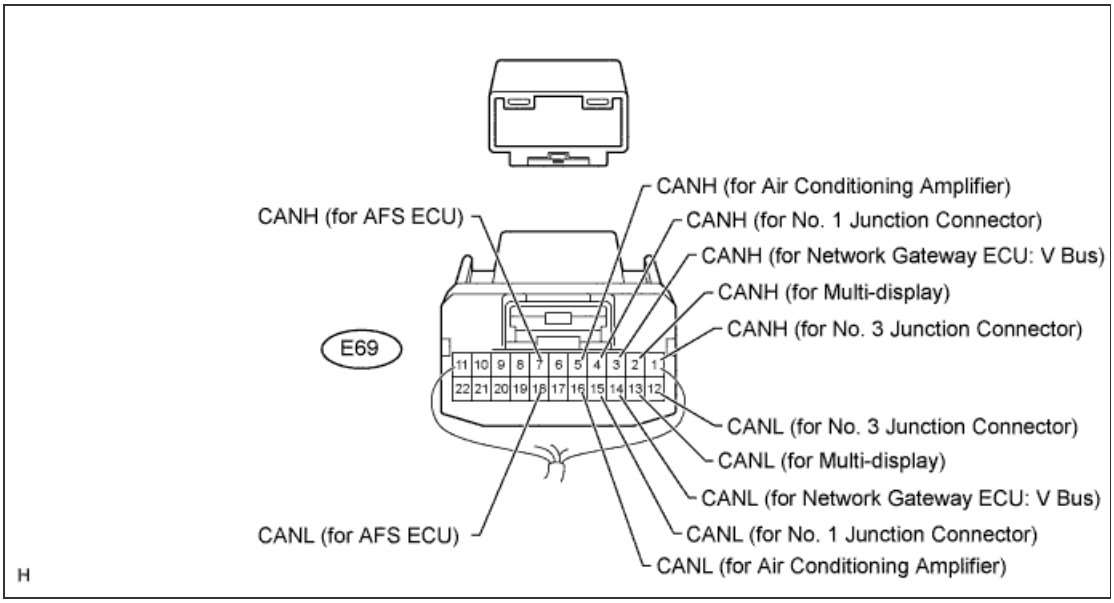
## JUNCTION CONNECTOR

a. NO. 1 JUNCTION CONNECTOR



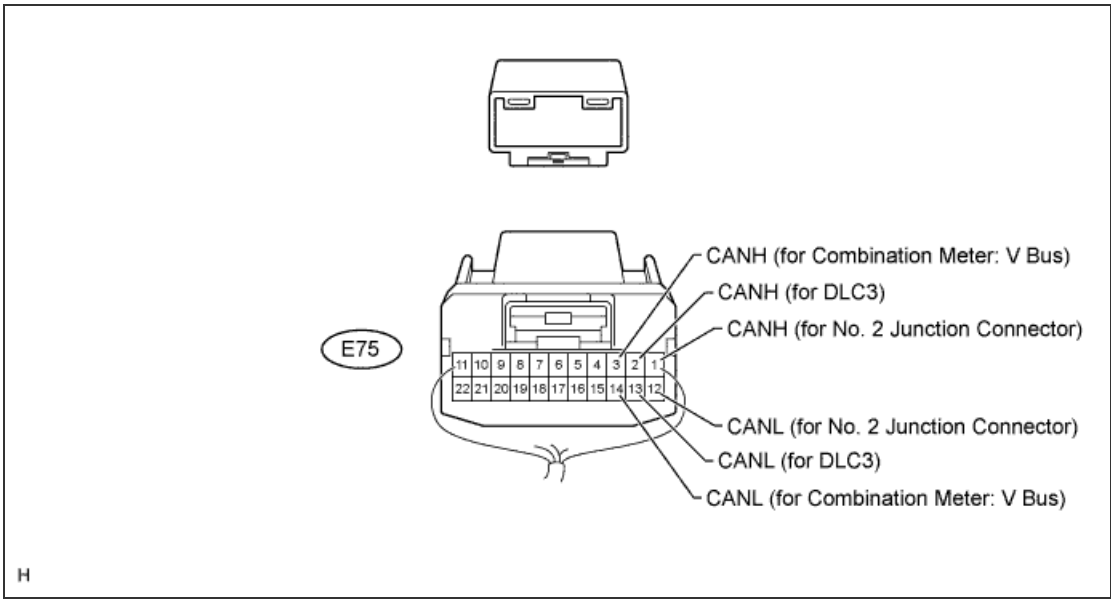

| No. 1 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E72-1 (CANH) | Y | No. 2 junction connector |
| E72-12 (CANL) | B | |
| E72-2 (CANH) | P | ECM |
| E72-13 (CANL) | B | |
| E72-3 (CANH) | SB | Main body ECU (cowl side junction block LH) (V bus) |
| E72-14 (CANL) | B | |
| E72-4 (CANH) | GR | Center airbag sensor |
| E72-15 (CANL) | B | |

b. NO. 2 JUNCTION CONNECTOR




| No. 2 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E69-1 (CANH) | W | No. 3 junction connector |
| E69-12 (CANL) | B | |
| E69-2 (CANH) | P | Multi-display |
| E69-13 (CANL) | B | |
| E69-3 (CANH) | BR | Network gateway ECU (V bus) |
| E69-14 (CANL) | B | |
| E69-4 (CANH) | Y | No. 1 junction connector |
| E69-15 (CANL) | B | |
| E69-5 (CANH) | G | Air conditioning amplifier |
| E69-16 (CANL) | B | |
| E69-7 (CANH) | LG | AFS ECU (headlight swivel ECU) |
| E69-18 (CANL) | B | |

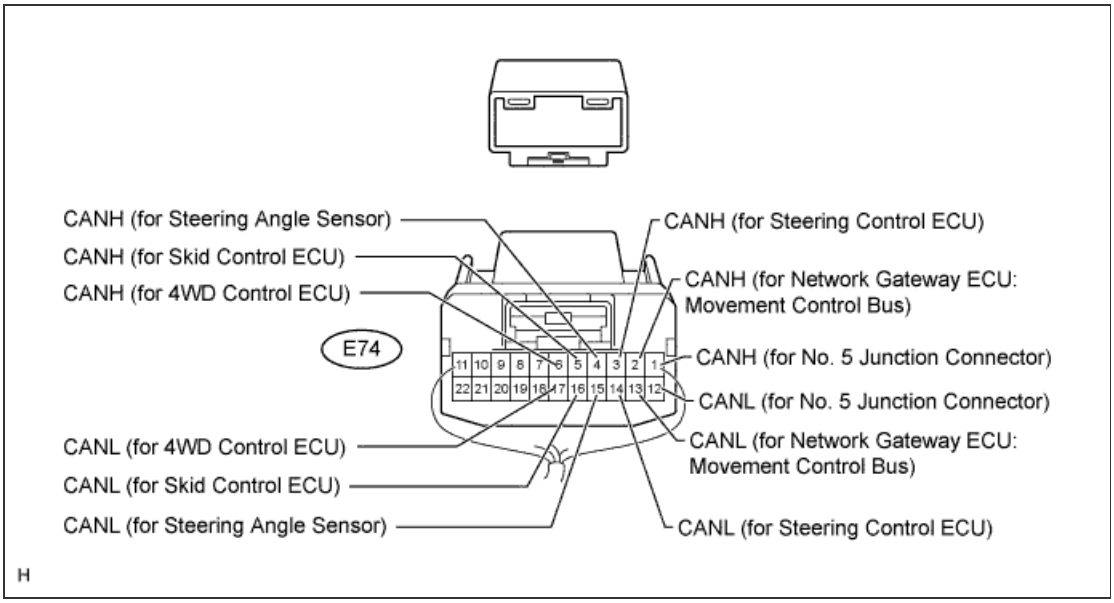
c. NO. 3 JUNCTION CONNECTOR




| No. 3 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E75-1 (CANH) | W | No. 2 junction connector |
| E75-12 (CANL) | B | |

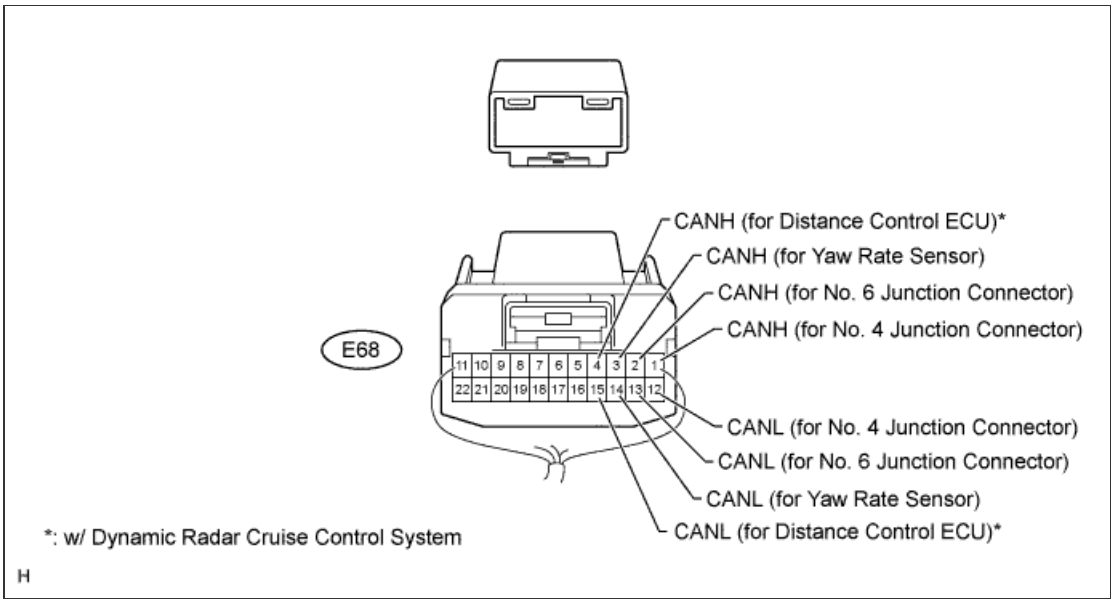
| | | |
|---|---|---|
| E75-2 (CANH) | G | DLC3 |
| E75-13 (CANL) | B | |
| E75-3 (CANH) | V | Combination meter (V bus) |
| E75-14 (CANL) | B | |

d. NO. 4 JUNCTION CONNECTOR




| No. 4 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E74-1 (CANH) | W | No. 5 junction connector |
| E74-12 (CANL) | L | |
| E74-2 (CANH) | SB | Network gateway ECU (movement control bus) |
| E74-13 (CANL) | L | |
| E74-3 (CANH) | LG | Steering control ECU |
| E74-14 (CANL) | L | |
| E74-4 (CANH) | GR | Steering angle sensor |
| E74-15 (CANL) | L | |
| E74-5 (CANH) | V | Skid control ECU |
| E74-16 (CANL) | L | |
| E74-6 (CANH) | P | 4WD control ECU |
| E74-17 (CANL) | L | |

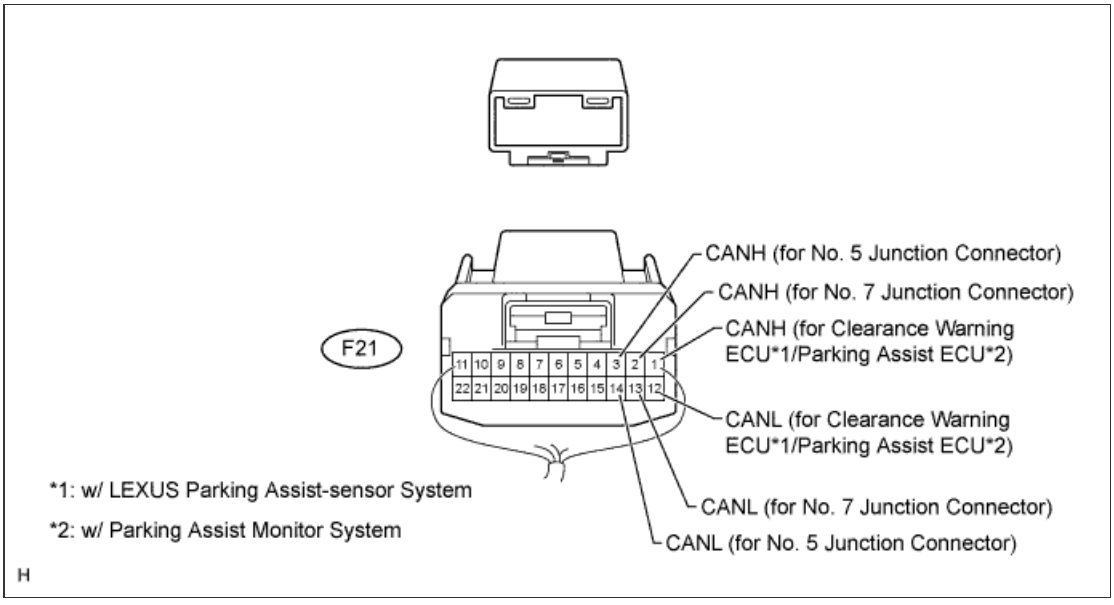
e. NO. 5 JUNCTION CONNECTOR




| No. 5 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E68-1 (CANH) | W | No. 4 junction connector |
| E68-12 (CANL) | L | |
| E68-2 (CANH) | Y | No. 6 junction connector |
| E68-13 (CANL) | L | |
| E68-3 (CANH) | BR | Yaw rate sensor |
| E68-14 (CANL) | L | |
| E68-4 (CANH)* | SB | Distance control ECU |
| E68-15 (CANL)* | L | |

*: w/ Dynamic Radar Cruise Control System

f. NO. 6 JUNCTION CONNECTOR

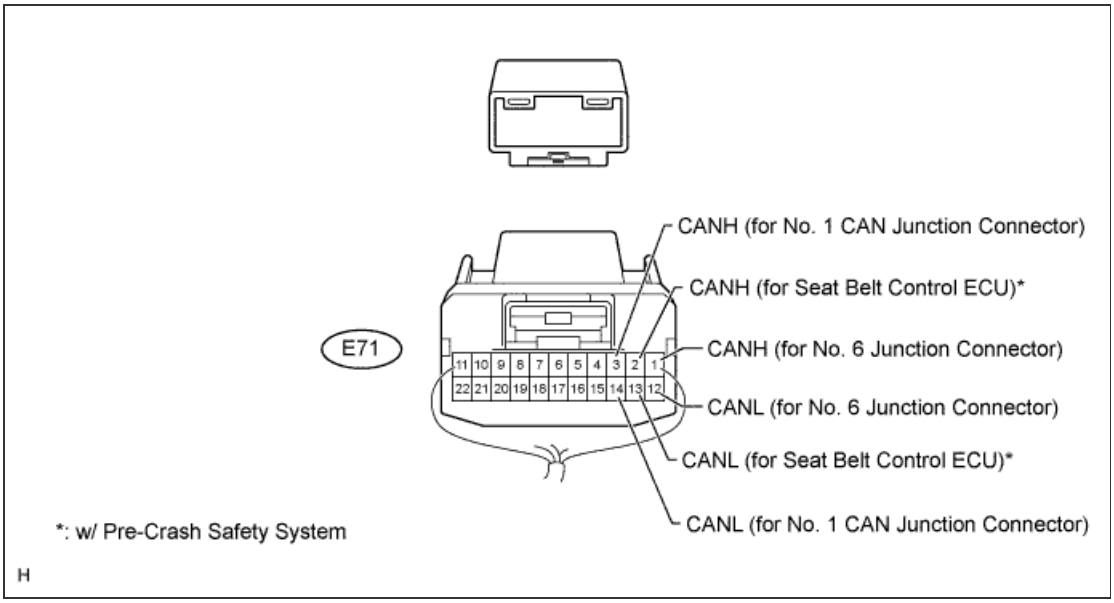



| No. 6 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| F21-1 (CANH)*1 | V | Clearance warning ECU |
| F21-12 (CANL)*1 | L | |
| F21-1 (CANH)*2 | V | Parking assist ECU |
| F21-12 (CANL)*2 | L | |
| F21-2 (CANH) | W | No. 7 junction connector |
| F21-13 (CANL) | L | |

| | | |
|---|---|---|
| F21-3 (CANH) | Y | No. 5 junction connector |
| F21-14 (CANL) | L | |

*1: w/ LEXUS Parking Assist-sensor System
*2: w/ Parking Assist Monitor System

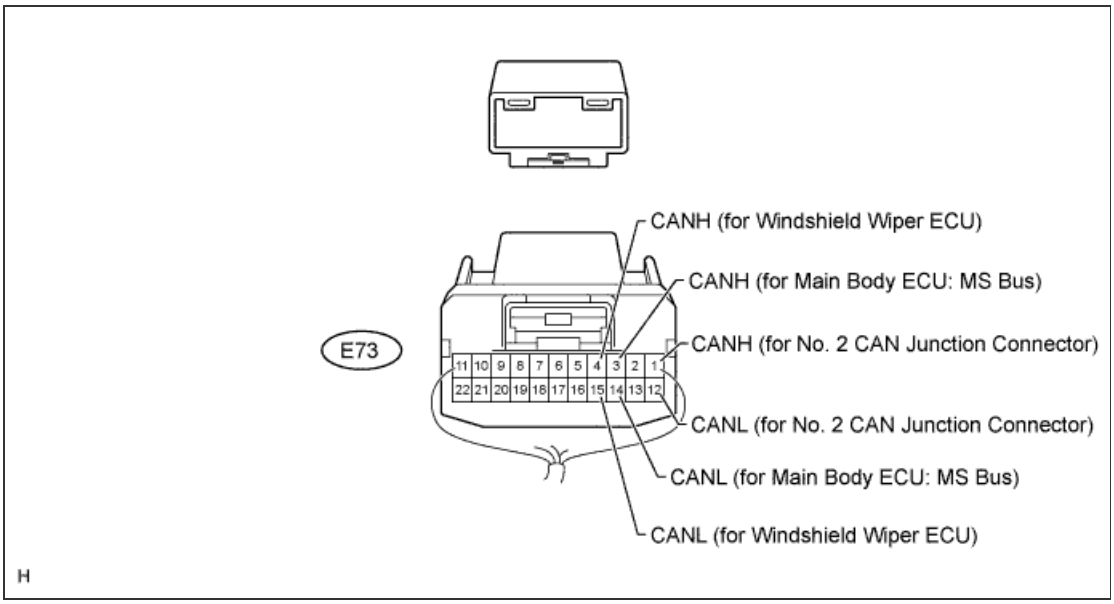
g. NO. 7 JUNCTION CONNECTOR




| No. 7 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E71-1 (CANH) | W | No. 6 junction connector |
| E71-12 (CANL) | L | |
| E71-2 (CANH) | G | Seat belt control ECU* |
| E71-13 (CANL) | L | |
| E71-3 (CANH) | W | No. 1 CAN junction connector |
| E71-14 (CANL) | L | |

*: w/ Pre-Crash Safety System

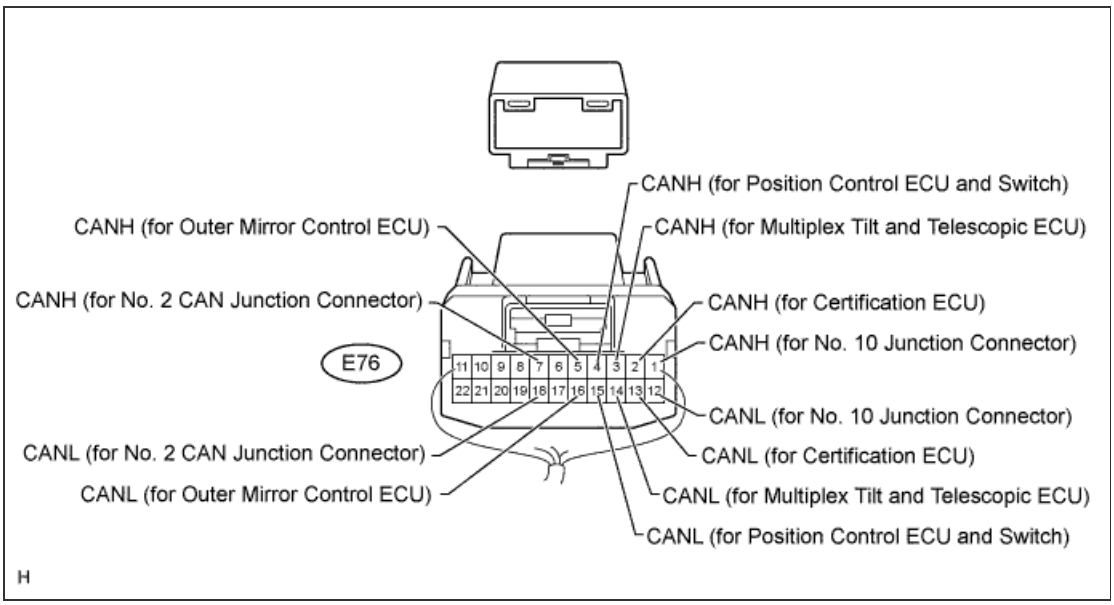
h. NO. 8 JUNCTION CONNECTOR




| No. 8 Junction Connector | Wiring Color | Connect to |
|---|---|---|

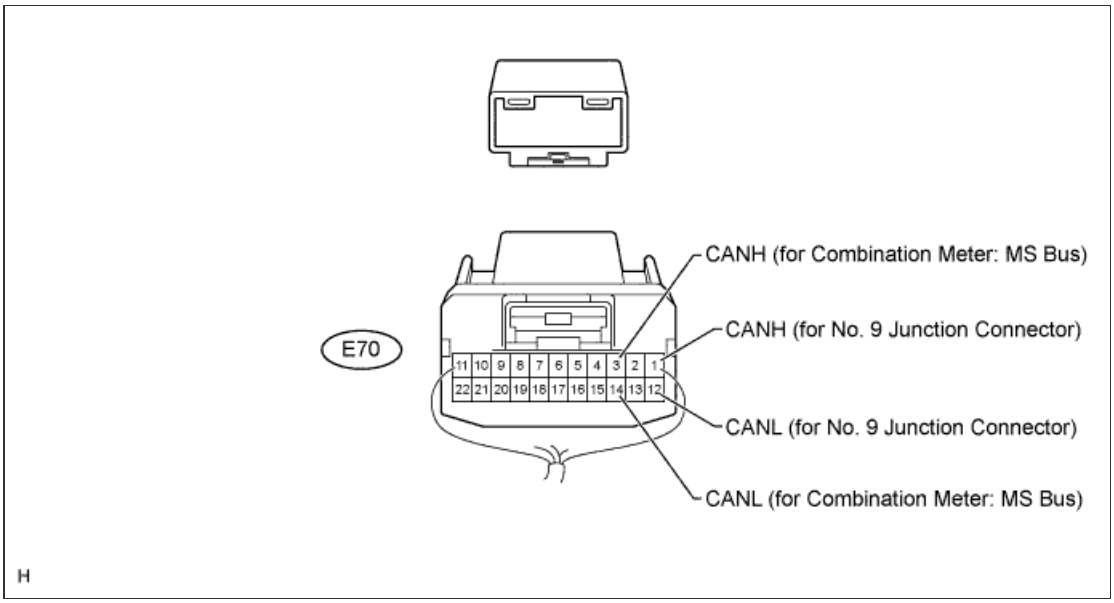
| | | |
|---|---|---|
| E73-1 (CANH) | W | No. 2 CAN junction connector |
| E73-12 (CANL) | R | |
| E73-3 (CANH) | GR | Main body ECU (MS bus) |
| E73-14 (CANL) | R | |
| E73-4 (CANH) | LG | Windshield wiper ECU |
| E73-15 (CANL) | R | |

i. NO. 9 JUNCTION CONNECTOR



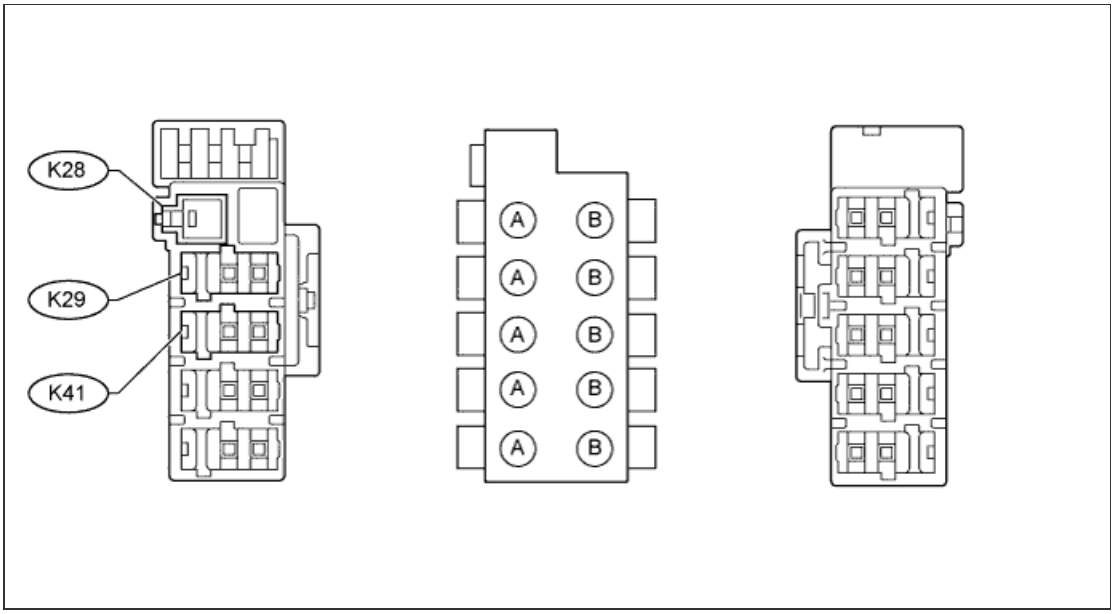

| No. 9 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E76-1 (CANH) | W | No. 10 junction connector |
| E76-12 (CANL) | R | |
| E76-2 (CANH) | LG | Certification ECU (smart key ECU) |
| E76-13 (CANL) | R | |
| E76-3 (CANH) | P | Multiplex tilt and telescopic ECU |
| E76-14 (CANL) | R | |
| E76-4 (CANH) | V | Position control ECU and switch |
| E76-15 (CANL) | R | |
| E76-5 (CANH) | BR | Outer mirror control ECU |
| E76-16 (CANL) | R | |
| E76-7 (CANH) | Y | No. 2 CAN junction connector |
| E76-18 (CANL) | R | |

j. NO. 10 JUNCTION CONNECTOR



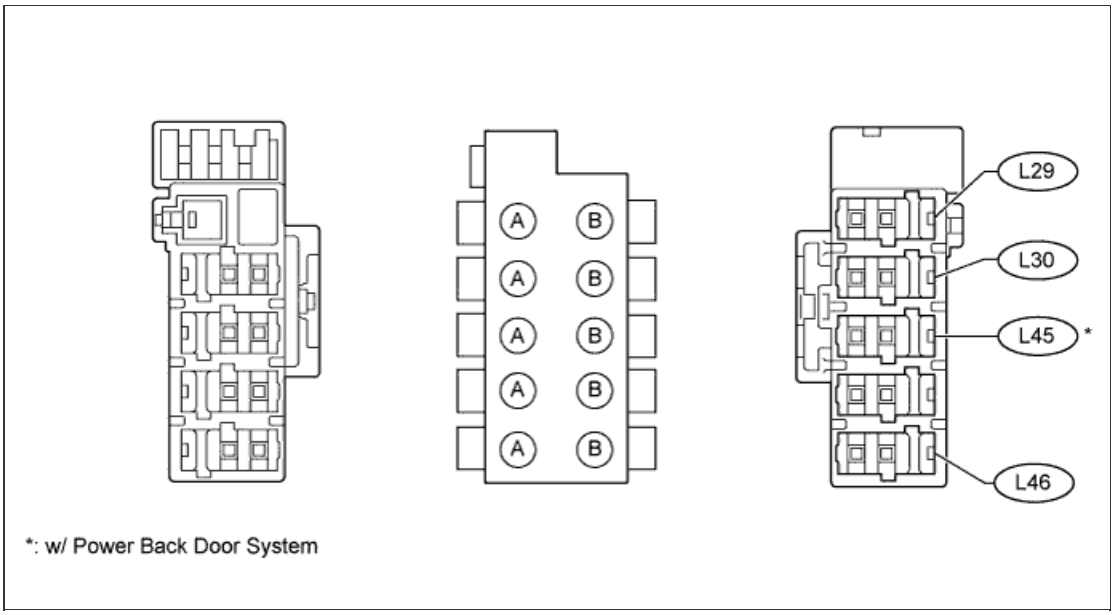

| No. 10 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E70-1 (CANH) | W | No. 9 Junction Connector |
| E70-12 (CANL) | R | |
| E70-3 (CANH) | LG | Combination Meter (MS bus) |
| E70-14 (CANL) | R | |

k. NO. 1 CAN JUNCTION CONNECTOR




| Junction Connector A Side | Wiring Color (CANH Side) | Wiring Color (CANL Side) |
|---|---|---|
| Body ground (K28) | - | W-B |
| No. 7 junction connector (K29) | W | L |
| Suspension control ECU (K41) | V | L |

l. NO. 2 CAN JUNCTION CONNECTOR

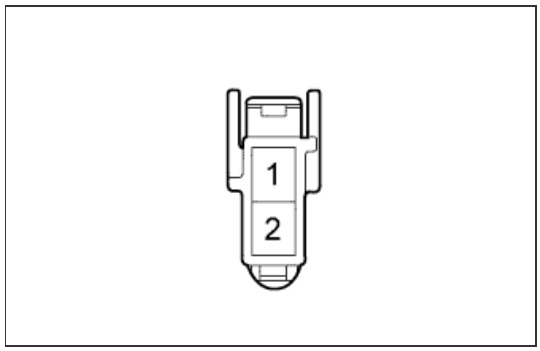



| Junction Connector B side | Wiring Color (CANH Side) | Wiring Color (CANL Side) |
|---|---|---|
| No. 8 junction connector (L29) | W | R |
| No. 9 junction connector (L30) | Y | R |
| Power back door ECU (L45)* | V | R |
| No. 2 main body ECU (L46) | LG | R |

*: w/ Power Back Door System

**TERMINALS OF CONNECTORS FOR JUNCTION CONNECTOR (CAN JUNCTION CONNECTOR)**

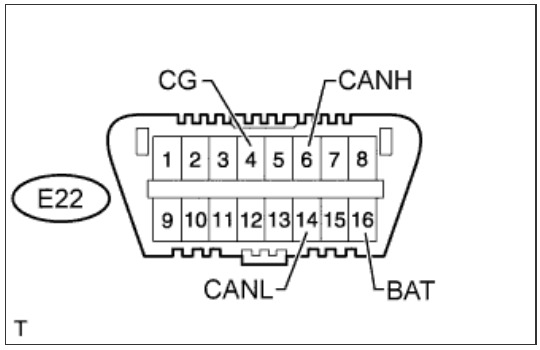
| Terminal No. | Symbol |
|---|---|
| 1 | CANH |
| 2 | CANL |




**CHECK DLC3**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

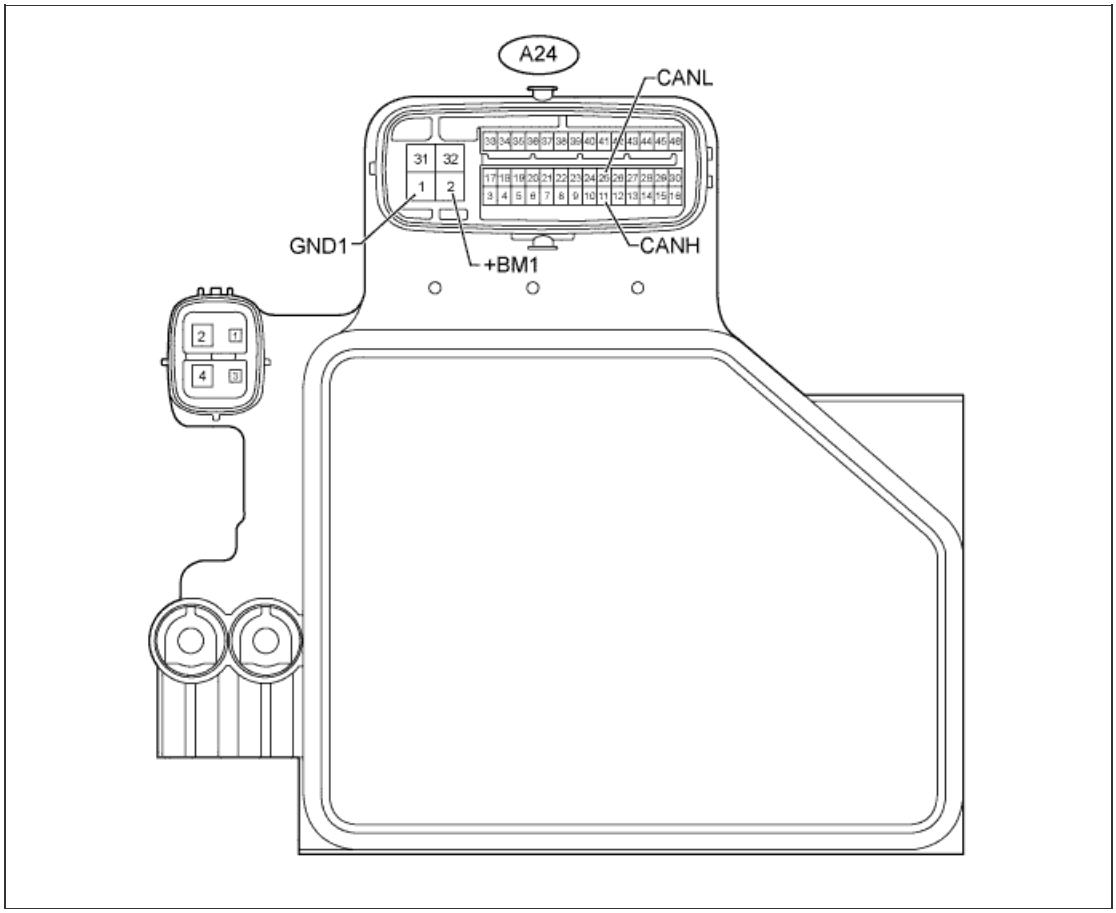
b. Measure the resistance according to the value(s) in the table below.




| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | G - B | Engine switch off | 54 to 69 Ω |
| E22-6 (CANH) - E22-4 (CG) | G - W-B | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | B - W-B | Engine switch off | 200 Ω or higher |
| E22-6 (CANH) - E22-16 (BAT) | G - O | Engine switch off | 6 kΩ or higher |

| | | | |
|---|---|---|---|
| E22-14 (CANL) - E22-16 (BAT) | B - O | Engine switch off | 6 kΩ or higher |

## CHECK MASTER CYLINDER SOLENOID (SKID CONTROL ECU)

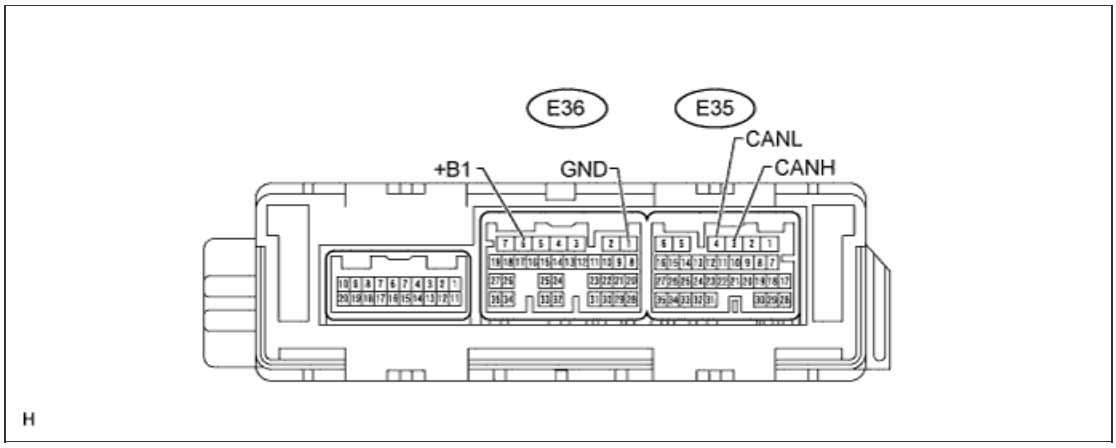



a. Disconnect the A24 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| A24-11 (CANH) - A24-1 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| A24-25 (CANL) - A24-1 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| A24-11 (CANH) - A24-2 (+BM1) | V - B | Engine switch off | 6 kΩ or higher |
| A24-25 (CANL) - A24-2 (+BM1) | L - B | Engine switch off | 6 kΩ or higher |

## CHECK AIR CONDITIONING AMPLIFIER

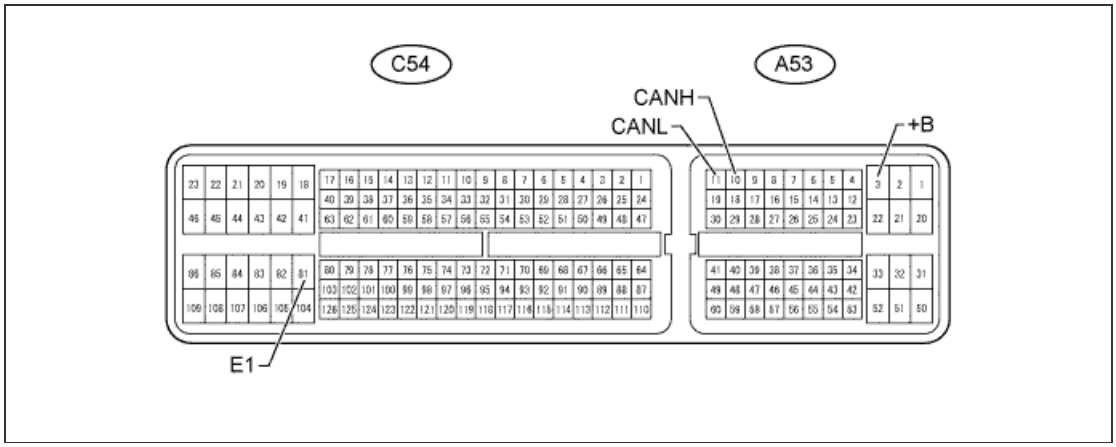



a. Disconnect the E35 and E36 amplifier connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Condition | Specified Condition |
|---|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | G - B | Engine switch off | 54 to 69 Ω |
| E35-3 (CANH) - E36-1 (GND) | G - W-B | Engine switch off | 200 Ω or higher |
| E35-4 (CANL) - E36-1 (GND) | B - W-B | Engine switch off | 200 Ω or higher |
| E35-3 (CANH) - E36-6 (+B1) | G - R | Engine switch off | 6 kΩ or higher |
| E35-4 (CANL) - E36-6 (+B1) | B - R | Engine switch off | 6 kΩ or higher |

## CHECK ECM

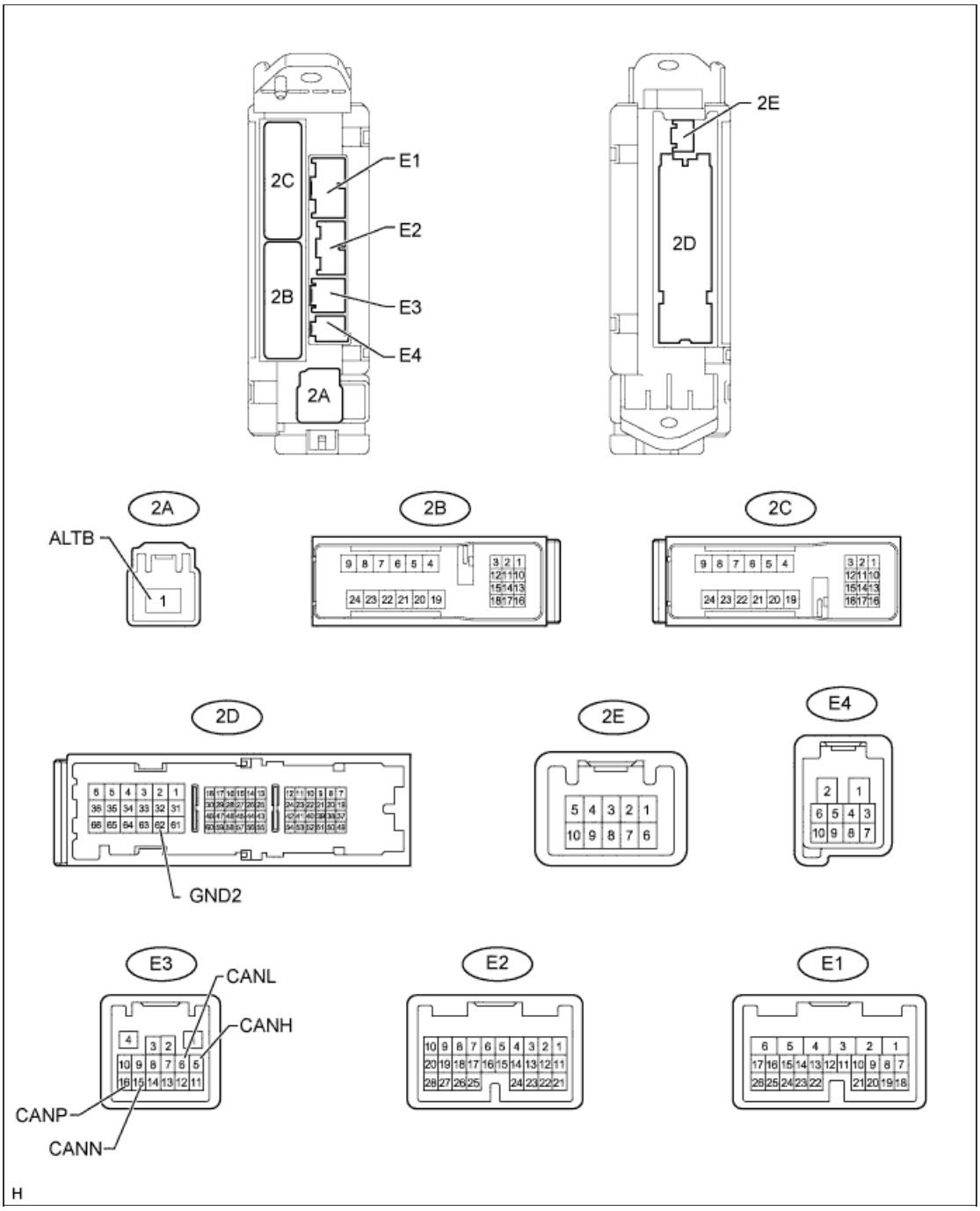



a. Disconnect the A53 and C54 ECM connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A53-10 (CANH) - A53-11 (CANL) | P - B | Engine switch off | 108 to 132 Ω |
| A53-10 (CANH) - C54-81 (E1) | P - W-B | Engine switch off | 200 Ω or higher |
| A53-11 (CANL) - C54-81 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| A53-10 (CANH) - A53-3 (+B) | P - B | Engine switch off | 6 kΩ or higher |
| A53-11 (CANL) - A53-3 (+B) | B - B | Engine switch off | 6 kΩ or higher |

## CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)




a. Disconnect the E3 ECU connector.

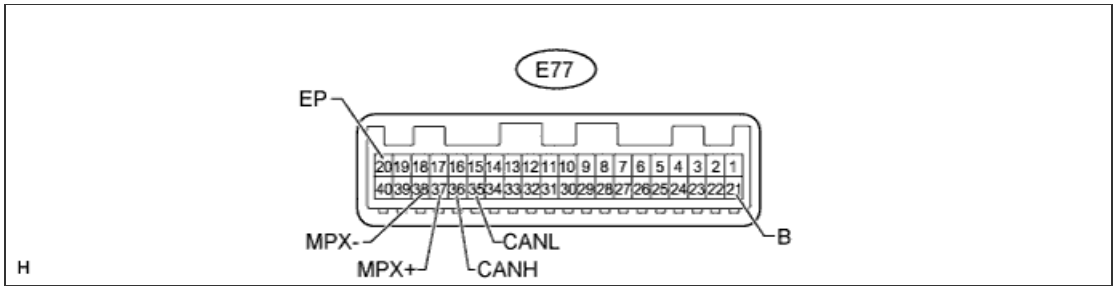
b. Disconnect the 2A and 2D junction connectors.

c. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E3-5 (CANH) - E3-6 (CANL)*1 | SB - B | Engine switch off | 54 to 69 Ω |
| E3-5 (CANH) - 2D-62 (GND2)*1 | SB - W-B | Engine switch off | 200 Ω or higher |
| E3-6 (CANL) - 2D-62 (GND2)*1 | B - W-B | Engine switch off | 200 Ω or higher |
| E3-5 (CANH) - 2A-1 (ALTB)*1 | SB - B | Engine switch off | 6 kΩ or higher |
| E3-6 (CANL) - 2A-1 (ALTB)*1 | B - B | Engine switch off | 6 kΩ or higher |
| E3-16 (CANP) - E3-15 (CANN)*2 | GR - R | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - 2D-62 (GND2)*2 | GR - W-B | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - 2D-62 (GND2)*2 | R - W-B | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - 2A-1 (ALTB)*2 | GR - B | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - 2A-1 (ALTB)*2 | R - B | Engine switch off | 6 kΩ or higher |

*1: For V bus
*2: For MS bus

## CHECK COMBINATION METER



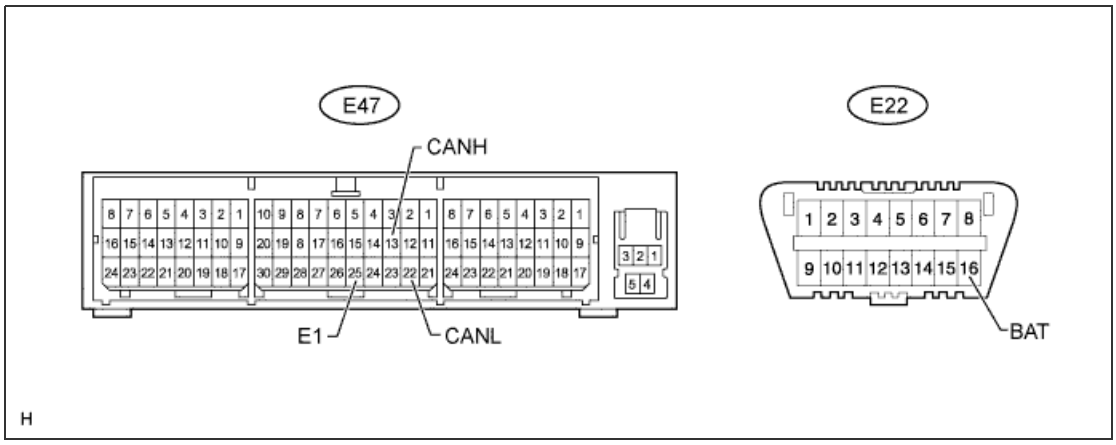

a. Disconnect the E77 meter connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E77-36 (CANH) - E77-35 (CANL)*1 | V - B | Engine switch off | 108 to 132 Ω |
| E77-36 (CANH) - E77-20 (EP)*1 | V - W-B | Engine switch off | 200 Ω or higher |
| E77-35 (CANL) - E77-20 (EP)*1 | B - W-B | Engine switch off | 200 Ω or higher |
| E77-36 (CANH) - E77-21 (B)*1 | V - R | Engine switch off | 6 kΩ or higher |
| E77-35 (CANL) - E77-21 (B)*1 | B - R | Engine switch off | 6 kΩ or higher |
| E77-37 (MPX+) - E77-38 (MPX-)*2 | LG - R | Engine switch off | 108 to 132 Ω |
| E77-37 (MPX+) - E77-20 (EP)*2 | LG - W-B | Engine switch off | 200 Ω or higher |
| E77-38 (MPX-) - E77-20 (EP)*2 | R - W-B | Engine switch off | 200 Ω or higher |
| E77-37 (MPX+) - E77-21 (B)*2 | LG - R | Engine switch off | 6 kΩ or higher |
| E77-38 (MPX-) - E77-21 (B)*2 | R - R | Engine switch off | 6 kΩ or higher |

*1: For V bus
*2: For MS bus

## CHECK CENTER AIRBAG SENSOR



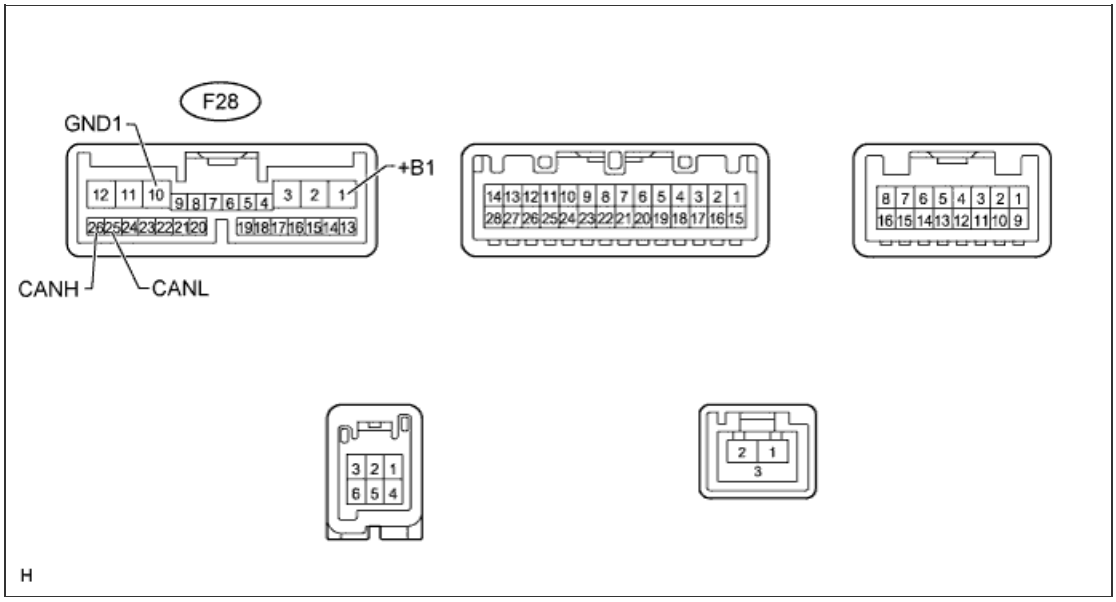

a. Disconnect the E47 sensor connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | GR - B | Engine switch off | 54 to 69 Ω |
| E47-13 (CANH) - E47-25 (E1) | GR - W-B | Engine switch off | 200 Ω or higher |

| | | | |
|---|---|---|---|
| E47-22 (CANL) - E47-25 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| E47-13 (CANH) - E22-16 (BAT) | GR - O | Engine switch off | 6 kΩ or higher |
| E47-22 (CANL) - E22-16 (BAT) | B - O | Engine switch off | 6 kΩ or higher |

## CHECK MULTI-DISPLAY

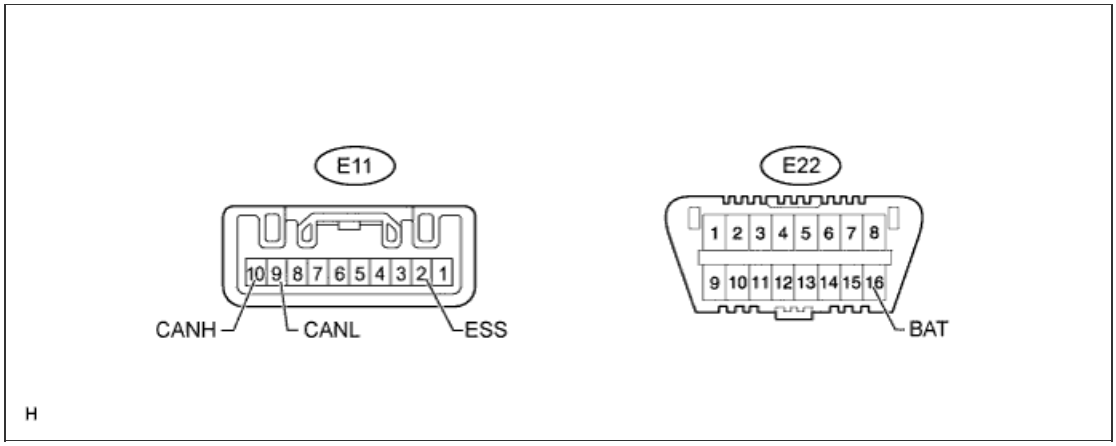



a. Disconnect the F28 multi-display connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F28-26 (CANH) - F28-25 (CANL) | P - B | Engine switch off | 54 to 69 Ω |
| F28-26 (CANH) - F28-10 (GND1) | P - W-B | Engine switch off | 200 Ω or higher |
| F28-25 (CANL) - F28-10 (GND1) | B - W-B | Engine switch off | 200 Ω or higher |
| F28-26 (CANH) - F28-1 (+B1) | P - R | Engine switch off | 6 kΩ or higher |
| F28-25 (CANL) - F28-1 (+B1) | B - R | Engine switch off | 6 kΩ or higher |

## CHECK STEERING ANGLE SENSOR



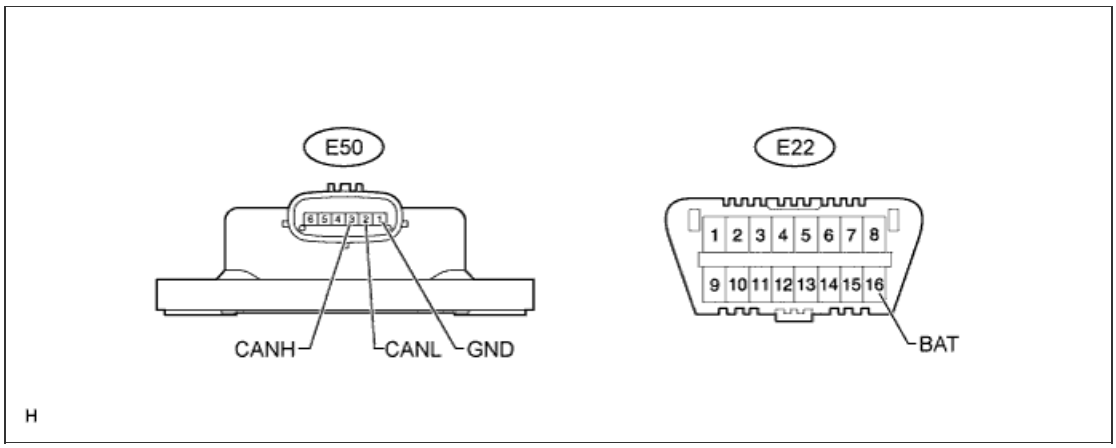

a. Disconnect the E11 sensor connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E11-10 (CANH) - E11-9 (CANL) | GR - L | Engine switch off | 54 to 69 Ω |

| | | | |
|---|---|---|---|
| E11-10 (CANH) - E11-2 (ESS) | GR - W-B | Engine switch off | 200 Ω or higher |
| E11-9 (CANL) - E11-2 (ESS) | L - W-B | Engine switch off | 200 Ω or higher |
| E11-10 (CANH) - E22-16 (BAT) | GR - O | Engine switch off | 6 kΩ or higher |
| E11-9 (CANL) - E22-16 (BAT) | L - O | Engine switch off | 6 kΩ or higher |

## CHECK YAW RATE SENSOR



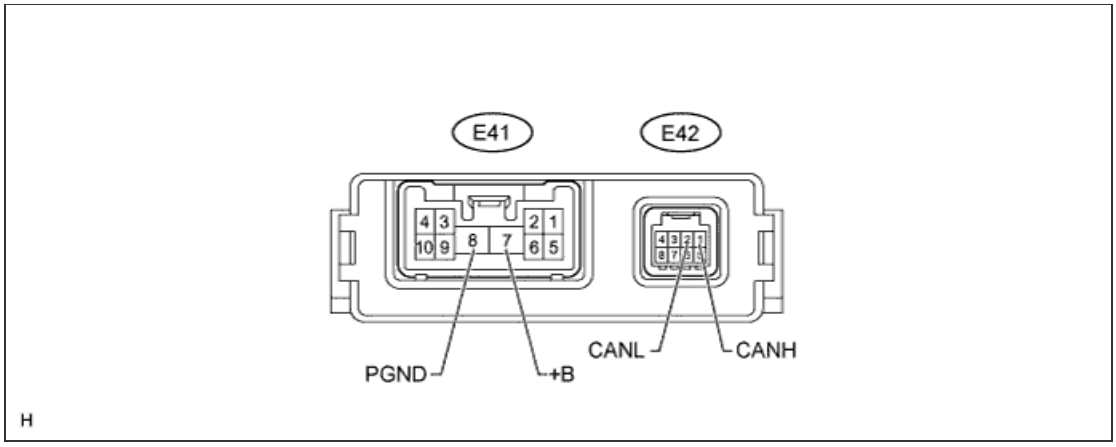

a. Disconnect the E50 sensor connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | BR - L | Engine switch off | 54 to 69 Ω |
| E50-3 (CANH) - E50-1 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| E50-2 (CANL) - E50-1 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| E50-3 (CANH) - E22-16 (BAT) | BR - O | Engine switch off | 6 kΩ or higher |
| E50-2 (CANL) - E22-16 (BAT) | L - O | Engine switch off | 6 kΩ or higher |

## CHECK SEAT BELT CONTROL ECU

For vehicles with the pre-crash safety system only.

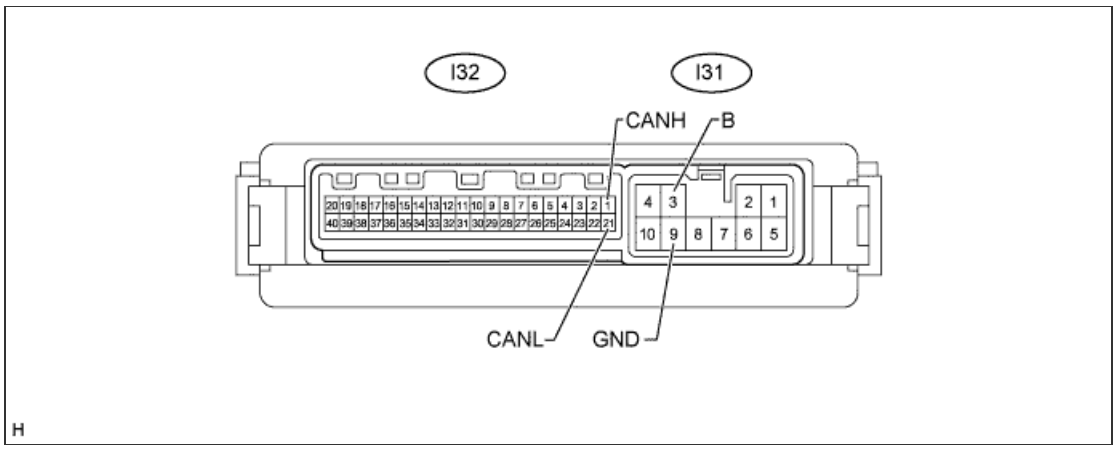



a. Disconnect the E41 and E42 ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | G - L | Engine switch off | 54 to 69 Ω |
| E42-1 (CANH) - E41-8 (PGND) | G - W-B | Engine switch off | 200 Ω or higher |
| E42-2 (CANL) - E41-8 (PGND) | L - W-B | Engine switch off | 200 Ω or higher |
| E42-1 (CANH) - E41-7 (+B) | G - R | Engine switch off | 6 kΩ or higher |
| E42-2 (CANL) - E41-7 (+B) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK OUTER MIRROR CONTROL ECU

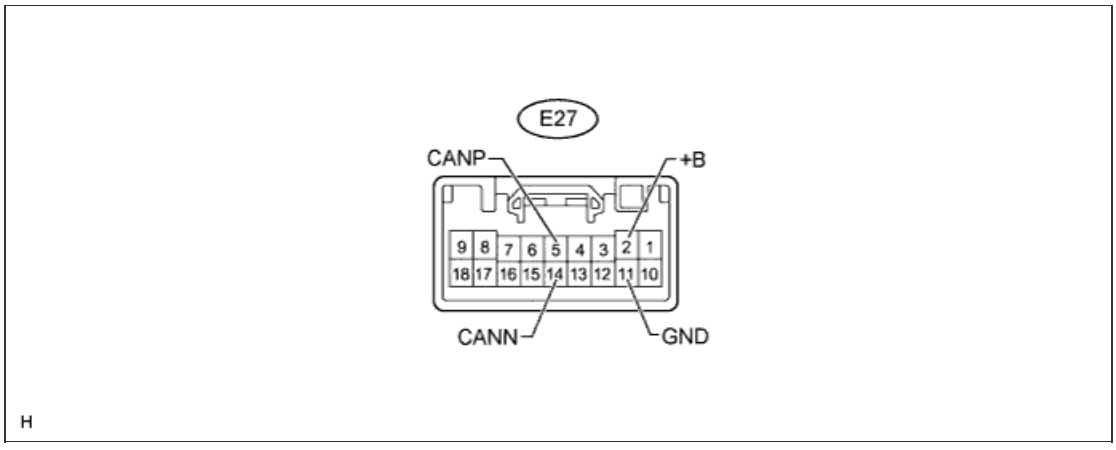



a. Disconnect the I31 and I32 ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| I32-1 (CANH) - I32-21 (CANL) | BR - R | Engine switch off | 54 to 69 Ω |
| I32-1 (CANH) - I31-9 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| I32-21 (CANL) - I31-9 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| I32-1 (CANH) - I31-3 (B) | BR - R | Engine switch off | 6 kΩ or higher |
| I32-21 (CANL) - I31-3 (B) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK MULTIPLEX TILT AND TELESCOPIC ECU

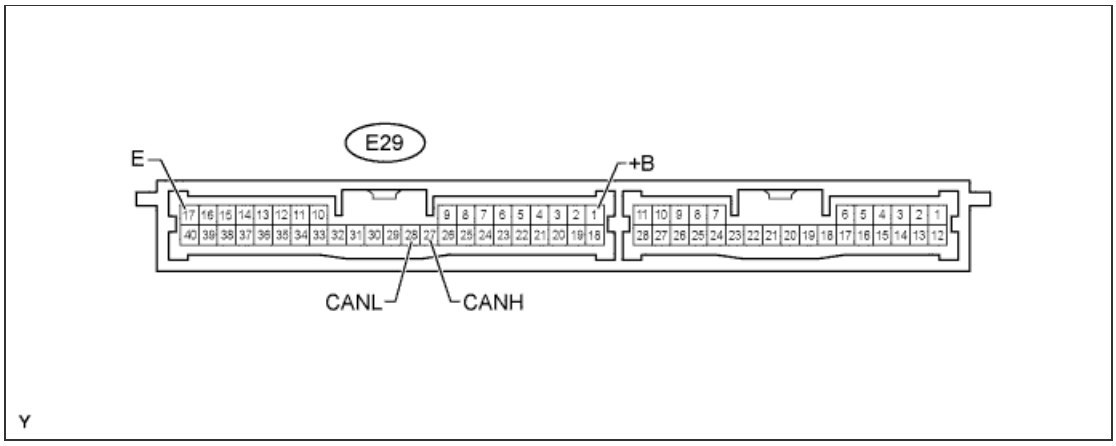



a. Disconnect the E27 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | P - R | Engine switch off | 54 to 69 Ω |
| E27-5 (CANP) - E27-11 (GND) | P - W-B | Engine switch off | 200 Ω or higher |
| E27-14 (CANN) - E27-11 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| E27-5 (CANP) - E27-2 (+B) | P - L | Engine switch off | 6 kΩ or higher |
| E27-14 (CANN) - E27-2 (+B) | R - L | Engine switch off | 6 kΩ or higher |

## CHECK CERTIFICATION ECU (SMART KEY ECU)

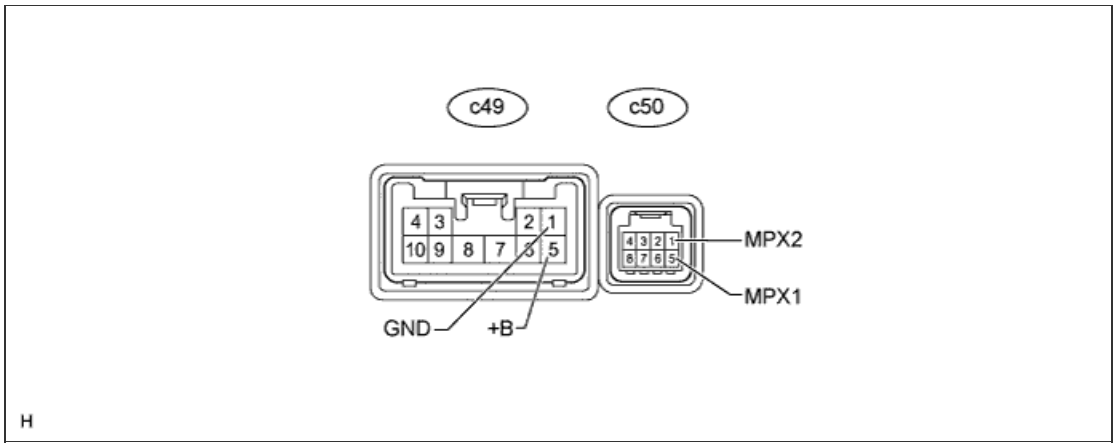



a. Disconnect the E29 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | LG - R | Engine switch off | 54 to 69 Ω |
| E29-27 (CANH) - E29-17 (E) | LG - W-B | Engine switch off | 200 Ω or higher |
| E29-28 (CANL) - E29-17 (E) | R - W-B | Engine switch off | 200 Ω or higher |
| E29-27 (CANH) - E29-1 (+B) | LG - B | Engine switch off | 6 kΩ or higher |
| E29-28 (CANL) - E29-1 (+B) | R - B | Engine switch off | 6 kΩ or higher |

## CHECK POSITION CONTROL ECU AND SWITCH

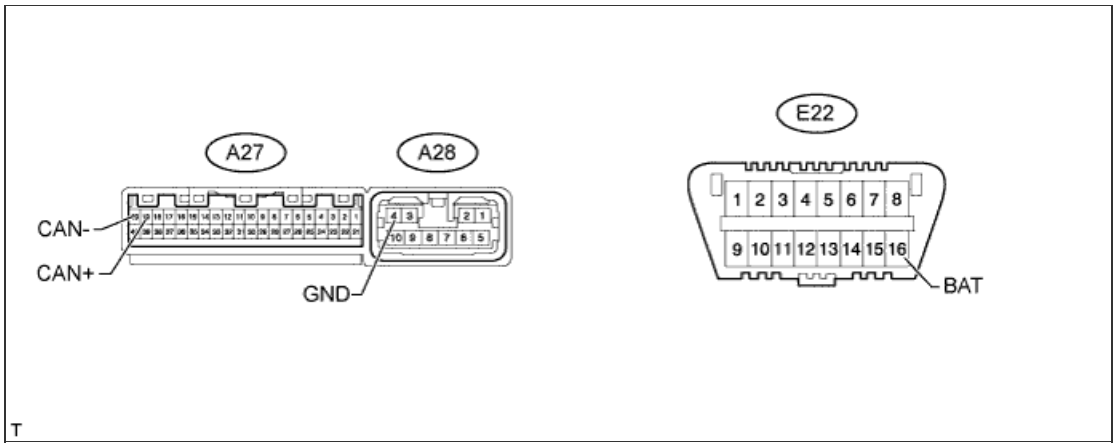



a. Disconnect the c49 and c50 ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| c50-5 (MPX1) - c50-1 (MPX2) | V - R | Engine switch off | 54 to 69 Ω |
| c50-5 (MPX1) - c49-1 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| c50-1 (MPX2) - c49-1 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| c50-5 (MPX1) - c49-5 (+B) | V - L | Engine switch off | 6 kΩ or higher |
| c50-1 (MPX2) - c49-5 (+B) | R - L | Engine switch off | 6 kΩ or higher |

## CHECK 4WD CONTROL ECU

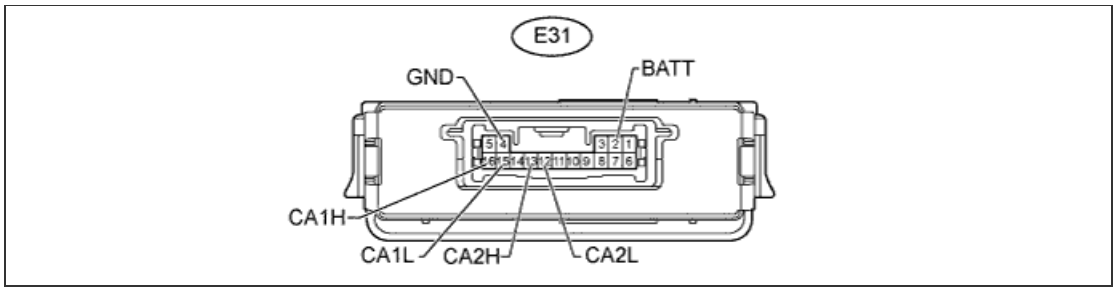



a. Disconnect the A27 and A28 ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A27-19 (CAN+) - A27-20 (CAN-) | P - L | Engine switch off | 54 to 69 Ω |
| A27-19 (CAN+) - A28-4 (GND) | P - W | Engine switch off | 200 Ω or higher |
| A27-20 (CAN-) - A28-4 (GND) | L - W | Engine switch off | 200 Ω or higher |
| A27-19 (CAN+) - E22-16 (BAT) | P - O | Engine switch off | 6 kΩ or higher |
| A27-20 (CAN-) - E22-16 (BAT) | L - O | Engine switch off | 6 kΩ or higher |

## CHECK NETWORK GATEWAY ECU



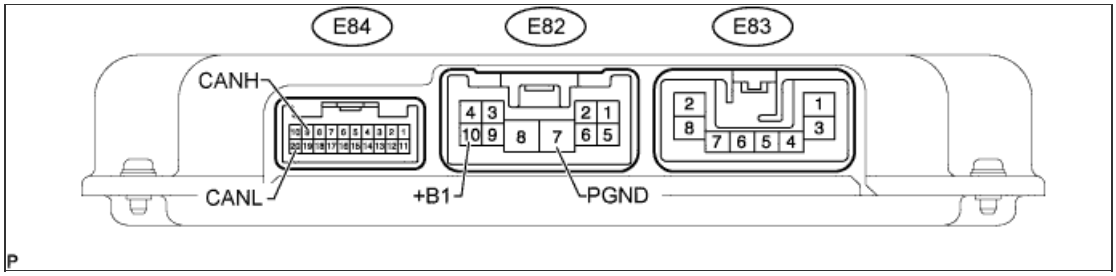

a. Disconnect the E31 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L)*1 | BR - B | Engine switch off | 54 to 69 Ω |
| E31-16 (CA1H) - E31-4 (GND)*1 | BR - W-B | Engine switch off | 200 Ω or higher |
| E31-15 (CA1L) - E31-4 (GND)*1 | B - W-B | Engine switch off | 200 Ω or higher |
| E31-16 (CA1H) - E31-2 (BATT)*1 | BR - R | Engine switch off | 6 kΩ or higher |
| E31-15 (CA1L) - E31-2 (BATT)*1 | B - R | Engine switch off | 6 kΩ or higher |
| E31-13 (CA2H) - E31-12 (CA2L)*2 | SB - L | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E31-4 (GND)*2 | SB - W-B | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E31-4 (GND)*2 | L - W-B | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E31-2 (BATT)*2 | SB - R | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E31-2 (BATT)*2 | L - R | Engine switch off | 6 kΩ or higher |

*1: For V bus
*2: For movement control bus

## CHECK STEERING CONTROL ECU

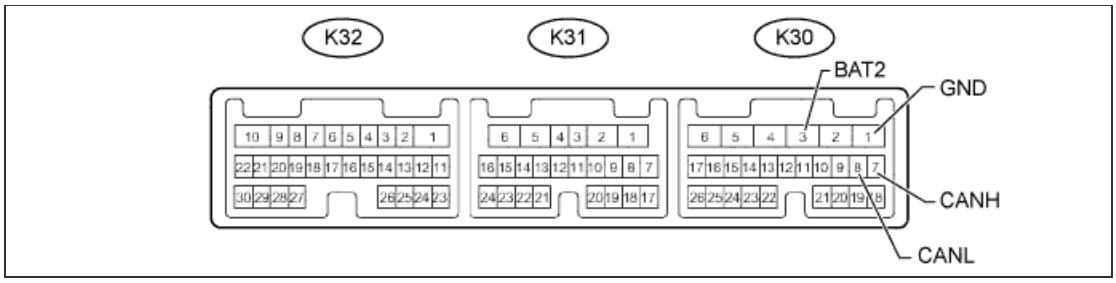



a. Disconnect the E82 and E84 ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | LG - L | Engine switch off | 54 to 69 Ω |
| E84-9 (CANH) - E82-7 (PGND) | LG - W-B | Engine switch off | 200 Ω or higher |
| E84-20 (CANL) - E82-7 (PGND) | L - W-B | Engine switch off | 200 Ω or higher |
| E84-9 (CANH) - E82-10 (+B1) | LG - R | Engine switch off | 6 kΩ or higher |
| E84-20 (CANL) - E82-10 (+B1) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK SUSPENSION CONTROL ECU

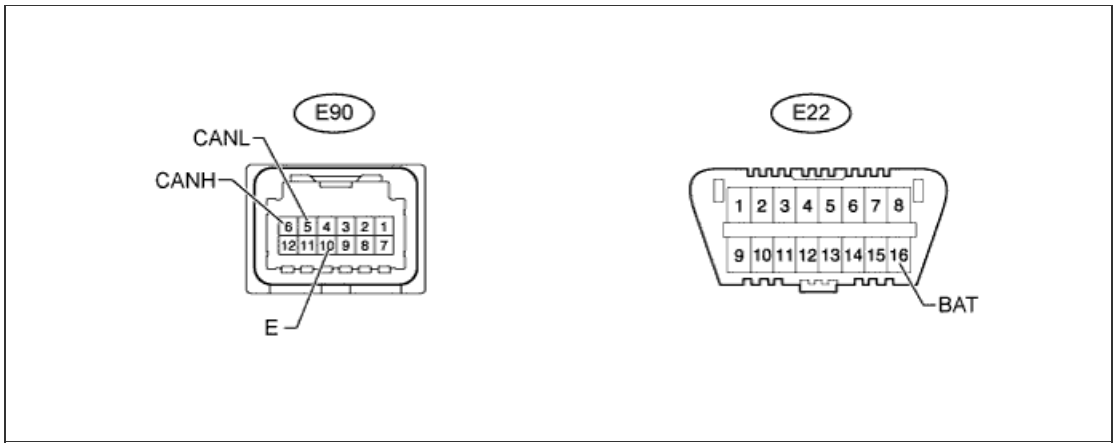



a. Disconnect the K30 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| K30-7 (CANH) - K30-1 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| K30-8 (CANL) - K30-1 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| K30-7 (CANH) - K30-3 (BAT2) | V - R | Engine switch off | 6 kΩ or higher |
| K30-8 (CANL) - K30-3 (BAT2) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK WINDSHIELD WIPER ECU



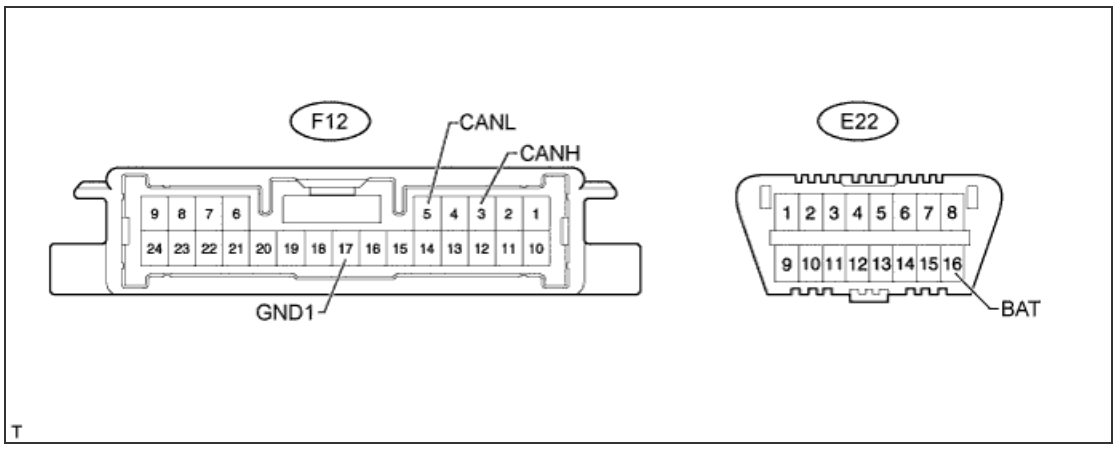

a. Disconnect the E90 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | LG - R | Engine switch off | 54 to 69 Ω |
| E90-6 (CANH) - E90-10 (E) | LG - W-B | Engine switch off | 200 Ω or higher |
| E90-5 (CANL) - E90-10 (E) | R - W-B | Engine switch off | 200 Ω or higher |
| E90-6 (CANH) - E22-16 (BAT) | LG - O | Engine switch off | 6 kΩ or higher |
| E90-5 (CANL) - E22-16 (BAT) | R - O | Engine switch off | 6 kΩ or higher |

## CHECK CLEARANCE WARNING ECU

For vehicles with the LEXUS parking assist-sensor system only.



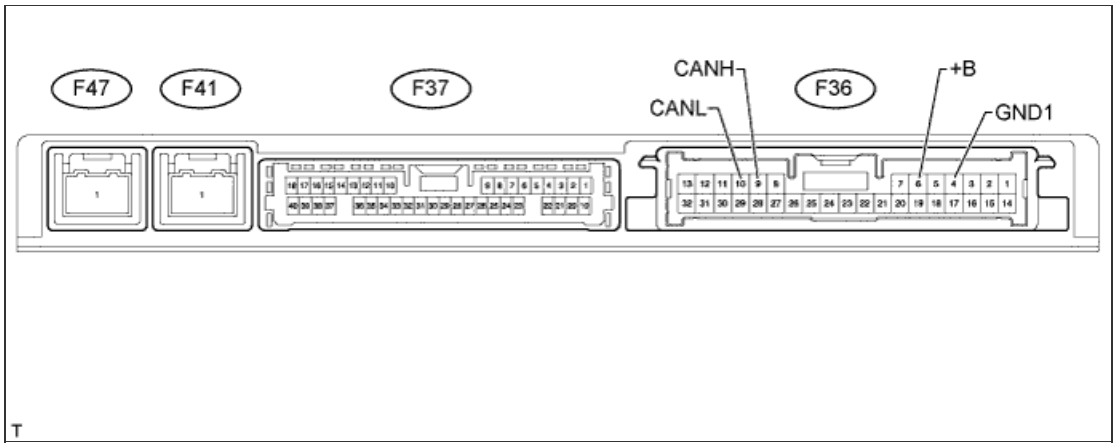

a. Disconnect F12 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F12-3 (CANH) - F12-5 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| F12-3 (CANH) - F12-17 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| F12-5 (CANL) - F12-17 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| F12-3 (CANH) - E22-16 (BAT) | V - O | Engine switch off | 6 kΩ or higher |
| F12-5 (CANL) - E22-16 (BAT) | L - O | Engine switch off | 6 kΩ or higher |

## CHECK PARKING ASSIST ECU

For vehicles with the parking assist monitor system only.



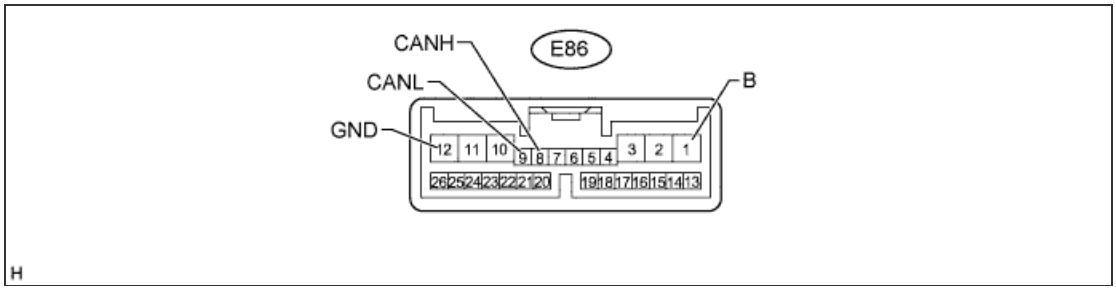

a. Disconnect the F36 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F36-9 (CANH) - F36-10 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| F36-9 (CANH) - F36-4 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| F36-10 (CANL) - F36-4 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| F36-9 (CANH) - F36-6 (+B) | V - L | Engine switch off | 6 kΩ or higher |
| F36-10 (CANL) - F36-6 (+B) | L - L | Engine switch off | 6 kΩ or higher |

## CHECK DISTANCE CONTROL ECU

For vehicles with the dynamic radar cruise control system only.



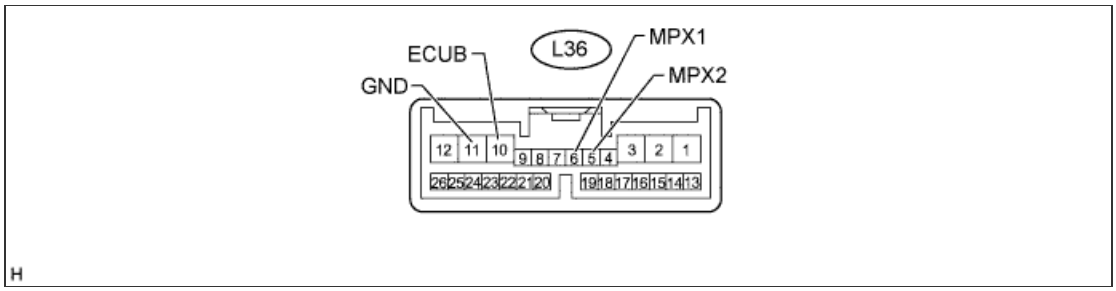

a. Disconnect the E86 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | SB - L | Engine switch off | 54 to 69 Ω |
| E86-8 (CANH) - E86-12 (GND) | SB - BR | Engine switch off | 200 Ω or higher |
| E86-9 (CANL) - E86-12 (GND) | L - BR | Engine switch off | 200 Ω or higher |
| E86-8 (CANH) - E86-1 (B) | SB - R | Engine switch off | 6 kΩ or higher |
| E86-9 (CANL) - E86-1 (B) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK POWER BACK DOOR UNIT (POWER BACK DOOR ECU)

For vehicles with the power back door system only.

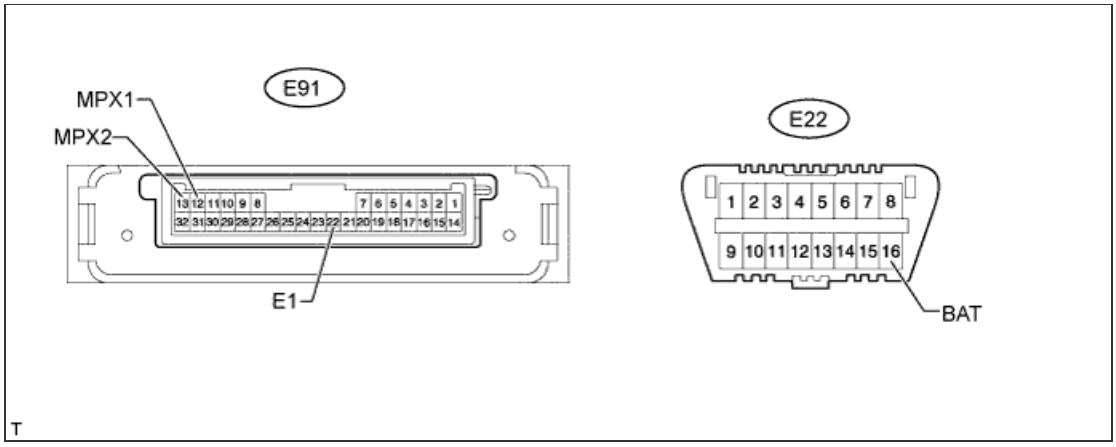



a. Disconnect the L36 unit connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | V - R | Engine switch off | 54 to 69 Ω |
| L36-6 (MPX1) - L36-11 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| L36-5 (MPX2) - L36-11 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| L36-6 (MPX1) - L36-10 (ECUB) | V - R | Engine switch off | 6 kΩ or higher |
| L36-5 (MPX2) - L36-10 (ECUB) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK AFS ECU (HEADLIGHT SWIVEL ECU)

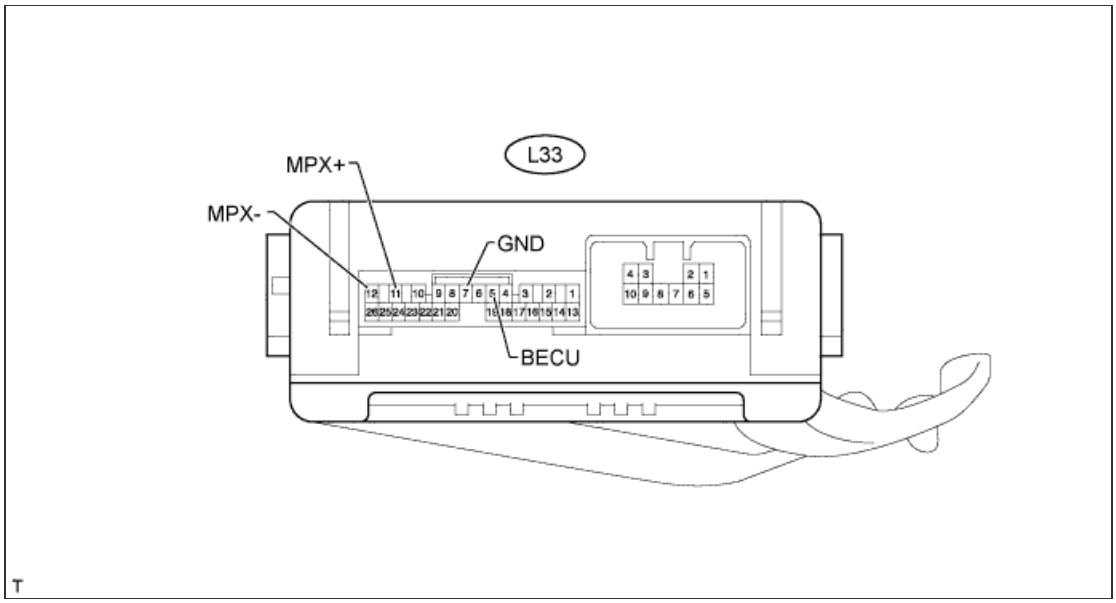



a. Disconnect the E91 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | LG - B | Engine switch off | 54 to 69 Ω |
| E91-12 (MPX1) - E91-22 (E1) | LG - W-B | Engine switch off | 200 Ω or higher |
| E91-13 (MPX2) - E91-22 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| E91-12 (MPX1) - E22-16 (BAT) | LG - O | Engine switch off | 6 kΩ or higher |
| E91-13 (MPX2) - E22-16 (BAT) | B - O | Engine switch off | 6 kΩ or higher |

## CHECK NO. 2 MAIN BODY ECU




a. Disconnect the L33 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | LG - R | Engine switch off | 54 to 69 Ω |
| L33-11 (MPX+) - L33-7 (GND) | LG - W-B | Engine switch off | 200 Ω or higher |
| L33-12 (MPX-) - L33-7 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| L33-11 (MPX+) - L33-5 (BECU) | LG - R | Engine switch off | 6 kΩ or higher |
| L33-12 (MPX-) - L33-5 (BECU) | R - R | Engine switch off | 6 kΩ or higher |

**for Preparation** Click here

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

## DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

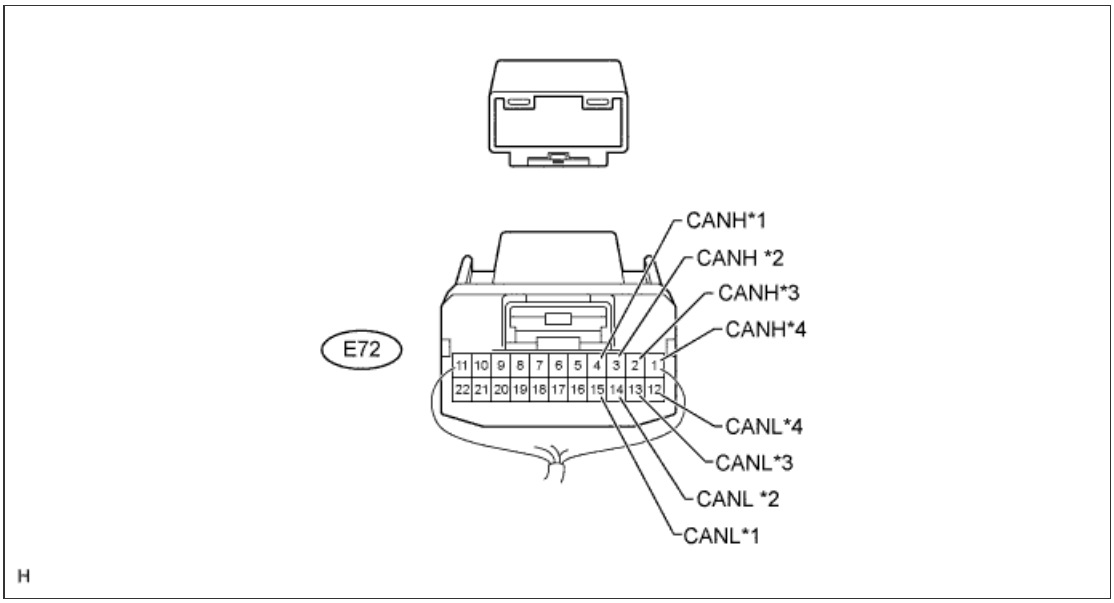
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## JUNCTION CONNECTOR

a. NO. 1 JUNCTION CONNECTOR

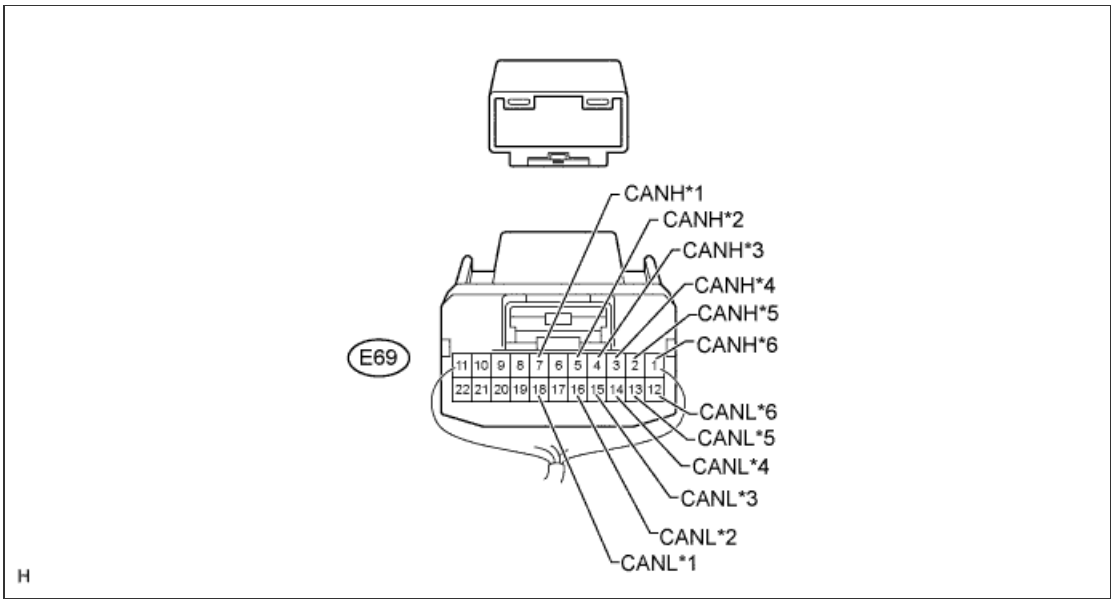



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Center Airbag Sensor | *2 | to Main Body ECU: V bus |
| *3 | to ECM | *4 | to No. 2 Junction Connector |

| No. 1 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E72-1 (CANH) | Y | No. 2 junction connector |
| E72-12 (CANL) | B | |
| E72-2 (CANH) | P | ECM |
| E72-13 (CANL) | B | |
| E72-3 (CANH) | SB | Main body ECU (cowl side junction block LH) (V bus) |
| E72-14 (CANL) | B | |
| E72-4 (CANH) | GR | Center airbag sensor |
| E72-15 (CANL) | B | |

b. NO. 2 JUNCTION CONNECTOR

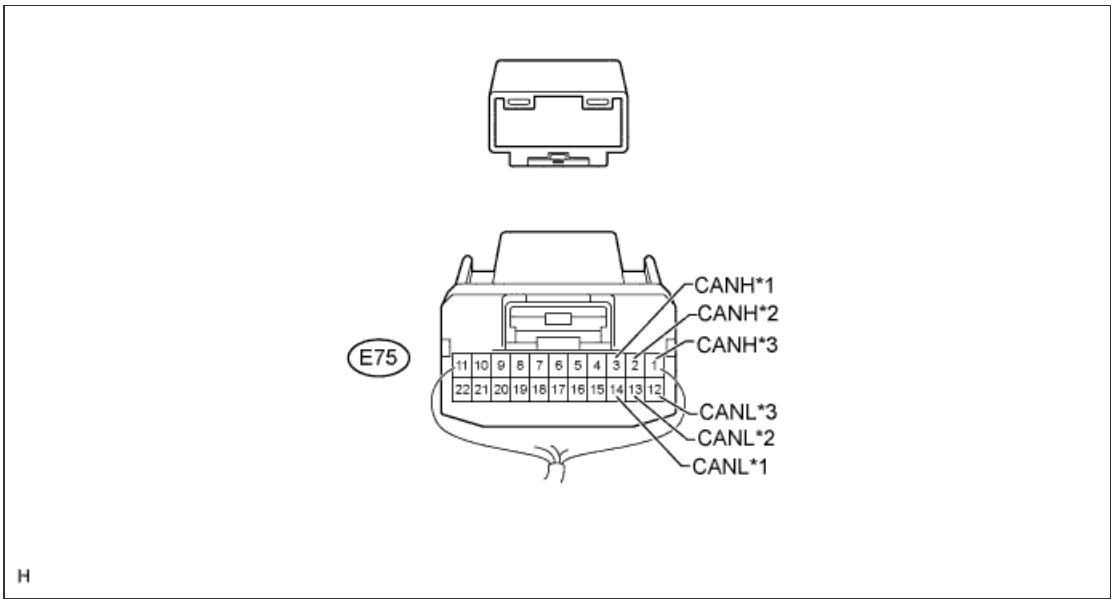



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to AFS ECU | *2 | to Air Conditioning Amplifier |
| *3 | to No. 1 Junction Connector | *4 | to Network Gateway ECU: V bus |
| *5 | to Display and Navigation Module Display | *6 | to No. 3 Junction Connector |

| No. 2 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E69-1 (CANH) | W | No. 3 junction connector |
| E69-12 (CANL) | B | |
| E69-2 (CANH) | P | Display and navigation module display |
| E69-13 (CANL) | B | |
| E69-3 (CANH) | BR | Network gateway ECU (V bus) |
| E69-14 (CANL) | B | |
| E69-4 (CANH) | Y | No. 1 junction connector |
| E69-15 (CANL) | B | |
| E69-5 (CANH) | G | Air conditioning amplifier |
| E69-16 (CANL) | B | |
| E69-7 (CANH) | LG | AFS ECU (headlight swivel ECU) |
| E69-18 (CANL) | B | |

c. NO. 3 JUNCTION CONNECTOR

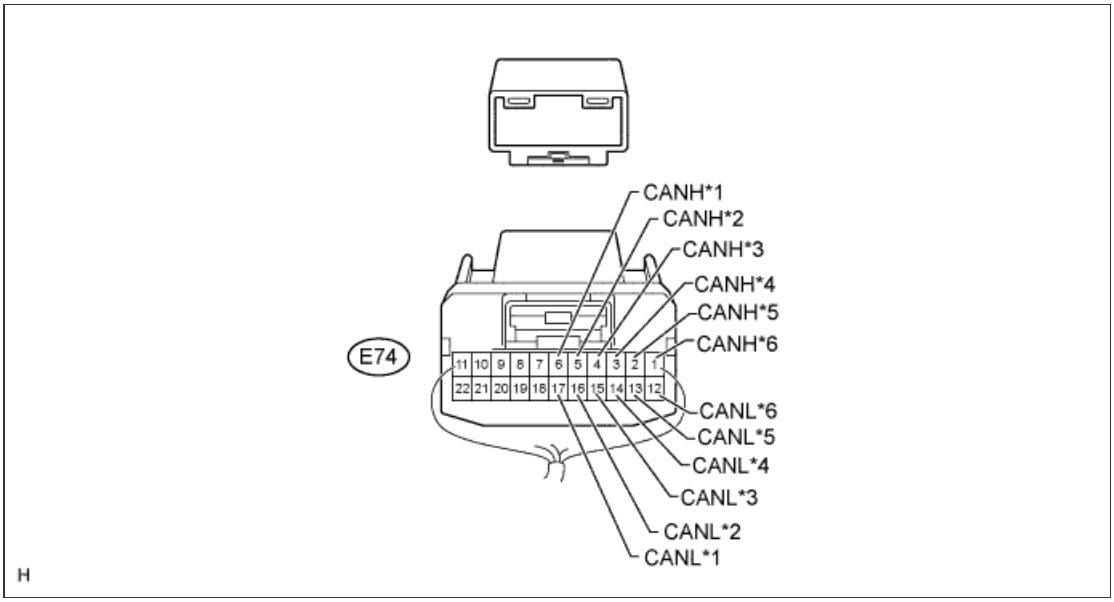



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Combination Meter: V bus | *2 | to DLC3 |
| *3 | to No. 2 Junction Connector | - | - |

| No. 3 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E75-1 (CANH) | W | No. 2 junction connector |
| E75-12 (CANL) | B | |
| E75-2 (CANH) | G | DLC3 |
| E75-13 (CANL) | B | |
| E75-3 (CANH) | V | Combination meter (V bus) |
| E75-14 (CANL) | B | |

**d.** NO. 4 JUNCTION CONNECTOR



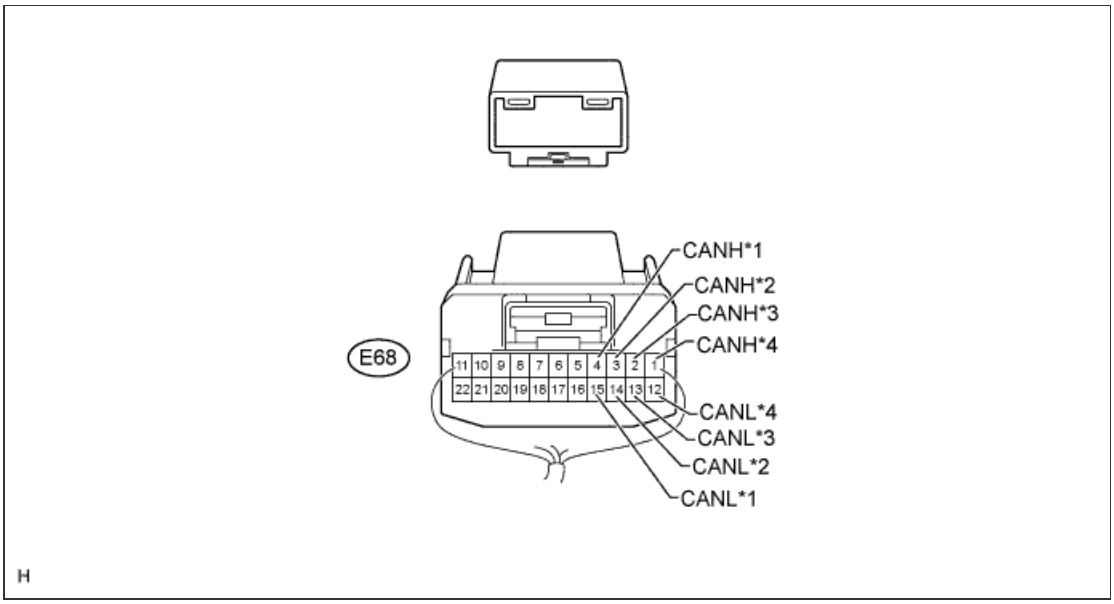

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to 4WD Control ECU | *2 | to Skid Control ECU |
| *3 | to Steering Angle Sensor | *4 | to Steering Control ECU |
| *5 | to Network Gateway ECU: Movement Control Bus | *6 | to No. 5 Junction Connector |

| No. 4 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| | | |

| | | |
|---|---|---|
| E74-1 (CANH)<br>E74-12 (CANL) | W<br>L | No. 5 junction connector |
| E74-2 (CANH) | SB | Network gateway ECU (movement control bus) |
| E74-13 (CANL) | L | |
| E74-3 (CANH) | LG | Steering control ECU |
| E74-14 (CANL) | L | |
| E74-4 (CANH) | GR | Steering angle sensor |
| E74-15 (CANL) | L | |
| E74-5 (CANH) | V | Skid control ECU |
| E74-16 (CANL) | L | |
| E74-6 (CANH) | P | 4WD control ECU |
| E74-17 (CANL) | L | |

e. NO. 5 JUNCTION CONNECTOR



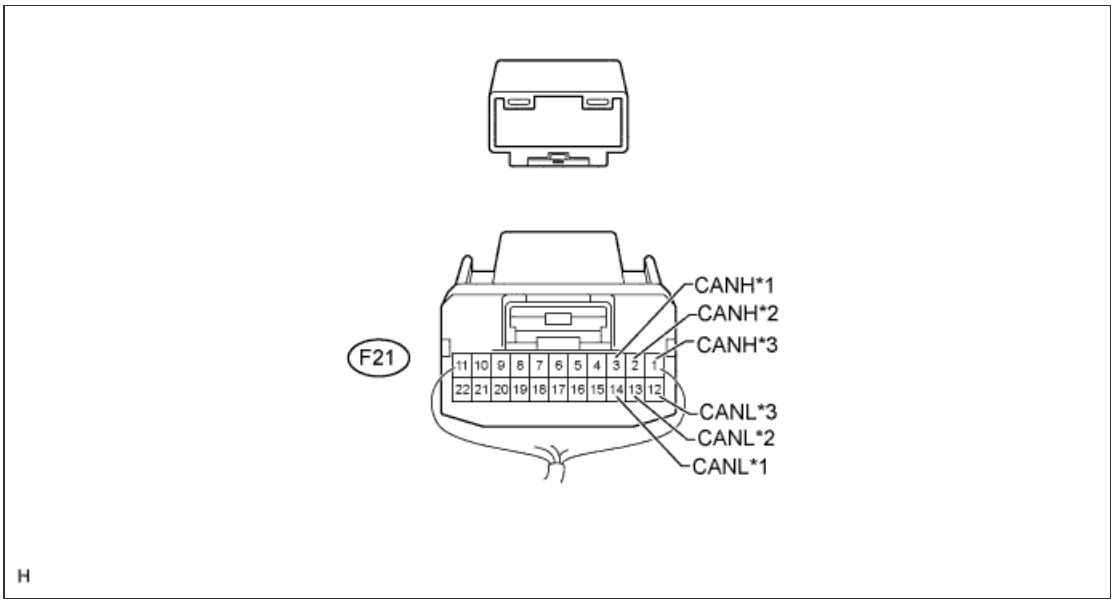

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Distance Control ECU (w/ Dynamic Radar Cruise Control System) | *2 | to Yaw Rate Sensor |
| *3 | to No. 6 Junction Connector | *4 | to No. 4 Junction Connector |

| No. 5 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E68-1 (CANH) | W | No. 4 junction connector |
| E68-12 (CANL) | L | |
| E68-2 (CANH) | Y | No. 6 junction connector |
| E68-13 (CANL) | L | |
| E68-3 (CANH) | BR | Yaw rate sensor |
| E68-14 (CANL) | L | |
| E68-4 (CANH)* | SB | Distance control ECU |
| E68-15 (CANL)* | L | |

*: w/ Dynamic Radar Cruise Control System

f. NO. 6 JUNCTION CONNECTOR



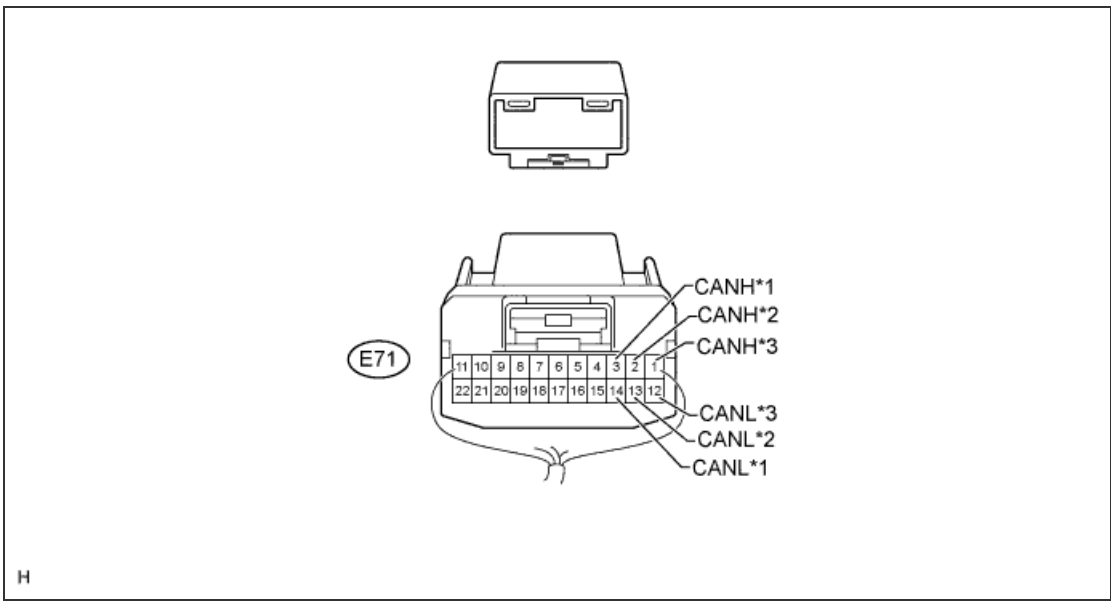

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to No. 5 Junction Connector | *2 | to No. 7 Junction Connector |
| *3 | • to Clearance Warning ECU (w/ LEXUS Parking Assist-sensor System)<br>• to Parking Assist ECU (w/ Parking Assist Monitor System) | - | - |

| No. 6 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| F21-1 (CANH)*1 | V | Clearance warning ECU |
| F21-12 (CANL)*1 | L | |
| F21-1 (CANH)*2 | V | Parking assist ECU |
| F21-12 (CANL)*2 | L | |
| F21-2 (CANH) | W | No. 7 junction connector |
| F21-13 (CANL) | L | |
| F21-3 (CANH) | Y | No. 5 junction connector |
| F21-14 (CANL) | L | |

*1: w/ LEXUS Parking Assist-sensor System
*2: w/ Parking Assist Monitor System

g. NO. 7 JUNCTION CONNECTOR



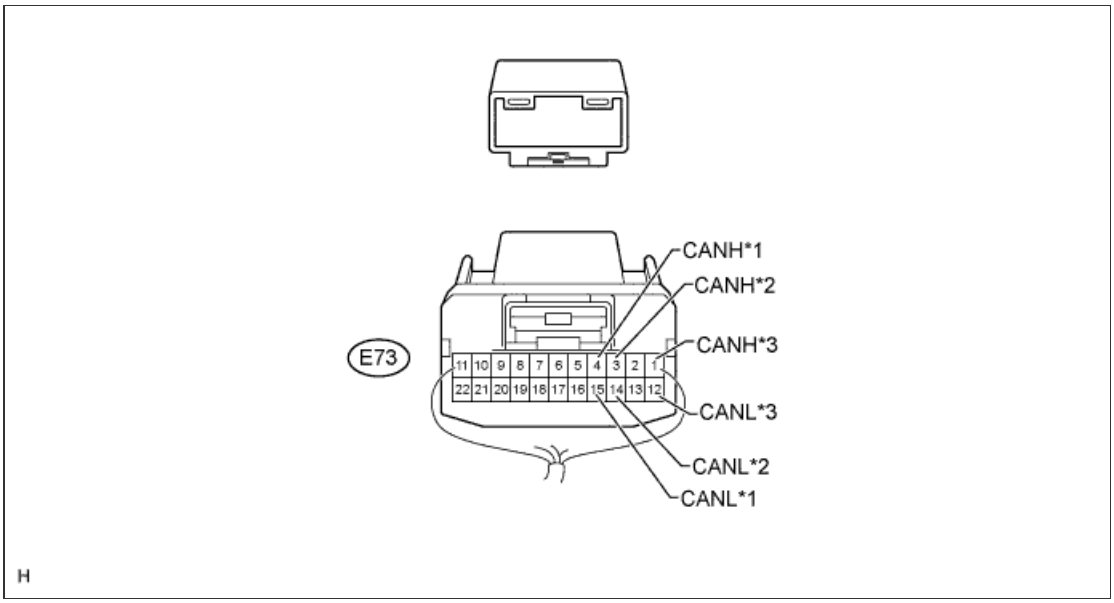
**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to No. 1 CAN Junction Connector | *2 | to Seat Belt Control ECU (w/ Pre-crash Safety System) |
| *3 | to No. 6 Junction Connector | - | - |

| No. 7 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E71-1 (CANH) | W | No. 6 junction connector |
| E71-12 (CANL) | L | |
| E71-2 (CANH) | G | Seat belt control ECU* |
| E71-13 (CANL) | L | |
| E71-3 (CANH) | W | No. 1 CAN junction connector |
| E71-14 (CANL) | L | |

*: w/ Pre-Crash Safety System

h. NO. 8 JUNCTION CONNECTOR

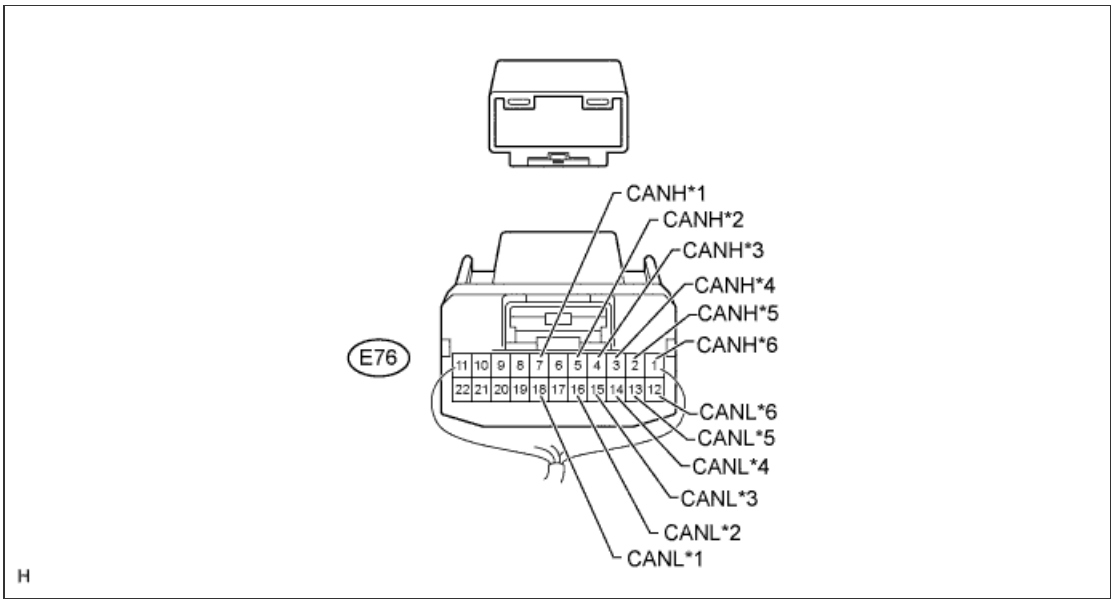



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Windshield Wiper ECU | *2 | to Main Body ECU: MS Bus |
| *3 | to No. 2 CAN Junction Connector | - | - |

| No. 8 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E73-1 (CANH) | W | No. 2 CAN junction connector |
| E73-12 (CANL) | R | |
| E73-3 (CANH) | GR | Main body ECU (MS bus) |
| E73-14 (CANL) | R | |
| E73-4 (CANH) | LG | Windshield wiper ECU |
| E73-15 (CANL) | R | |

i. NO. 9 JUNCTION CONNECTOR

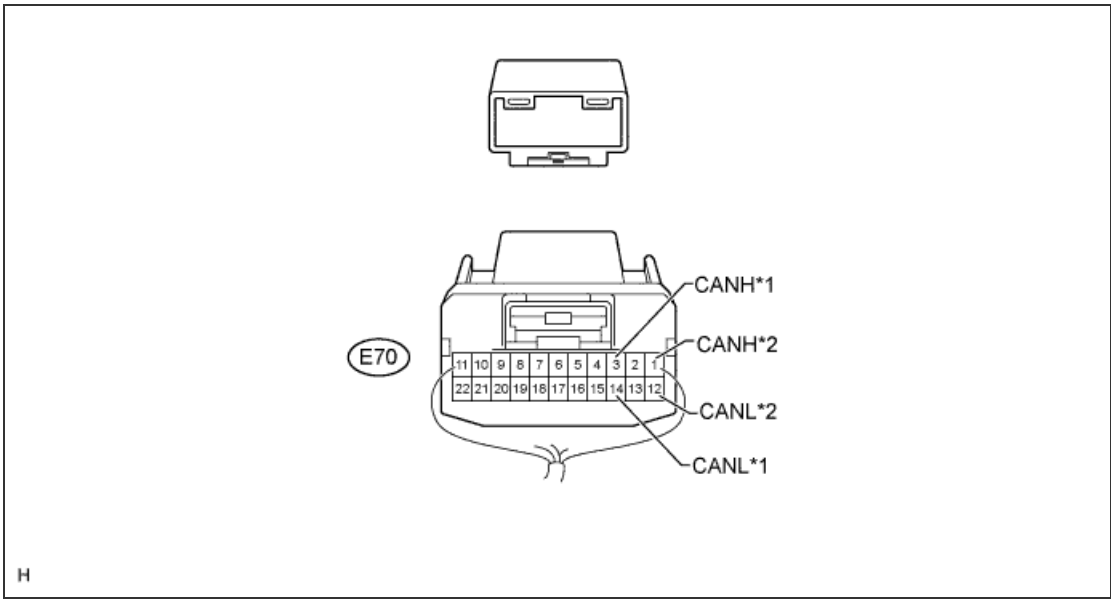



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to No. 2 CAN Junction Connector | *2 | to Outer Mirror Control ECU |
| *3 | to Position Control ECU and Switch | *4 | to Multiplex Tilt and Telescopic ECU |
| *5 | to Certification ECU | *6 | to No. 10 Junction Connector |

| No. 9 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E76-1 (CANH) | W | No. 10 junction connector |
| E76-12 (CANL) | R | |
| E76-2 (CANH) | LG | Certification ECU (smart key ECU) |
| E76-13 (CANL) | R | |
| E76-3 (CANH) | P | Multiplex tilt and telescopic ECU |
| E76-14 (CANL) | R | |
| E76-4 (CANH) | V | Position control ECU and switch |
| E76-15 (CANL) | R | |
| E76-5 (CANH) | BR | Outer mirror control ECU |
| E76-16 (CANL) | R | |
| E76-7 (CANH) | Y | No. 2 CAN junction connector |
| E76-18 (CANL) | R | |

j. NO. 10 JUNCTION CONNECTOR

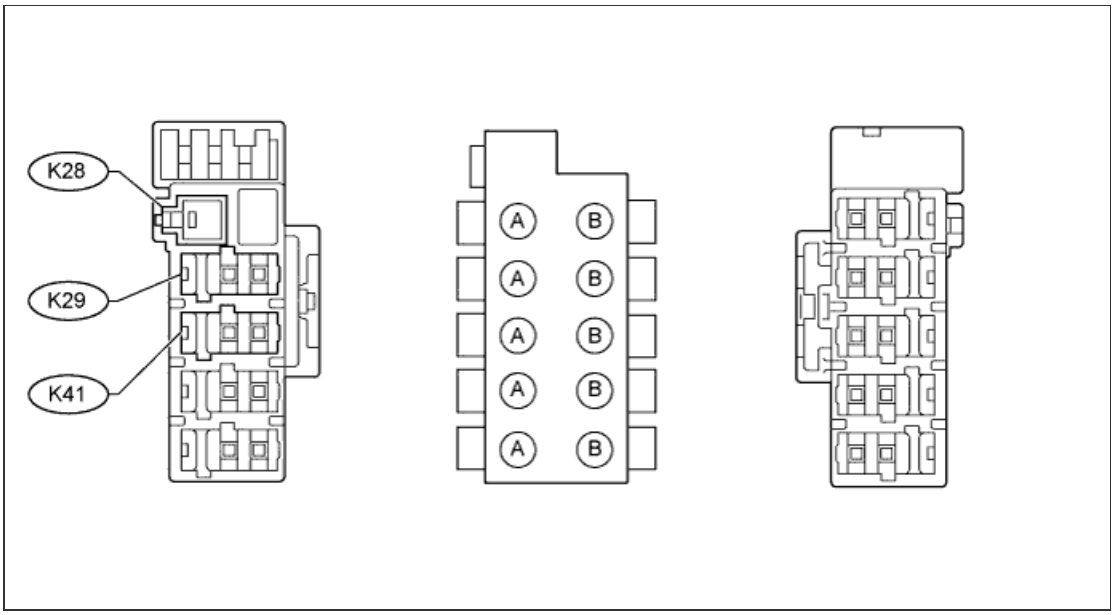


**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Combination Meter: MS Bus | *2 | to No. 9 CAN Junction Connector |

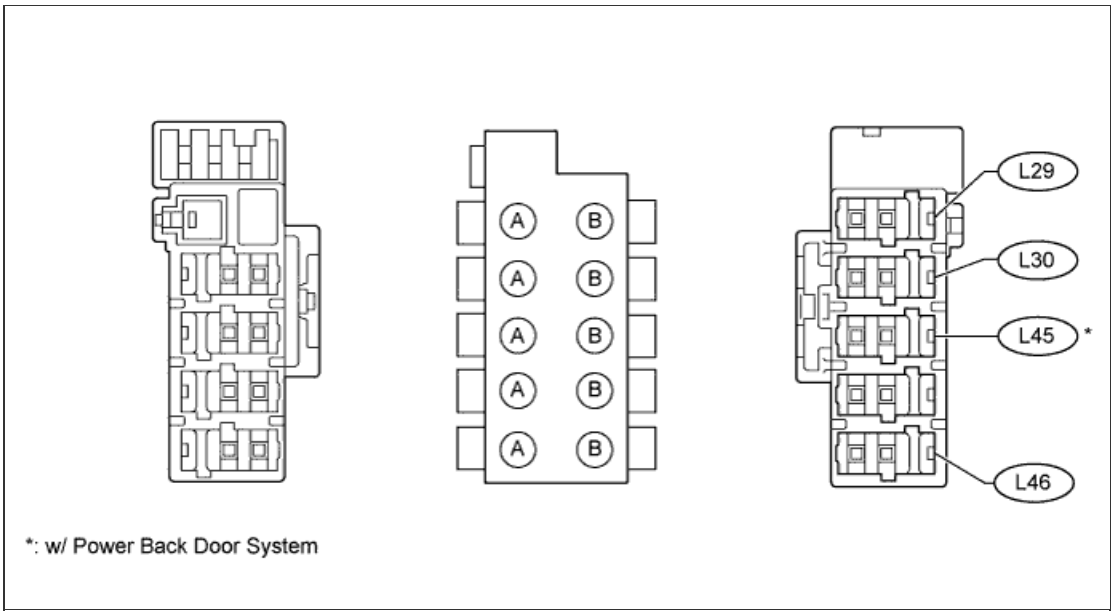
| No. 10 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E70-1 (CANH) | W | No. 9 Junction Connector |
| E70-12 (CANL) | R | |
| E70-3 (CANH) | LG | Combination Meter (MS bus) |
| E70-14 (CANL) | R | |

k. NO. 1 CAN JUNCTION CONNECTOR




| Junction Connector A Side | Wiring Color (CANH Side) | Wiring Color (CANL Side) |
|---|---|---|
| Body ground (K28) | - | W-B |
| No. 7 junction connector (K29) | W | L |
| Suspension control ECU (K41) | V | L |

l. NO. 2 CAN JUNCTION CONNECTOR

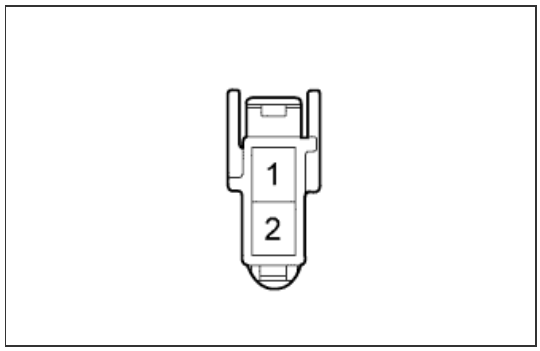



| Junction Connector B side | Wiring Color (CANH Side) | Wiring Color (CANL Side) |
|---|---|---|
| No. 8 junction connector (L29) | W | R |
| No. 9 junction connector (L30) | Y | R |
| Power back door ECU (L45)* | V | R |
| No. 2 main body ECU (L46) | LG | R |

*: w/ Power Back Door System

**TERMINALS OF CONNECTORS FOR JUNCTION CONNECTOR (CAN JUNCTION CONNECTOR)**

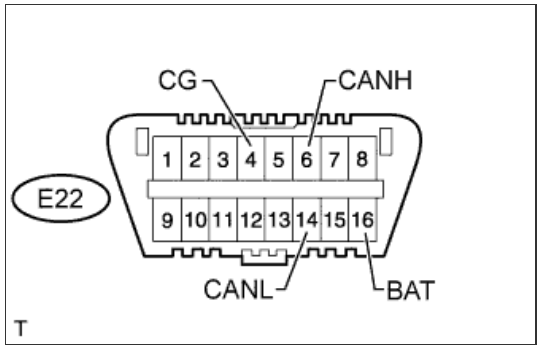
| Terminal No. | Symbol |
|---|---|
| 1 | CANH |
| 2 | CANL |




**CHECK DLC3**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

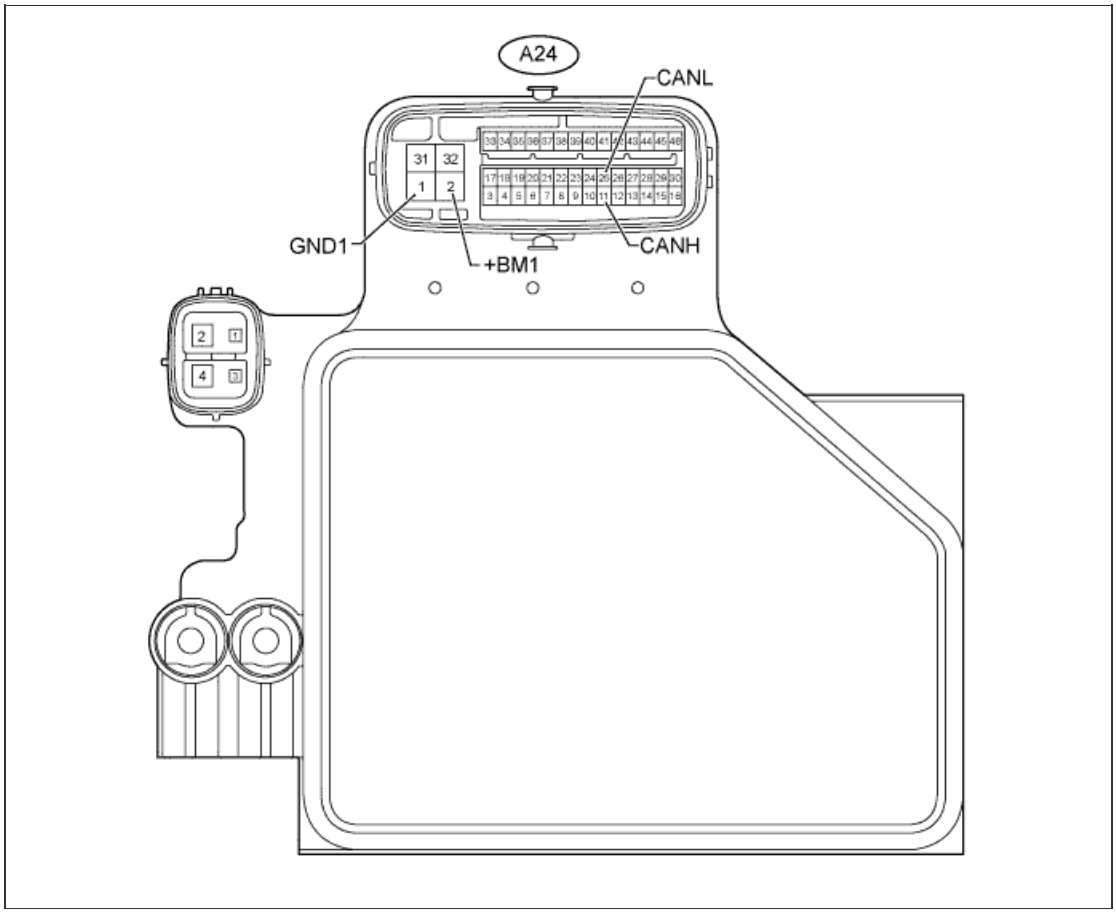
b. Measure the resistance according to the value(s) in the table below.




| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | G - B | Engine switch off | 54 to 69 Ω |
| E22-6 (CANH) - E22-4 (CG) | G - W-B | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | B - W-B | Engine switch off | 200 Ω or higher |
| E22-6 (CANH) - E22-16 (BAT) | G - BE | Engine switch off | 6 kΩ or higher |

| | | | |
|---|---|---|---|
| E22-14 (CANL) - E22-16 (BAT) | B - BE | Engine switch off | 6 kΩ or higher |

## CHECK MASTER CYLINDER SOLENOID (SKID CONTROL ECU)

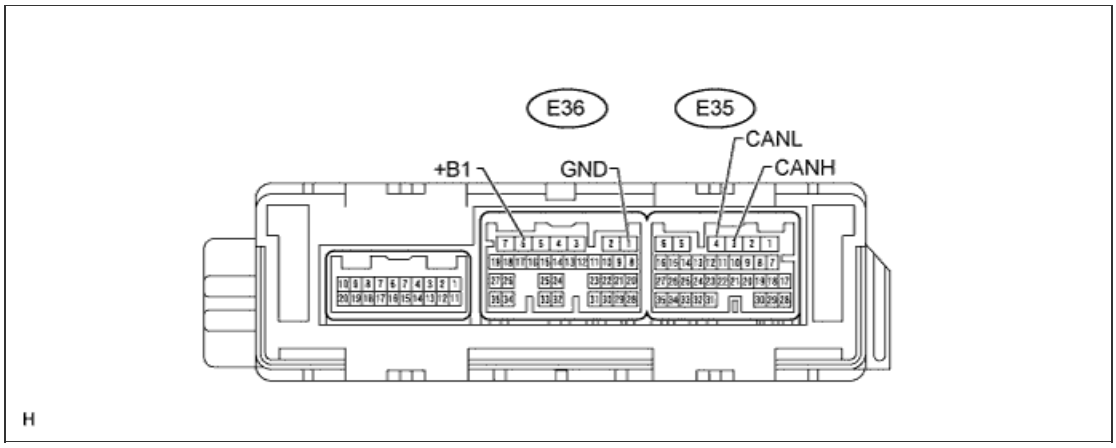



a. Disconnect the A24 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| A24-11 (CANH) - A24-1 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| A24-25 (CANL) - A24-1 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| A24-11 (CANH) - A24-2 (+BM1) | V - B | Engine switch off | 6 kΩ or higher |
| A24-25 (CANL) - A24-2 (+BM1) | L - B | Engine switch off | 6 kΩ or higher |

## CHECK AIR CONDITIONING AMPLIFIER

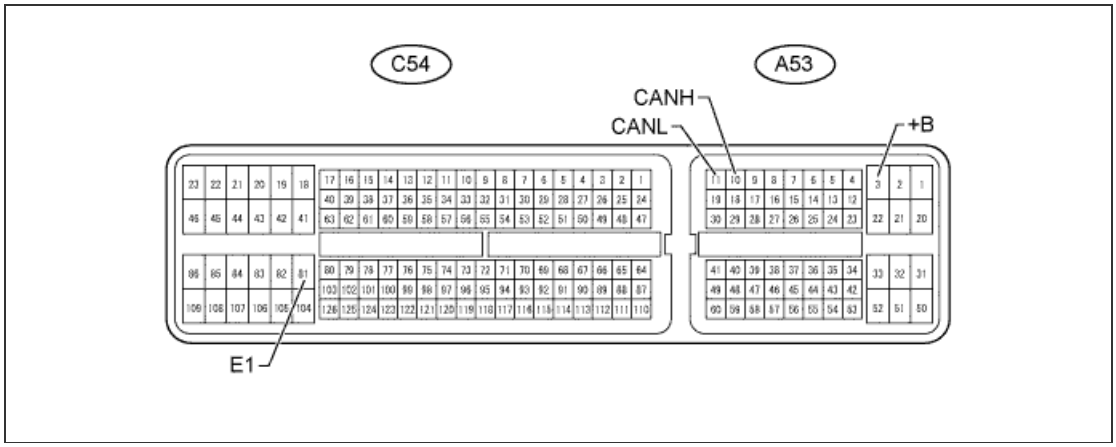



a. Disconnect the E35 and E36 amplifier connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Condition | Specified Condition |
|---|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | G - B | Engine switch off | 54 to 69 Ω |
| E35-3 (CANH) - E36-1 (GND) | G - W-B | Engine switch off | 200 Ω or higher |
| E35-4 (CANL) - E36-1 (GND) | B - W-B | Engine switch off | 200 Ω or higher |
| E35-3 (CANH) - E36-6 (+B1) | G - R | Engine switch off | 6 kΩ or higher |
| E35-4 (CANL) - E36-6 (+B1) | B - R | Engine switch off | 6 kΩ or higher |

## CHECK ECM

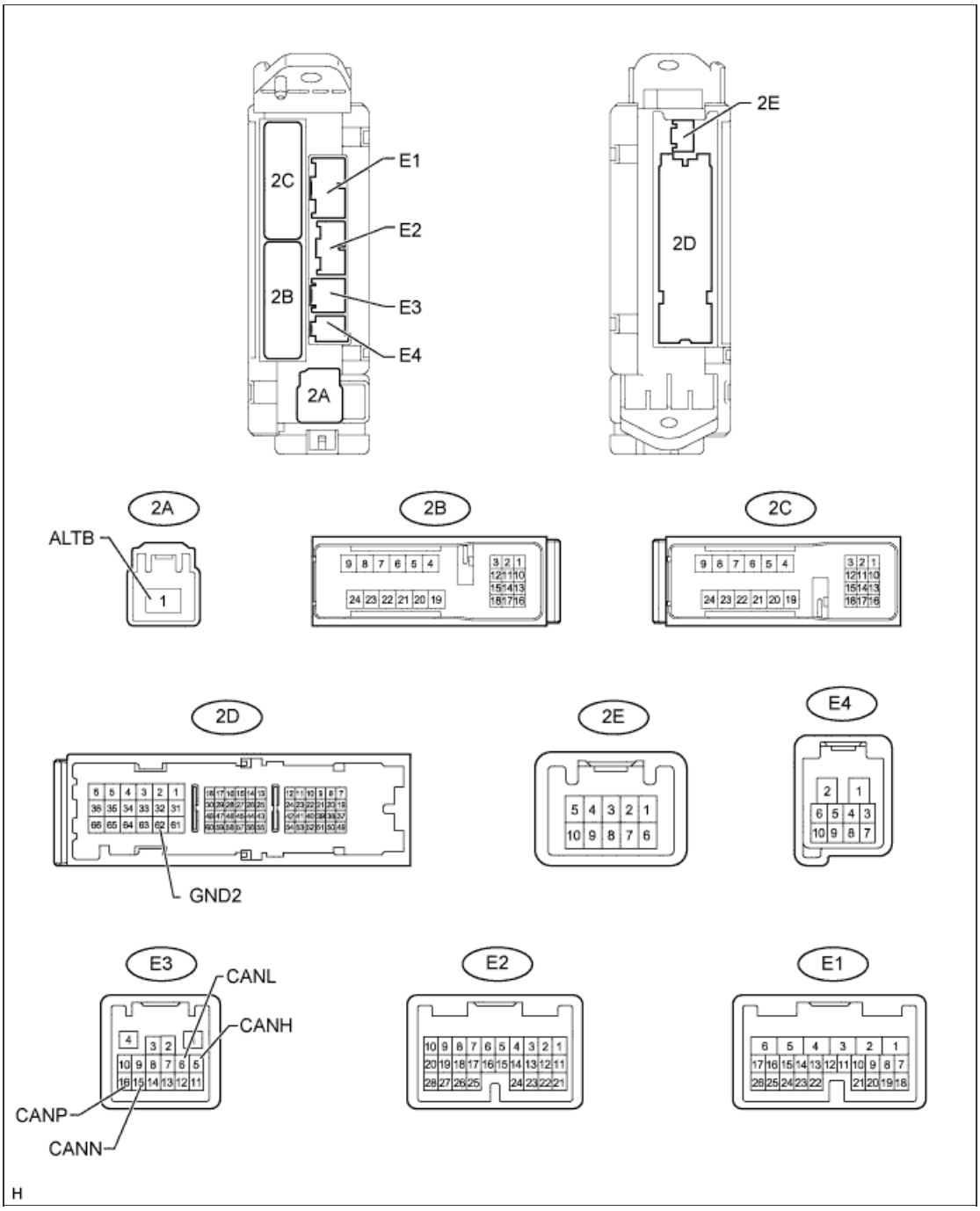



a. Disconnect the A53 and C54 ECM connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A53-10 (CANH) - A53-11 (CANL) | P - B | Engine switch off | 108 to 132 Ω |
| A53-10 (CANH) - C54-81 (E1) | P - W-B | Engine switch off | 200 Ω or higher |
| A53-11 (CANL) - C54-81 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| A53-10 (CANH) - A53-3 (+B) | P - B | Engine switch off | 6 kΩ or higher |
| A53-11 (CANL) - A53-3 (+B) | B - B | Engine switch off | 6 kΩ or higher |

## CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)




a. Disconnect the E3 ECU connector.

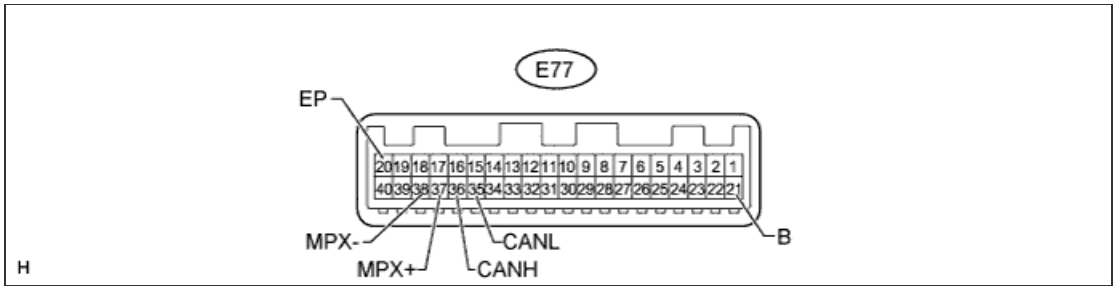
b. Disconnect the 2A and 2D junction connectors.

c. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E3-5 (CANH) - E3-6 (CANL)*1 | SB - B | Engine switch off | 54 to 69 Ω |
| E3-5 (CANH) - 2D-62 (GND2)*1 | SB - W-B | Engine switch off | 200 Ω or higher |
| E3-6 (CANL) - 2D-62 (GND2)*1 | B - W-B | Engine switch off | 200 Ω or higher |
| E3-5 (CANH) - 2A-1 (ALTB)*1 | SB - B | Engine switch off | 6 kΩ or higher |
| E3-6 (CANL) - 2A-1 (ALTB)*1 | B - B | Engine switch off | 6 kΩ or higher |
| E3-16 (CANP) - E3-15 (CANN)*2 | GR - R | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - 2D-62 (GND2)*2 | GR - W-B | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - 2D-62 (GND2)*2 | R - W-B | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - 2A-1 (ALTB)*2 | GR - B | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - 2A-1 (ALTB)*2 | R - B | Engine switch off | 6 kΩ or higher |

*1: For V bus
*2: For MS bus

## CHECK COMBINATION METER



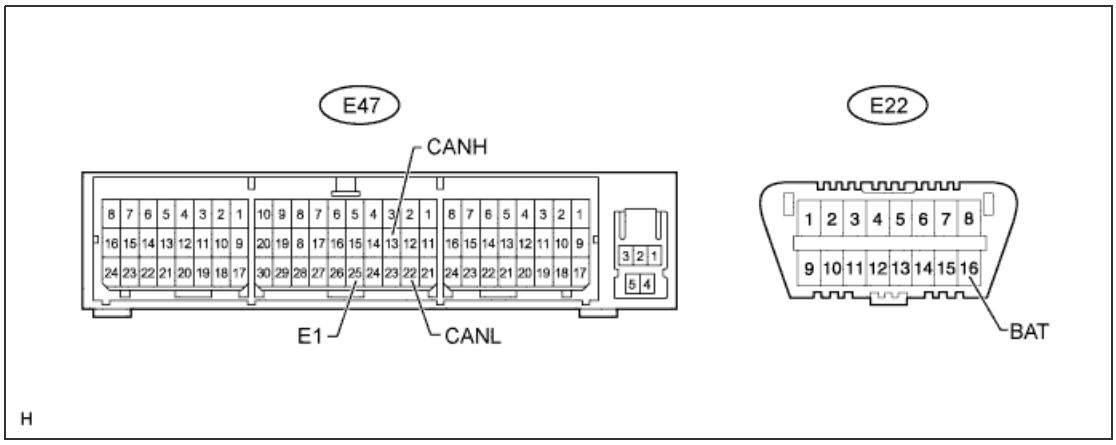

a. Disconnect the E77 meter connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E77-36 (CANH) - E77-35 (CANL)*1 | V - B | Engine switch off | 108 to 132 Ω |
| E77-36 (CANH) - E77-20 (EP)*1 | V - W-B | Engine switch off | 200 Ω or higher |
| E77-35 (CANL) - E77-20 (EP)*1 | B - W-B | Engine switch off | 200 Ω or higher |
| E77-36 (CANH) - E77-21 (B)*1 | V - R | Engine switch off | 6 kΩ or higher |
| E77-35 (CANL) - E77-21 (B)*1 | B - R | Engine switch off | 6 kΩ or higher |
| E77-37 (MPX+) - E77-38 (MPX-)*2 | LG - R | Engine switch off | 108 to 132 Ω |
| E77-37 (MPX+) - E77-20 (EP)*2 | LG - W-B | Engine switch off | 200 Ω or higher |
| E77-38 (MPX-) - E77-20 (EP)*2 | R - W-B | Engine switch off | 200 Ω or higher |
| E77-37 (MPX+) - E77-21 (B)*2 | LG - R | Engine switch off | 6 kΩ or higher |
| E77-38 (MPX-) - E77-21 (B)*2 | R - R | Engine switch off | 6 kΩ or higher |

*1: For V bus
*2: For MS bus

## CHECK CENTER AIRBAG SENSOR



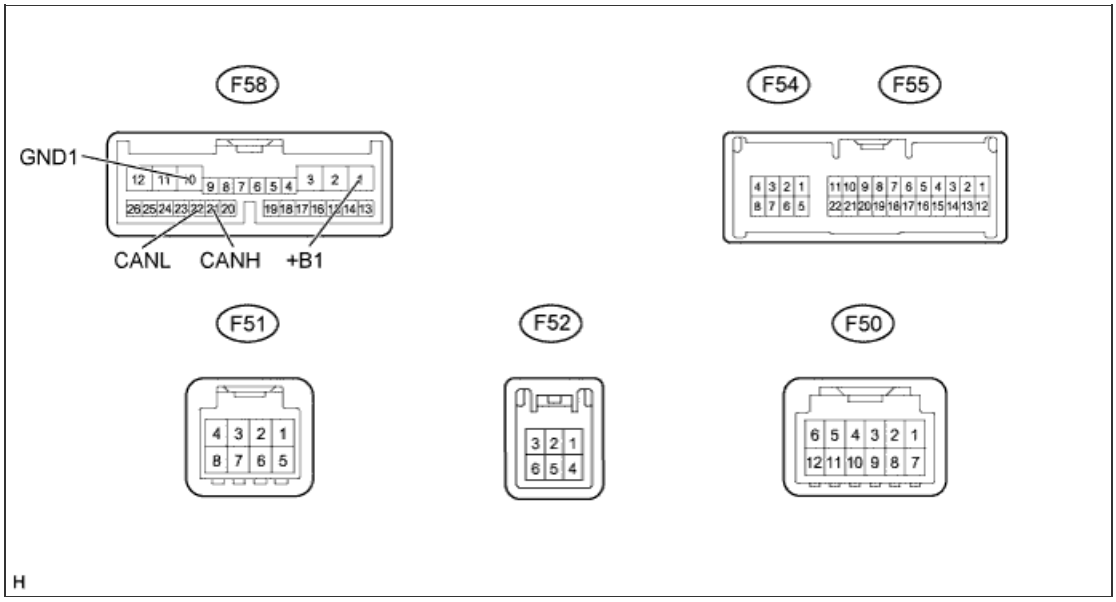

a. Disconnect the E47 sensor connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | GR - B | Engine switch off | 54 to 69 Ω |
| E47-13 (CANH) - E47-25 (E1) | GR - W-B | Engine switch off | 200 Ω or higher |

| | | | |
|---|---|---|---|
| E47-22 (CANL) - E47-25 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| E47-13 (CANH) - E22-16 (BAT) | GR - BE | Engine switch off | 6 kΩ or higher |
| E47-22 (CANL) - E22-16 (BAT) | B - BE | Engine switch off | 6 kΩ or higher |

## CHECK DISPLAY AND NAVIGATION DISPLAY

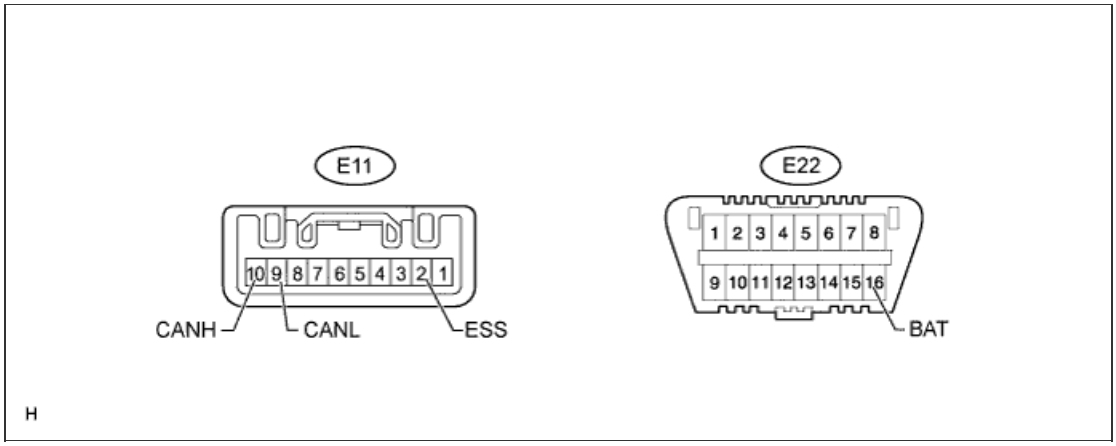



a. Disconnect the F58 display connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F58-21 (CANH) - F58-22 (CANL) | P - B | Engine switch off | 54 to 69 Ω |
| F58-21 (CANH) - F58-10 (GND1) | P - W-B | Engine switch off | 200 Ω or higher |
| F58-22 (CANL) - F58-10 (GND1) | B - W-B | Engine switch off | 200 Ω or higher |
| F58-21 (CANH) - F58-1 (+B1) | P - R | Engine switch off | 6 kΩ or higher |
| F58-22 (CANL) - F58-1 (+B1) | B - R | Engine switch off | 6 kΩ or higher |

## CHECK STEERING ANGLE SENSOR



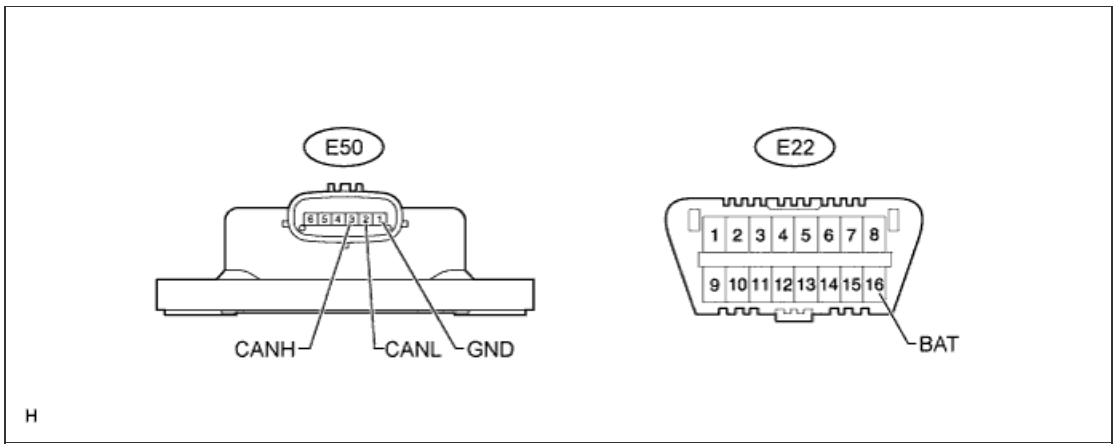

a. Disconnect the E11 sensor connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E11-10 (CANH) - E11-9 (CANL) | GR - L | Engine switch off | 54 to 69 Ω |

| | | | |
|---|---|---|---|
| E11-10 (CANH) - E11-2 (ESS) | GR - W-B | Engine switch off | 200 Ω or higher |
| E11-9 (CANL) - E11-2 (ESS) | L - W-B | Engine switch off | 200 Ω or higher |
| E11-10 (CANH) - E22-16 (BAT) | GR - BE | Engine switch off | 6 kΩ or higher |
| E11-9 (CANL) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK YAW RATE SENSOR



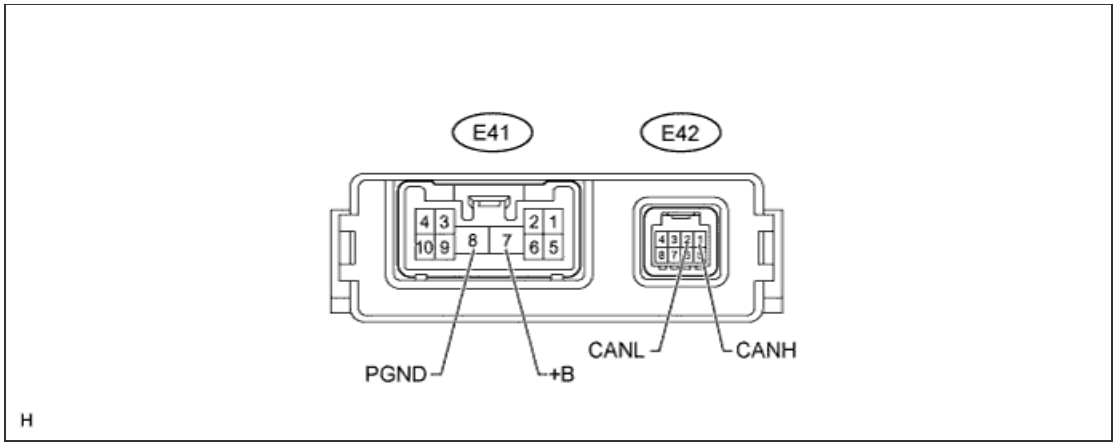

a. Disconnect the E50 sensor connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | BR - L | Engine switch off | 54 to 69 Ω |
| E50-3 (CANH) - E50-1 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| E50-2 (CANL) - E50-1 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| E50-3 (CANH) - E22-16 (BAT) | BR - BE | Engine switch off | 6 kΩ or higher |
| E50-2 (CANL) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK SEAT BELT CONTROL ECU

For vehicles with the pre-crash safety system only.

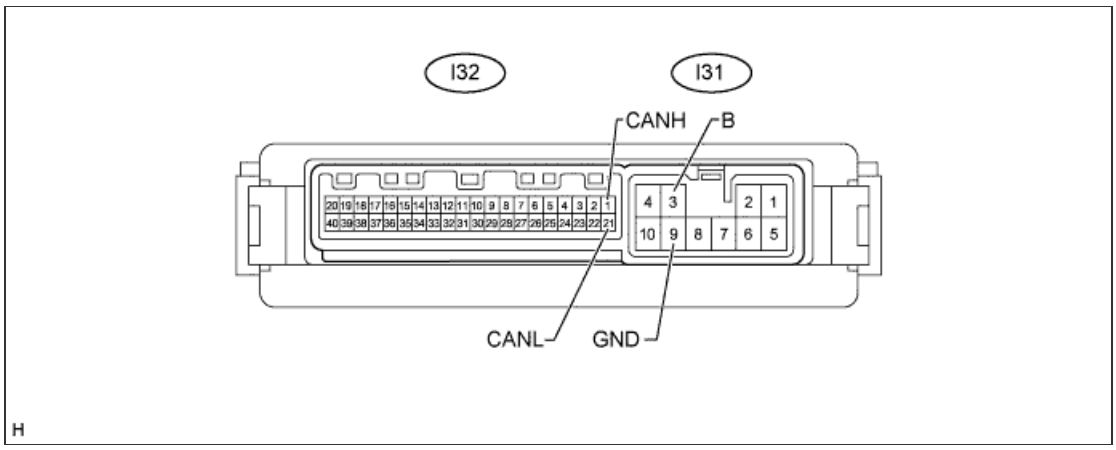



a. Disconnect the E41 and E42 ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | G - L | Engine switch off | 54 to 69 Ω |
| E42-1 (CANH) - E41-8 (PGND) | G - W-B | Engine switch off | 200 Ω or higher |
| E42-2 (CANL) - E41-8 (PGND) | L - W-B | Engine switch off | 200 Ω or higher |
| E42-1 (CANH) - E41-7 (+B) | G - R | Engine switch off | 6 kΩ or higher |
| E42-2 (CANL) - E41-7 (+B) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK OUTER MIRROR CONTROL ECU

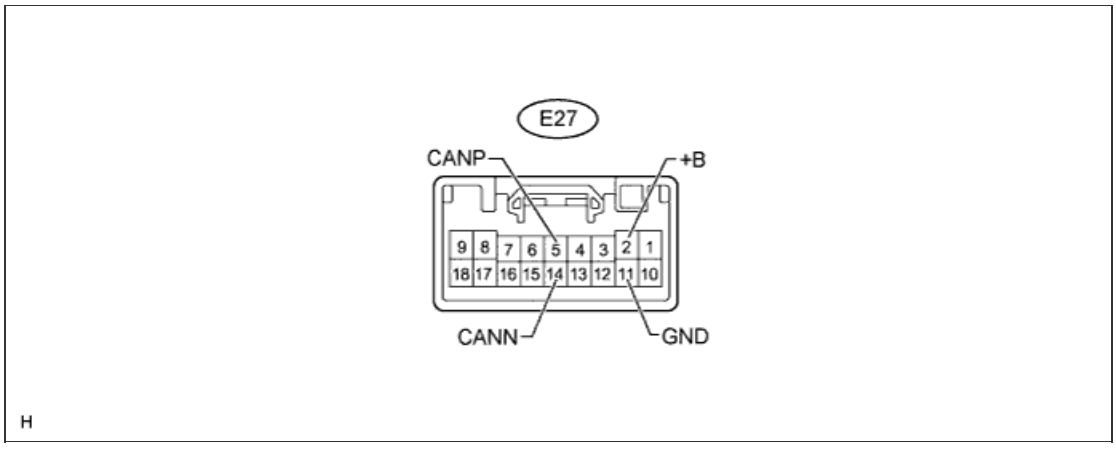



a. Disconnect the I31 and I32 ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| I32-1 (CANH) - I32-21 (CANL) | BR - R | Engine switch off | 54 to 69 Ω |
| I32-1 (CANH) - I31-9 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| I32-21 (CANL) - I31-9 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| I32-1 (CANH) - I31-3 (B) | BR - R | Engine switch off | 6 kΩ or higher |
| I32-21 (CANL) - I31-3 (B) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK MULTIPLEX TILT AND TELESCOPIC ECU

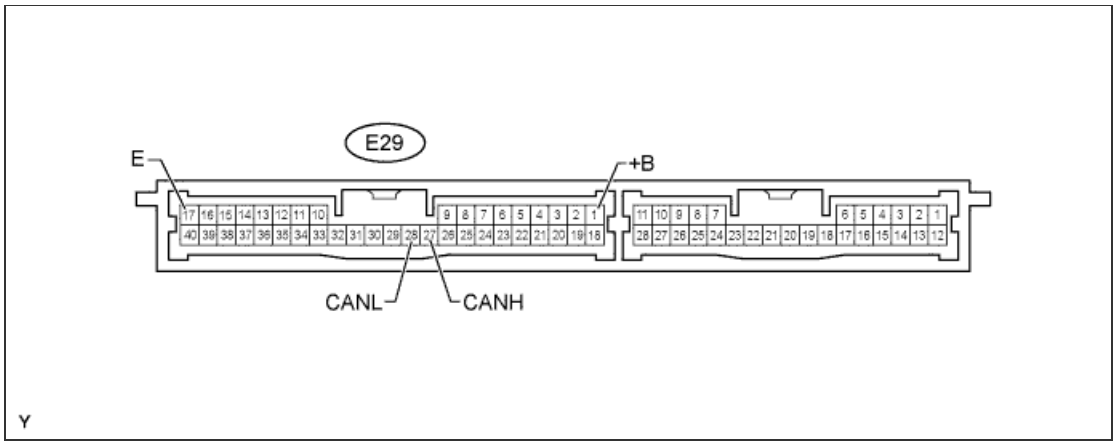



a. Disconnect the E27 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | P - R | Engine switch off | 54 to 69 Ω |
| E27-5 (CANP) - E27-11 (GND) | P - W-B | Engine switch off | 200 Ω or higher |
| E27-14 (CANN) - E27-11 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| E27-5 (CANP) - E27-2 (+B) | P - L | Engine switch off | 6 kΩ or higher |
| E27-14 (CANN) - E27-2 (+B) | R - L | Engine switch off | 6 kΩ or higher |

## CHECK CERTIFICATION ECU (SMART KEY ECU)

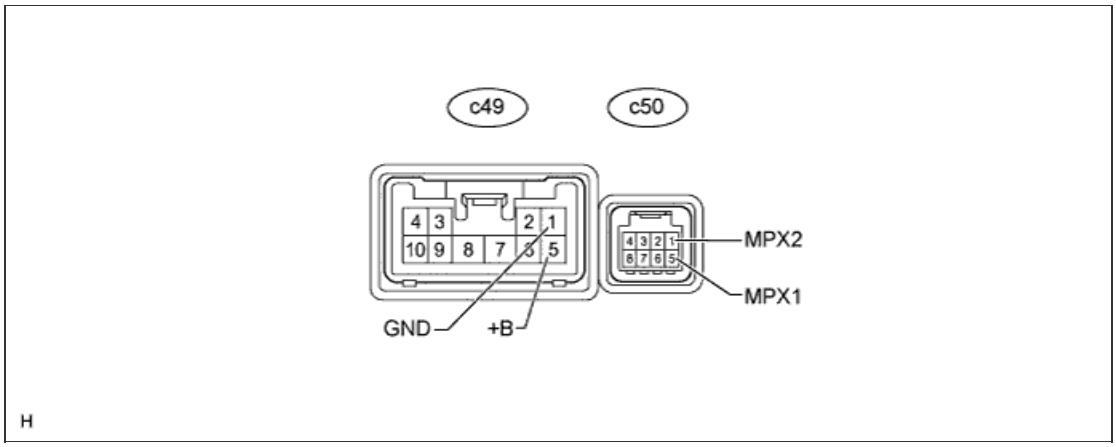



a. Disconnect the E29 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | LG - R | Engine switch off | 54 to 69 Ω |
| E29-27 (CANH) - E29-17 (E) | LG - W-B | Engine switch off | 200 Ω or higher |
| E29-28 (CANL) - E29-17 (E) | R - W-B | Engine switch off | 200 Ω or higher |
| E29-27 (CANH) - E29-1 (+B) | LG - B | Engine switch off | 6 kΩ or higher |
| E29-28 (CANL) - E29-1 (+B) | R - B | Engine switch off | 6 kΩ or higher |

## CHECK POSITION CONTROL ECU AND SWITCH

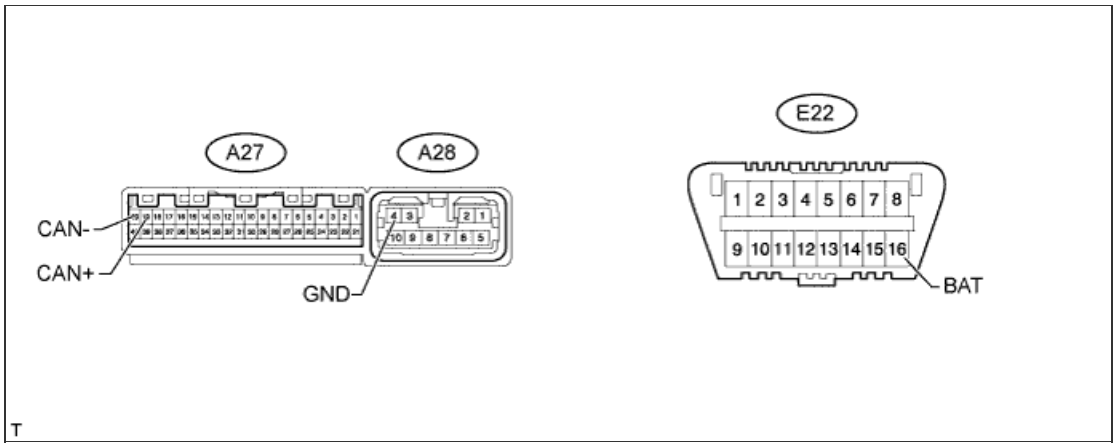



a. Disconnect the c49 and c50 ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| c50-5 (MPX1) - c50-1 (MPX2) | V - R | Engine switch off | 54 to 69 Ω |
| c50-5 (MPX1) - c49-1 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| c50-1 (MPX2) - c49-1 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| c50-5 (MPX1) - c49-5 (+B) | V - L | Engine switch off | 6 kΩ or higher |
| c50-1 (MPX2) - c49-5 (+B) | R - L | Engine switch off | 6 kΩ or higher |

## CHECK 4WD CONTROL ECU

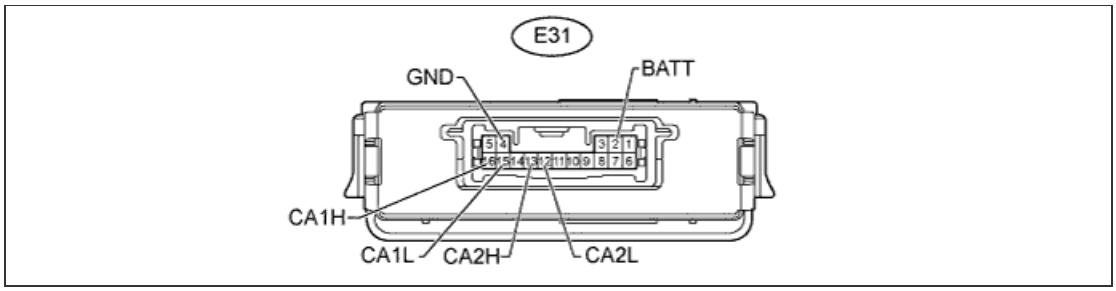



a. Disconnect the A27 and A28 ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A27-19 (CAN+) - A27-20 (CAN-) | P - L | Engine switch off | 54 to 69 Ω |
| A27-19 (CAN+) - A28-4 (GND) | P - W | Engine switch off | 200 Ω or higher |
| A27-20 (CAN-) - A28-4 (GND) | L - W | Engine switch off | 200 Ω or higher |
| A27-19 (CAN+) - E22-16 (BAT) | P - BE | Engine switch off | 6 kΩ or higher |
| A27-20 (CAN-) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK NETWORK GATEWAY ECU



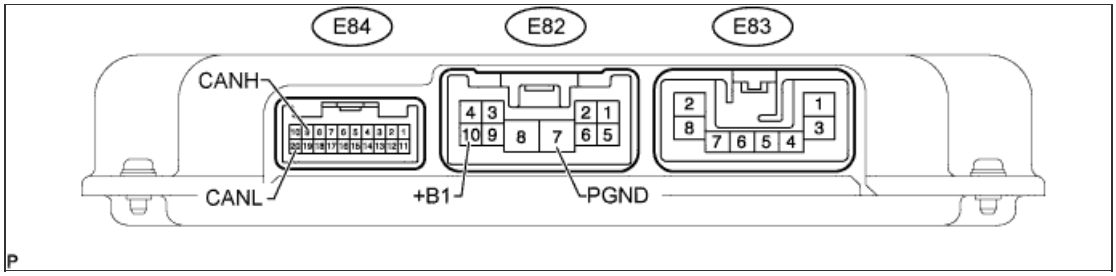

a. Disconnect the E31 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L)*1 | BR - B | Engine switch off | 54 to 69 Ω |
| E31-16 (CA1H) - E31-4 (GND)*1 | BR - W-B | Engine switch off | 200 Ω or higher |
| E31-15 (CA1L) - E31-4 (GND)*1 | B - W-B | Engine switch off | 200 Ω or higher |
| E31-16 (CA1H) - E31-2 (BATT)*1 | BR - R | Engine switch off | 6 kΩ or higher |
| E31-15 (CA1L) - E31-2 (BATT)*1 | B - R | Engine switch off | 6 kΩ or higher |
| E31-13 (CA2H) - E31-12 (CA2L)*2 | SB - L | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E31-4 (GND)*2 | SB - W-B | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E31-4 (GND)*2 | L - W-B | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E31-2 (BATT)*2 | SB - R | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E31-2 (BATT)*2 | L - R | Engine switch off | 6 kΩ or higher |

*1: For V bus
*2: For movement control bus

## CHECK STEERING CONTROL ECU

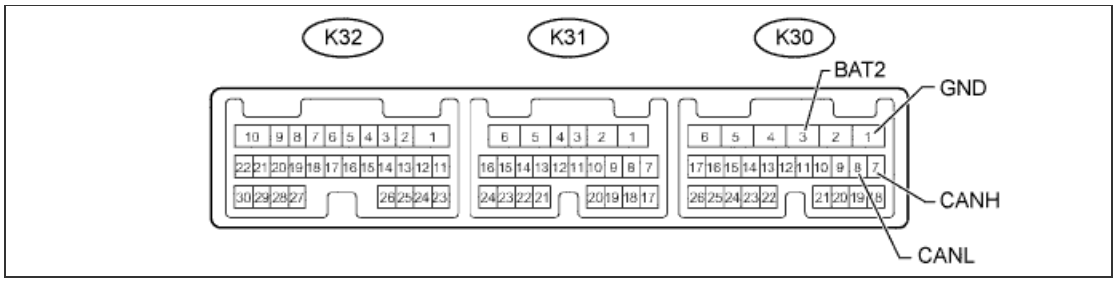



a. Disconnect the E82 and E84 ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | LG - L | Engine switch off | 54 to 69 Ω |
| E84-9 (CANH) - E82-7 (PGND) | LG - W-B | Engine switch off | 200 Ω or higher |
| E84-20 (CANL) - E82-7 (PGND) | L - W-B | Engine switch off | 200 Ω or higher |
| E84-9 (CANH) - E82-10 (+B1) | LG - R | Engine switch off | 6 kΩ or higher |
| E84-20 (CANL) - E82-10 (+B1) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK SUSPENSION CONTROL ECU

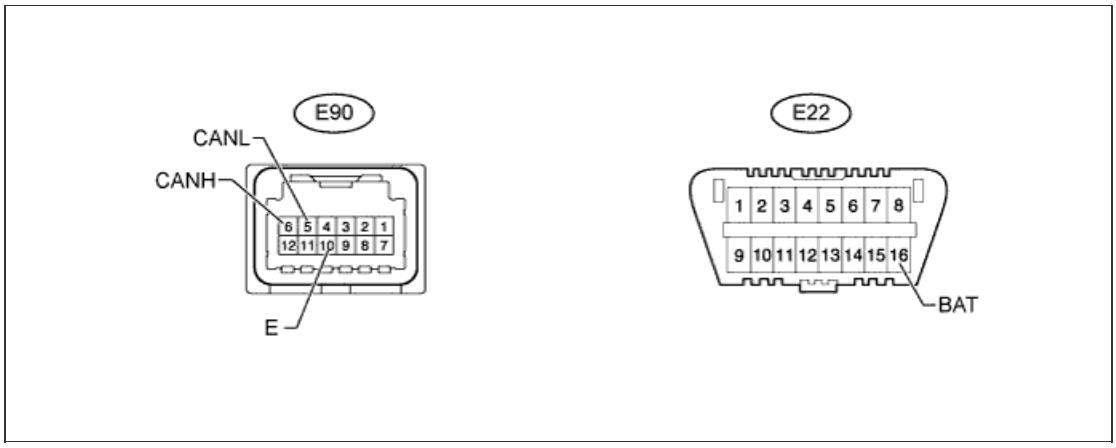



a. Disconnect the K30 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| K30-7 (CANH) - K30-1 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| K30-8 (CANL) - K30-1 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| K30-7 (CANH) - K30-3 (BAT2) | V - R | Engine switch off | 6 kΩ or higher |
| K30-8 (CANL) - K30-3 (BAT2) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK WINDSHIELD WIPER ECU



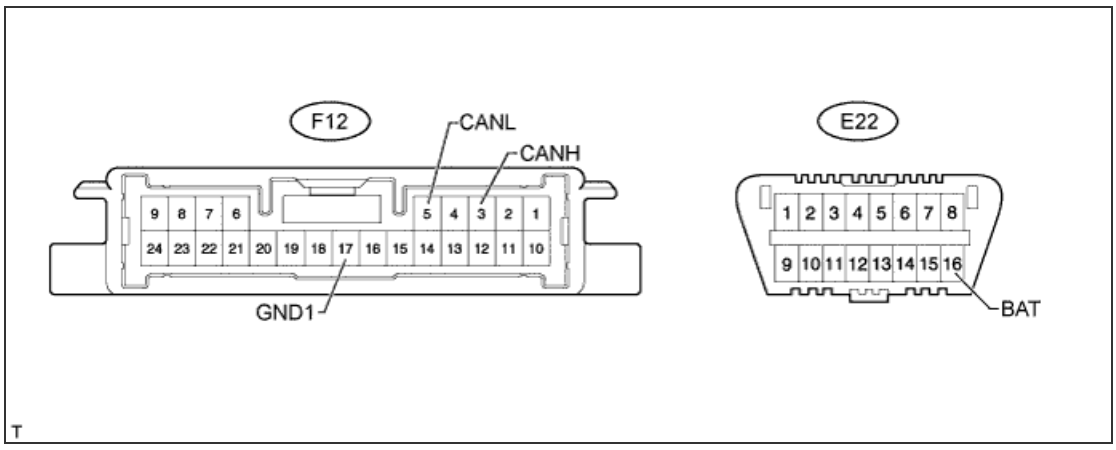

a. Disconnect the E90 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | LG - R | Engine switch off | 54 to 69 Ω |
| E90-6 (CANH) - E90-10 (E) | LG - W-B | Engine switch off | 200 Ω or higher |
| E90-5 (CANL) - E90-10 (E) | R - W-B | Engine switch off | 200 Ω or higher |
| E90-6 (CANH) - E22-16 (BAT) | LG - BE | Engine switch off | 6 kΩ or higher |
| E90-5 (CANL) - E22-16 (BAT) | R - BE | Engine switch off | 6 kΩ or higher |

## CHECK CLEARANCE WARNING ECU

For vehicles with the LEXUS parking assist-sensor system only.



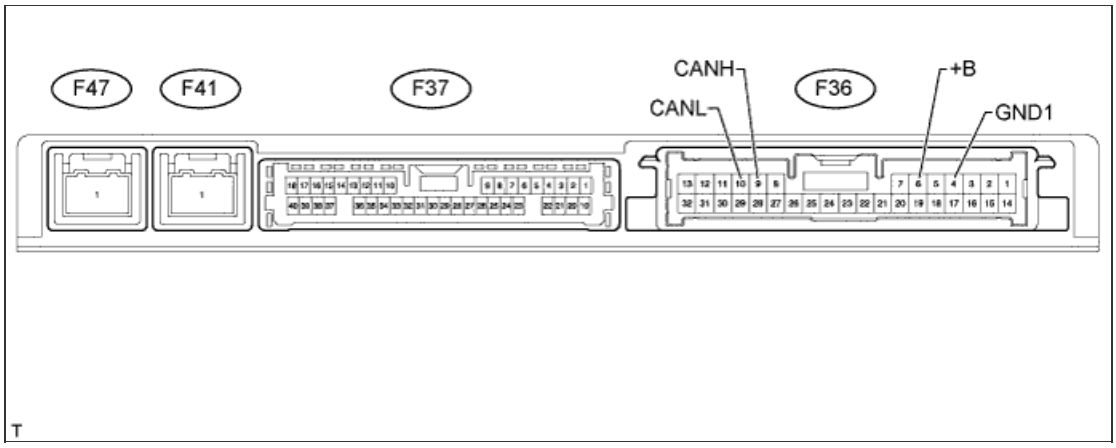

a. Disconnect F12 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F12-3 (CANH) - F12-5 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| F12-3 (CANH) - F12-17 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| F12-5 (CANL) - F12-17 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| F12-3 (CANH) - E22-16 (BAT) | V - BE | Engine switch off | 6 kΩ or higher |
| F12-5 (CANL) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK PARKING ASSIST ECU

For vehicles with the parking assist monitor system only.



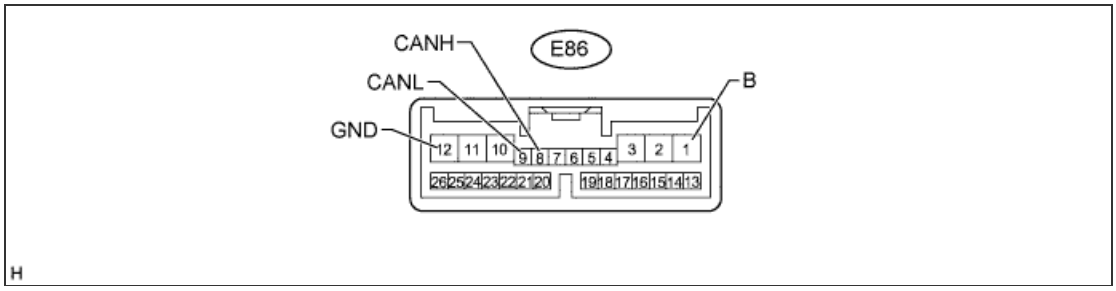

a. Disconnect the F36 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F36-9 (CANH) - F36-10 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| F36-9 (CANH) - F36-4 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| F36-10 (CANL) - F36-4 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| F36-9 (CANH) - F36-6 (+B) | V - L | Engine switch off | 6 kΩ or higher |
| F36-10 (CANL) - F36-6 (+B) | L - L | Engine switch off | 6 kΩ or higher |

## CHECK DISTANCE CONTROL ECU

For vehicles with the dynamic radar cruise control system only.



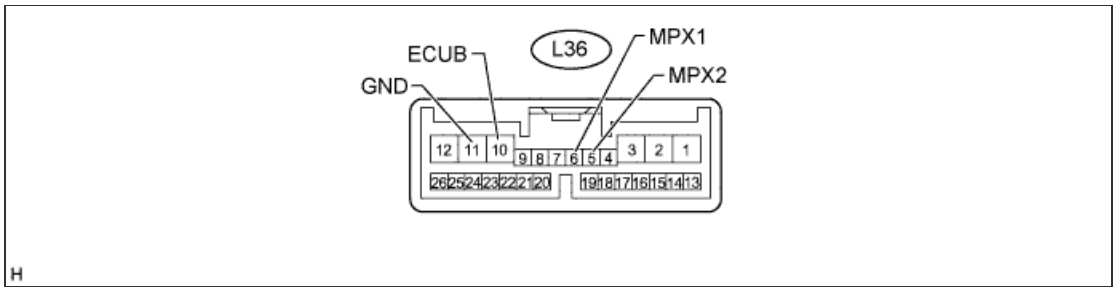

a. Disconnect the E86 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | SB - L | Engine switch off | 54 to 69 Ω |
| E86-8 (CANH) - E86-12 (GND) | SB - BR | Engine switch off | 200 Ω or higher |
| E86-9 (CANL) - E86-12 (GND) | L - BR | Engine switch off | 200 Ω or higher |
| E86-8 (CANH) - E86-1 (B) | SB - R | Engine switch off | 6 kΩ or higher |
| E86-9 (CANL) - E86-1 (B) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK POWER BACK DOOR UNIT (POWER BACK DOOR ECU)

For vehicles with the power back door system only.

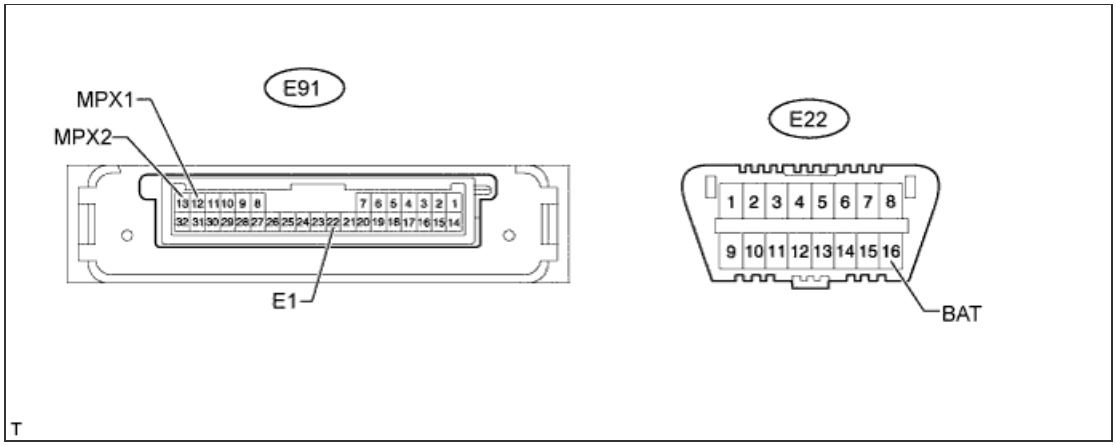



a. Disconnect the L36 unit connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | V - R | Engine switch off | 54 to 69 Ω |
| L36-6 (MPX1) - L36-11 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| L36-5 (MPX2) - L36-11 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| L36-6 (MPX1) - L36-10 (ECUB) | V - R | Engine switch off | 6 kΩ or higher |
| L36-5 (MPX2) - L36-10 (ECUB) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK AFS ECU (HEADLIGHT SWIVEL ECU)

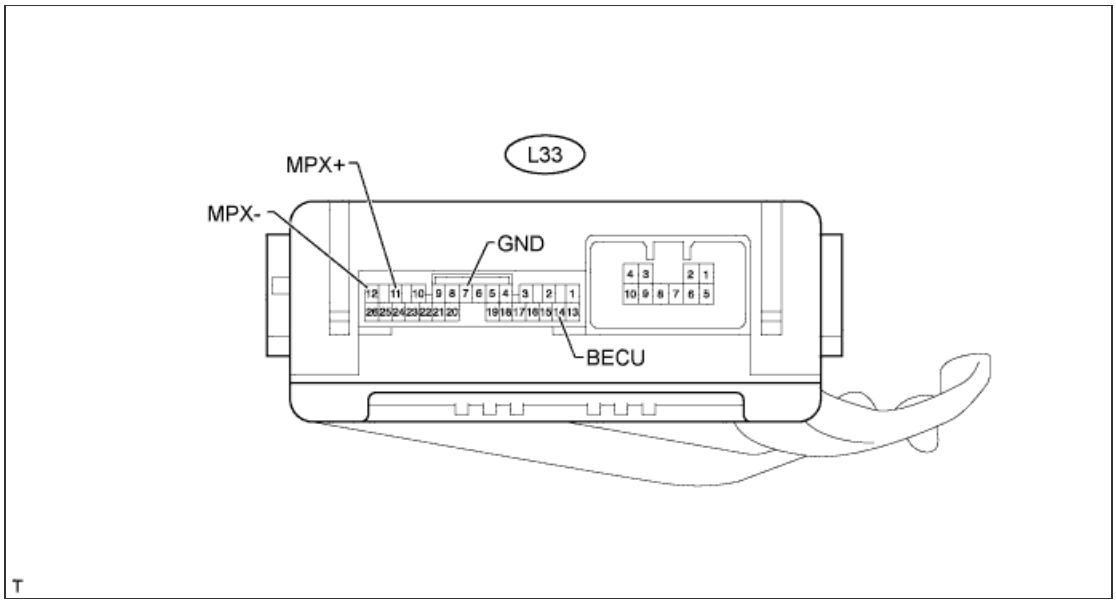



a. Disconnect the E91 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | LG - B | Engine switch off | 54 to 69 Ω |
| E91-12 (MPX1) - E91-22 (E1) | LG - W-B | Engine switch off | 200 Ω or higher |
| E91-13 (MPX2) - E91-22 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| E91-12 (MPX1) - E22-16 (BAT) | LG - BE | Engine switch off | 6 kΩ or higher |
| E91-13 (MPX2) - E22-16 (BAT) | B - BE | Engine switch off | 6 kΩ or higher |

## CHECK NO. 2 MAIN BODY ECU




a. Disconnect the L33 ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | LG - R | Engine switch off | 54 to 69 Ω |
| L33-11 (MPX+) - L33-7 (GND) | LG - W-B | Engine switch off | 200 Ω or higher |
| L33-12 (MPX-) - L33-7 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| L33-11 (MPX+) - L33-14 (BECU) | LG - R | Engine switch off | 6 kΩ or higher |
| L33-12 (MPX-) - L33-14 (BECU) | R - R | Engine switch off | 6 kΩ or higher |

**for Preparation** Click here

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

## DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

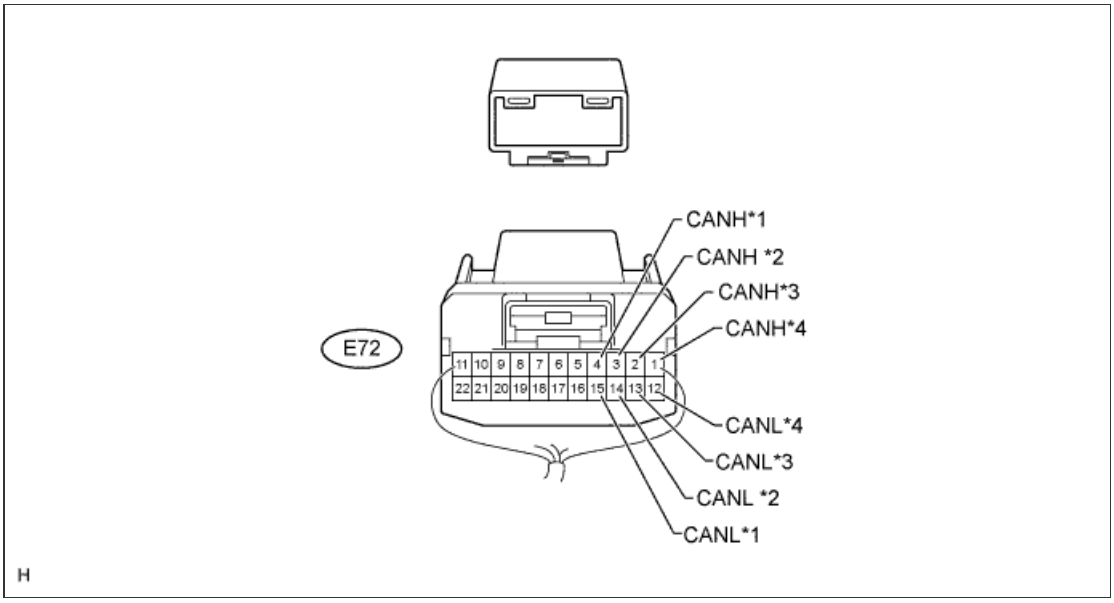
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

## JUNCTION CONNECTOR

a. NO. 1 JUNCTION CONNECTOR



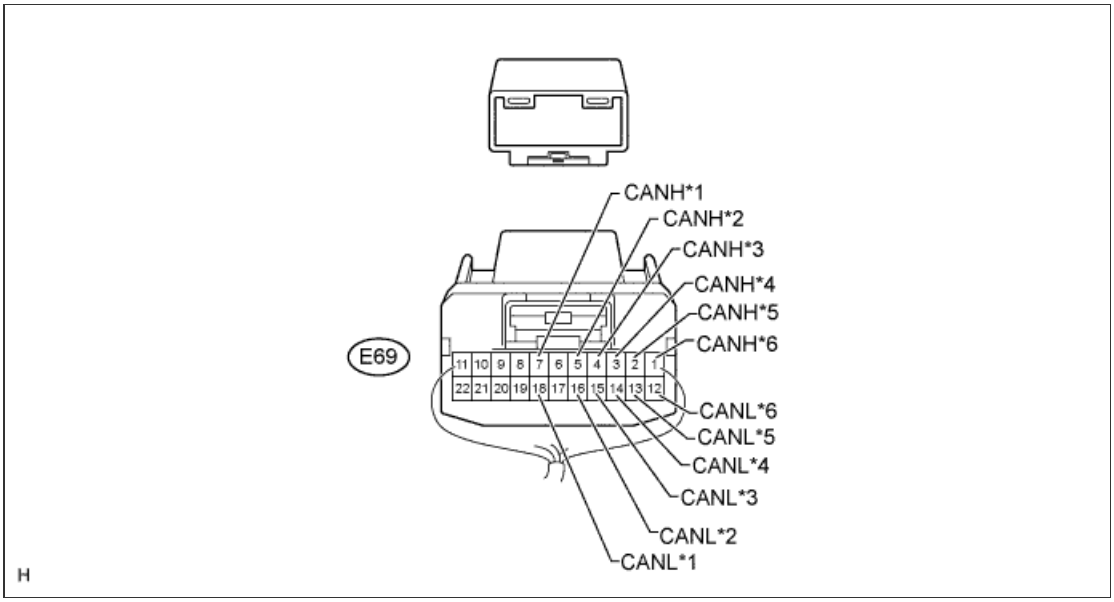

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Center Airbag Sensor Assembly | *2 | to Main Body ECU (Cowl Side Junction Block LH): V bus |
| *3 | to ECM | *4 | to No. 2 Junction Connector |

| No. 1 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E72-1 (CANH) | Y | No. 2 junction connector |
| E72-12 (CANL) | B | |
| E72-2 (CANH) | P | ECM |
| E72-13 (CANL) | B | |
| E72-3 (CANH) | SB | Main body ECU (cowl side junction block LH) (V bus) |
| E72-14 (CANL) | B | |

| | | |
|---|---|---|
| E72-4 (CANH) | GR | Center airbag sensor assembly |
| E72-15 (CANL) | B | |

b. NO. 2 JUNCTION CONNECTOR

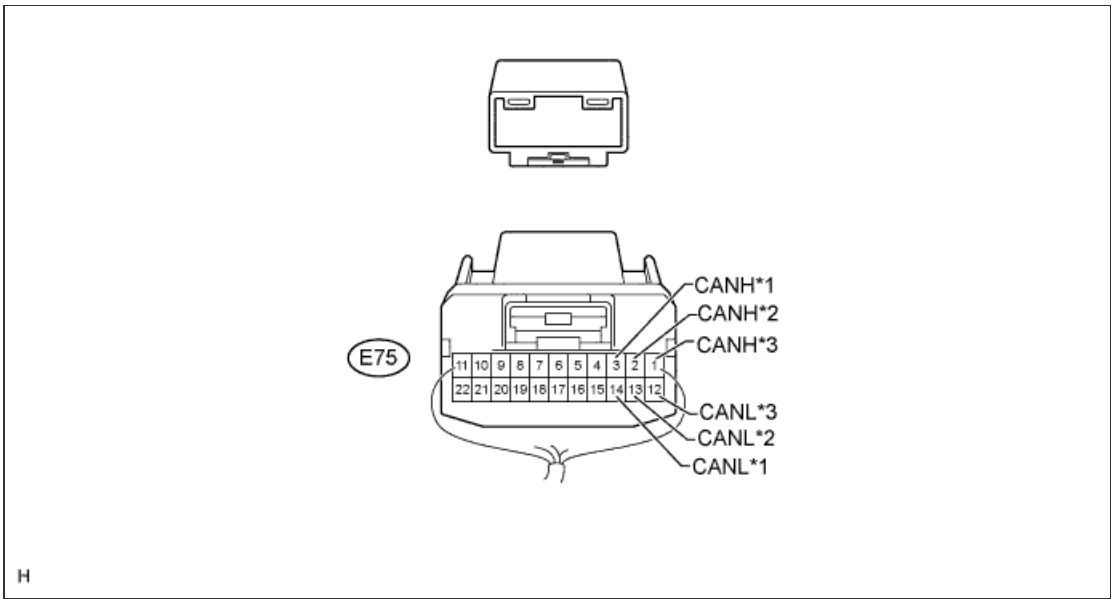



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Headlight Swivel ECU Assembly (AFS ECU) | *2 | to Air Conditioning Amplifier Assembly |
| *3 | to No. 1 Junction Connector | *4 | to Network Gateway ECU: V bus |
| *5 | to Multi-media Module Receiver Assembly | *6 | to No. 3 Junction Connector |

| No. 2 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E69-1 (CANH) | W | No. 3 junction connector |
| E69-12 (CANL) | B | |
| E69-2 (CANH) | P | Multi-media module receiver assembly |
| E69-13 (CANL) | B | |
| E69-3 (CANH) | BR | Network gateway ECU (V bus) |
| E69-14 (CANL) | B | |
| E69-4 (CANH) | Y | No. 1 junction connector |
| E69-15 (CANL) | B | |
| E69-5 (CANH) | G | Air conditioning amplifier |
| E69-16 (CANL) | B | |
| E69-7 (CANH) | LG | Headlight swivel ECU assembly (AFS ECU) |
| E69-18 (CANL) | B | |

c. NO. 3 JUNCTION CONNECTOR

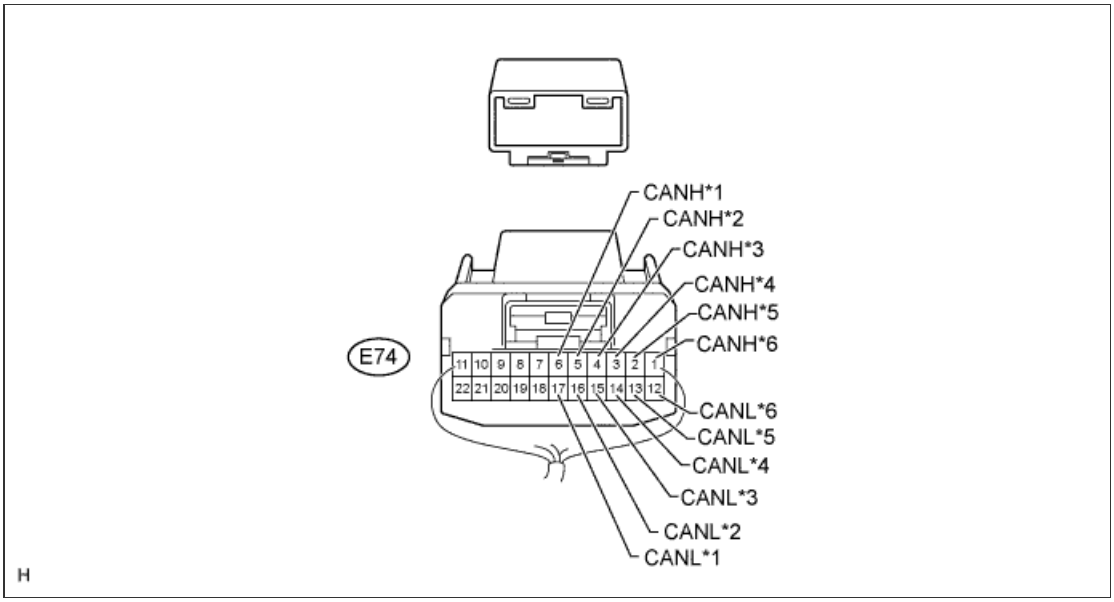



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Combination Meter Assembly: V bus | *2 | to DLC3 |
| *3 | to No. 2 Junction Connector | - | - |

| No. 3 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E75-1 (CANH) | W | No. 2 junction connector |
| E75-12 (CANL) | B | |
| E75-2 (CANH) | G | DLC3 |
| E75-13 (CANL) | B | |
| E75-3 (CANH) | V | Combination meter assembly (V bus) |
| E75-14 (CANL) | B | |

**d.** NO. 4 JUNCTION CONNECTOR



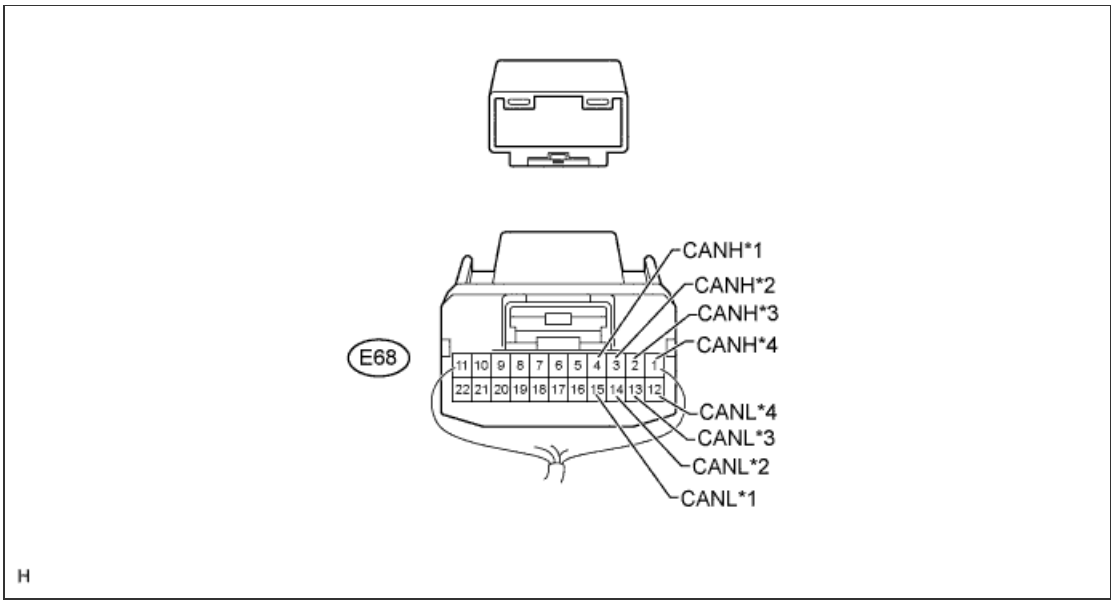

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to 4WD Control ECU | *2 | to Master Cylinder Solenoid (Skid Control ECU) |
| *3 | to Steering Angle Sensor | *4 | to Steering Control ECU |
| *5 | to Network Gateway ECU: Movement Control Bus | *6 | to No. 5 Junction Connector |

| No. 4 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| | | |

| | | |
|---|---|---|
| E74-1 (CANH)<br>E74-12 (CANL) | W<br>L | No. 5 junction connector |
| E74-2 (CANH) | SB | Network gateway ECU (movement control bus) |
| E74-13 (CANL) | L | |
| E74-3 (CANH) | LG | Steering control ECU |
| E74-14 (CANL) | L | |
| E74-4 (CANH) | GR | Steering angle sensor |
| E74-15 (CANL) | L | |
| E74-5 (CANH) | V | Master cylinder solenoid (skid control ECU) |
| E74-16 (CANL) | L | |
| E74-6 (CANH) | P | 4WD control ECU |
| E74-17 (CANL) | L | |

e. NO. 5 JUNCTION CONNECTOR



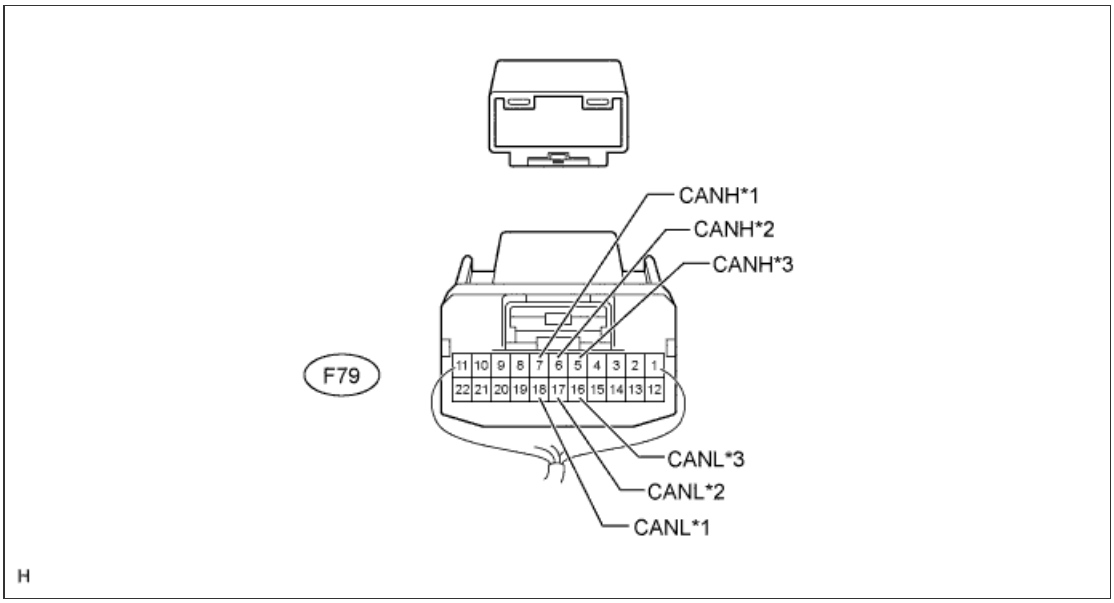

**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Distance Control ECU Assembly (w/ Dynamic Radar Cruise Control System) | *2 | to Yaw Rate Sensor Assembly |
| *3 | to No. 6 Junction Connector | *4 | to No. 4 Junction Connector |

| No. 5 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E68-1 (CANH) | W | No. 4 junction connector |
| E68-12 (CANL) | L | |
| E68-2 (CANH) | Y | No. 6 junction connector |
| E68-13 (CANL) | L | |
| E68-3 (CANH) | BR | Yaw rate sensor assembly |
| E68-14 (CANL) | L | |
| E68-4 (CANH) | SB | Distance control ECU assembly* |
| E68-15 (CANL) | L | |

*: w/ Dynamic Radar Cruise Control System

f. NO. 6 JUNCTION CONNECTOR

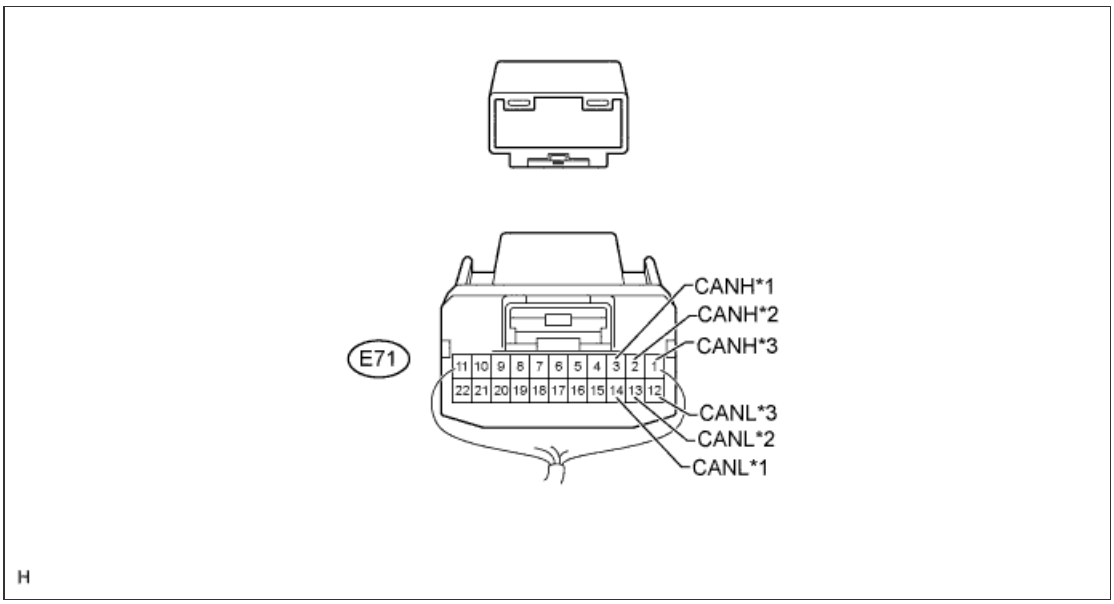



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to No. 5 Junction Connector | *2 | to No. 7 Junction Connector |
| *3 | to Parking Assist ECU | - | - |

| No. 6 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| F79-5 (CANH)2 | V | Parking assist ECU |
| F79-16 (CANL) | L | |
| F79-6 (CANH) | W | No. 7 junction connector |
| F79-17 (CANL) | L | |
| F79-7 (CANH) | Y | No. 5 junction connector |
| F79-18 (CANL) | L | |

g. NO. 7 JUNCTION CONNECTOR




**Text in Illustration**

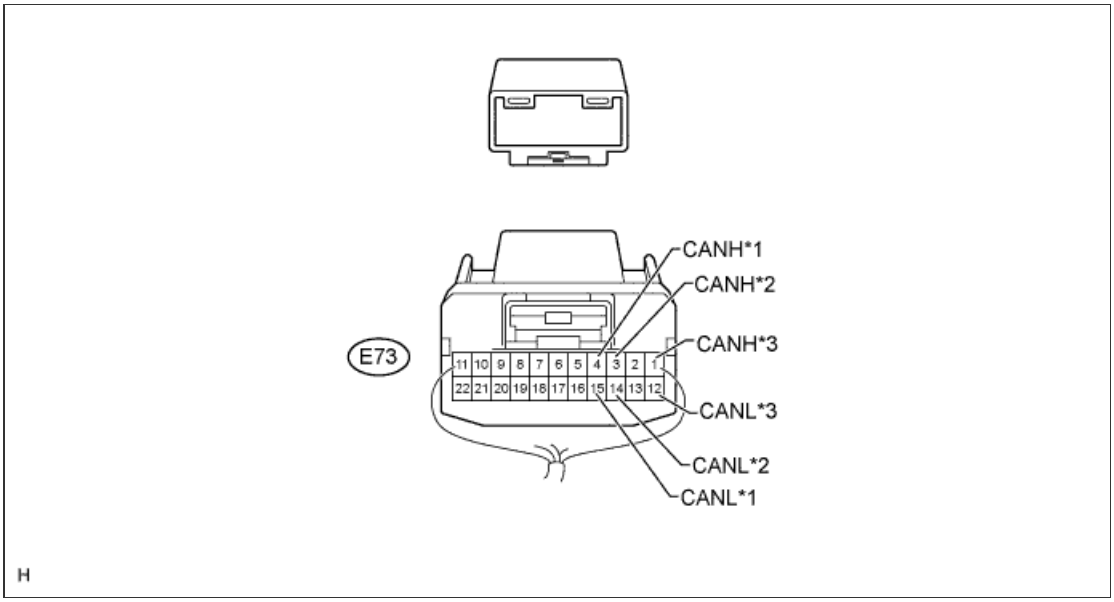
| | | | |
|---|---|---|---|
| *1 | to No. 1 CAN Junction Connector | *2 | to Seat Belt Control ECU (w/ Pre-crash Safety System) |
| *3 | to No. 6 Junction Connector | - | - |

| No. 7 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E71-1 (CANH) | W | No. 6 junction connector |
| | | |

| | | |
|---|---|---|
| E71-12 (CANL) | L | |
| E71-2 (CANH) | G | Seat belt control ECU* |
| E71-13 (CANL) | L | |
| E71-3 (CANH) | W | No. 1 CAN junction connector |
| E71-14 (CANL) | L | |

*: w/ Pre-crash Safety System

h. NO. 8 JUNCTION CONNECTOR

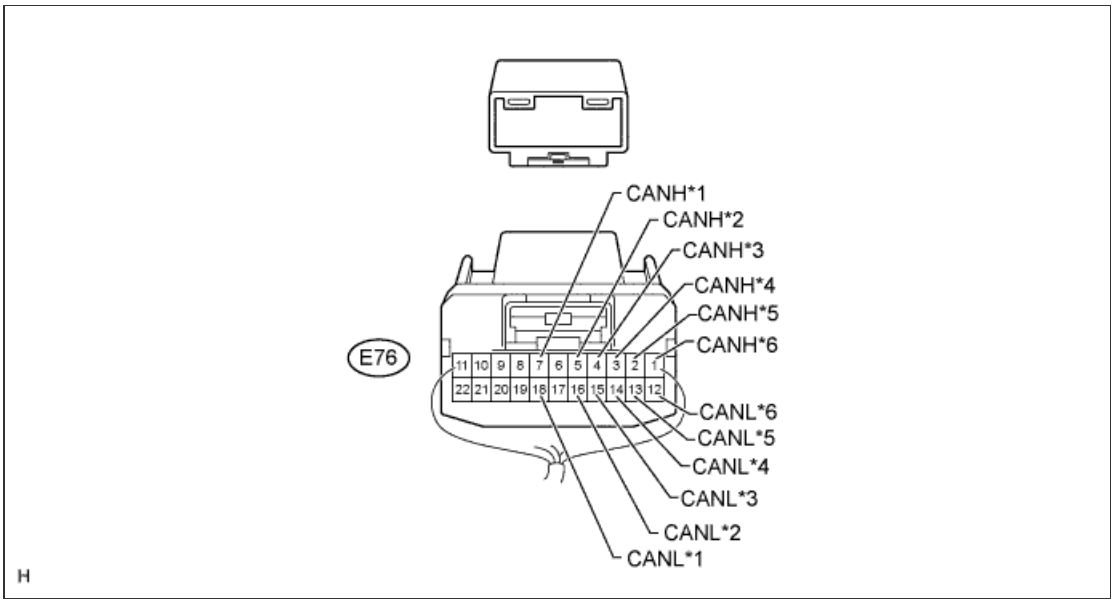



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Windshield Wiper ECU | *2 | to Main Body ECU (Cowl Side Junction Block LH): MS Bus |
| *3 | to No. 2 CAN Junction Connector | - | - |

| No. 8 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E73-1 (CANH) | W | No. 2 CAN junction connector |
| E73-12 (CANL) | R | |
| E73-3 (CANH) | GR | Main body ECU (cowl side junction block LH) (MS bus) |
| E73-14 (CANL) | R | |
| E73-4 (CANH) | LG | Windshield wiper ECU |
| E73-15 (CANL) | R | |

i. NO. 9 JUNCTION CONNECTOR

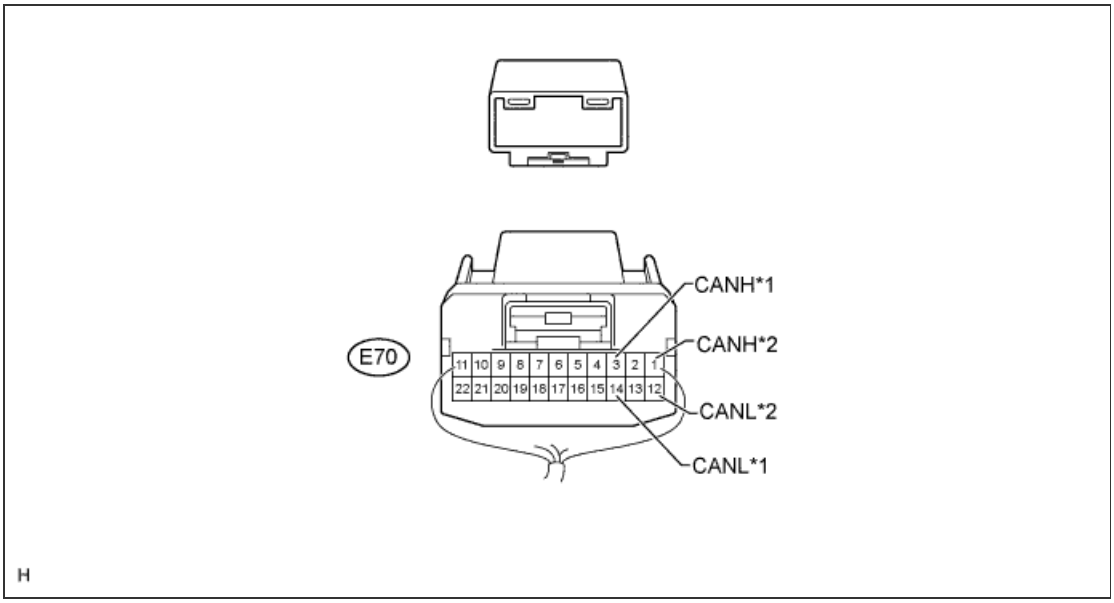



**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to No. 2 CAN Junction Connector | *2 | to Outer Mirror Control ECU Assembly |
| *3 | to Position Control ECU and Switch | *4 | to Multiplex Tilt and Telescopic ECU |
| *5 | to Certification ECU (Smart Key ECU Assembly) | *6 | to No. 10 Junction Connector |

| No. 9 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E76-1 (CANH) | W | No. 10 junction connector |
| E76-12 (CANL) | R | |
| E76-2 (CANH) | LG | Certification ECU (smart key ECU assembly) |
| E76-13 (CANL) | R | |
| E76-3 (CANH) | P | Multiplex tilt and telescopic ECU |
| E76-14 (CANL) | R | |
| E76-4 (CANH) | V | Position control ECU and switch |
| E76-15 (CANL) | R | |
| E76-5 (CANH) | BR | Outer mirror control ECU assembly |
| E76-16 (CANL) | R | |
| E76-7 (CANH) | Y | No. 2 CAN junction connector |
| E76-18 (CANL) | R | |

j. NO. 10 JUNCTION CONNECTOR

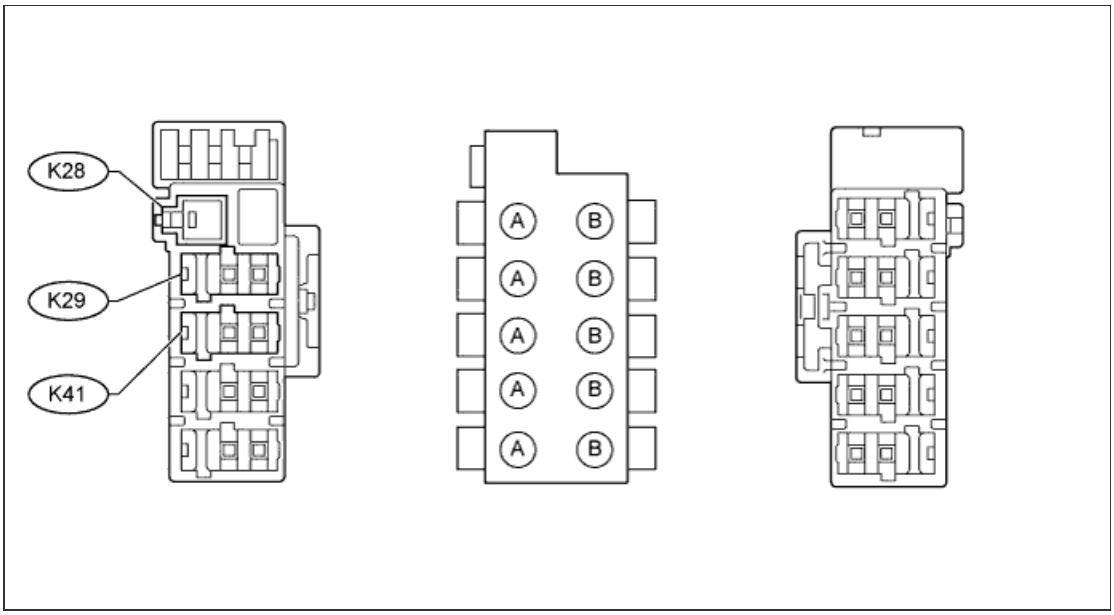


**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | to Combination Meter Assembly: MS Bus | *2 | to No. 9 Junction Connector |

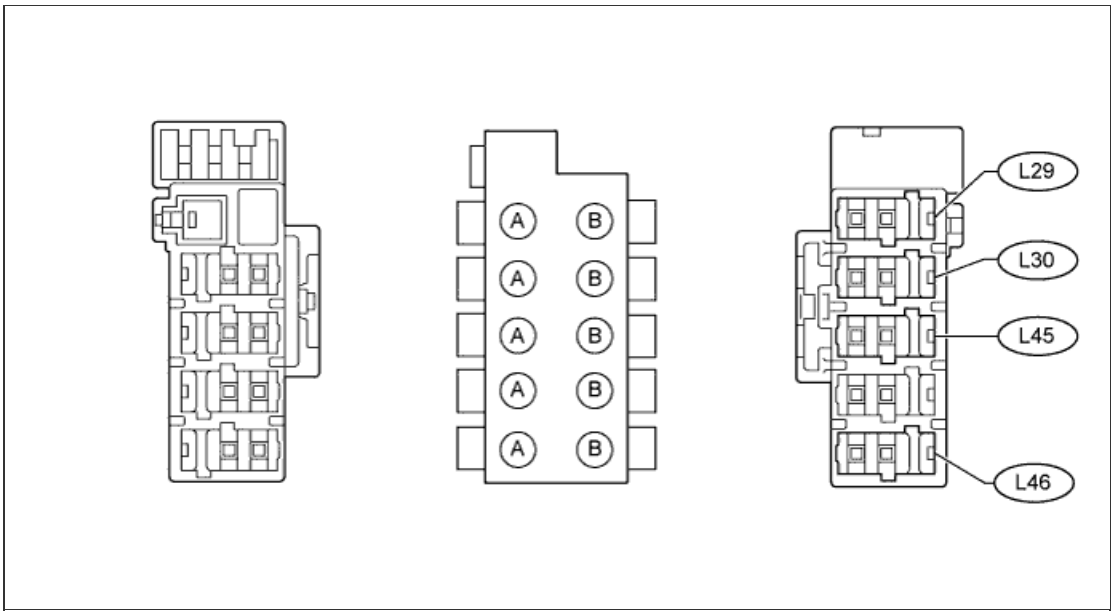
| No. 10 Junction Connector | Wiring Color | Connect to |
|---|---|---|
| E70-1 (CANH) | W | No. 9 junction connector |
| E70-12 (CANL) | R | |
| E70-3 (CANH) | LG | Combination meter assembly (MS bus) |
| E70-14 (CANL) | R | |

k. NO. 1 CAN JUNCTION CONNECTOR




| Junction Connector A Side | Wiring Color (CANH Side) | Wiring Color (CANL Side) |
|---|---|---|
| Body ground (K28) | - | W-B |
| No. 7 junction connector (K29) | W | L |
| Suspension control ECU (K41) | V | L |

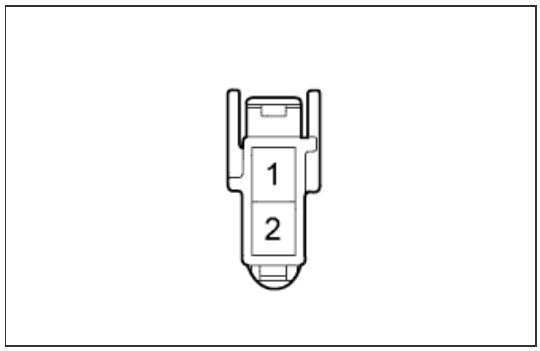
l. NO. 2 CAN JUNCTION CONNECTOR




| Junction Connector B side | Wiring Color (CANH Side) | Wiring Color (CANL Side) |
|---|---|---|
| No. 8 junction connector (L29) | LG | GR |
| No. 9 junction connector (L30) | Y | R |
| Power back door unit assembly (power back door ECU) (L45) | V | R |
| No. 2 main body ECU (L46) | LG | R |

## TERMINALS OF CONNECTORS FOR JUNCTION CONNECTOR (CAN JUNCTION CONNECTOR)

| Terminal No. | Symbol |
|---|---|
| 1 | CANH |
| 2 | CANL |

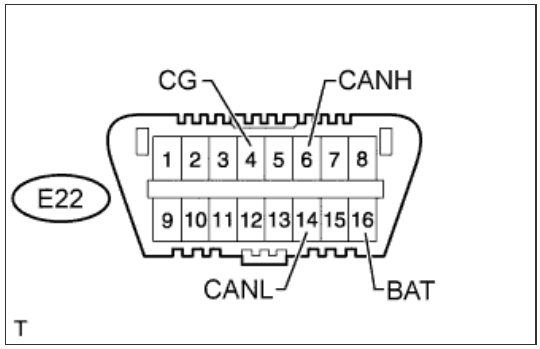



## CHECK DLC3

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**NOTICE:**

- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the engine switch, any switches or doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**
- **After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

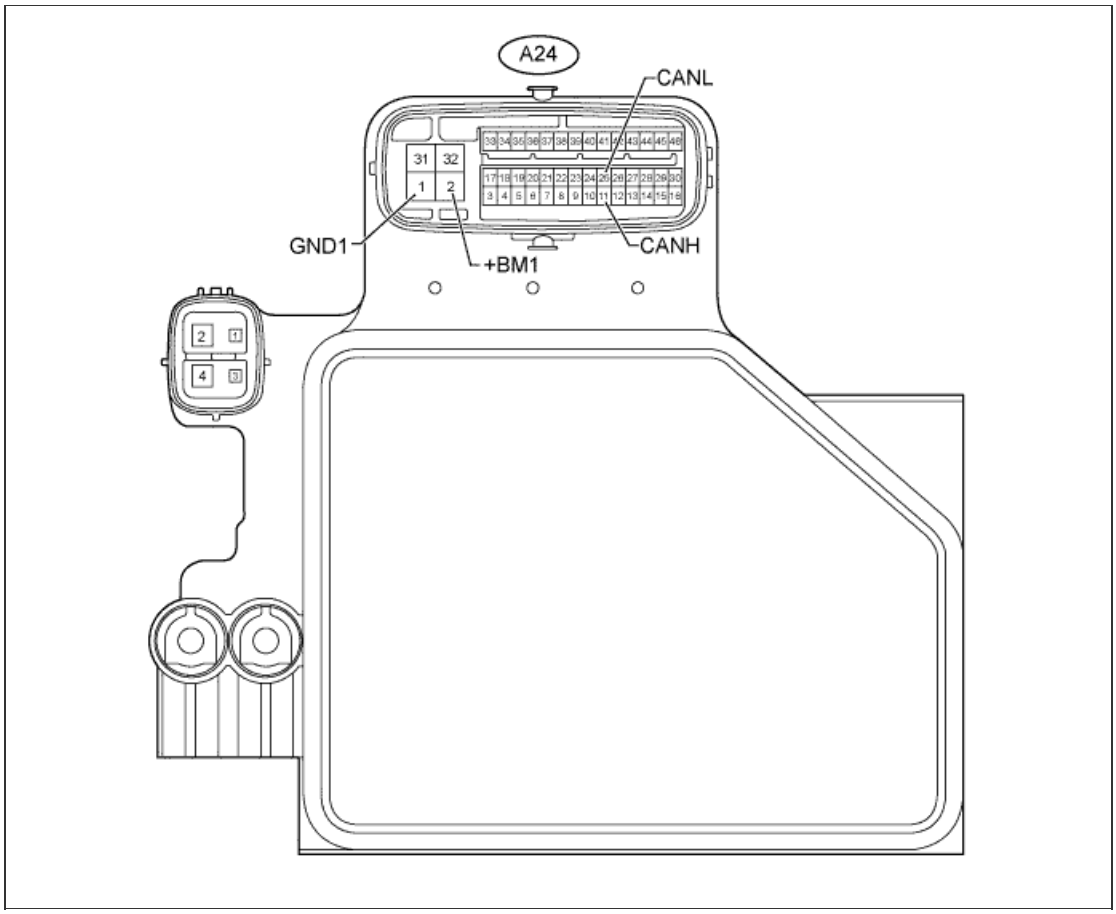



b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | G - B | Engine switch off | 54 to 69 Ω |
| E22-6 (CANH) - E22-4 (CG) | G - W-B | Engine switch off | 200 Ω or higher |

| | | | |
|---|---|---|---|
| E22-14 (CANL) - E22-4 (CG) | B - W-B | Engine switch off | 200 Ω or higher |
| E22-6 (CANH) - E22-16 (BAT) | G - BE | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | B - BE | Engine switch off | 6 kΩ or higher |

## CHECK MASTER CYLINDER SOLENOID (SKID CONTROL ECU)

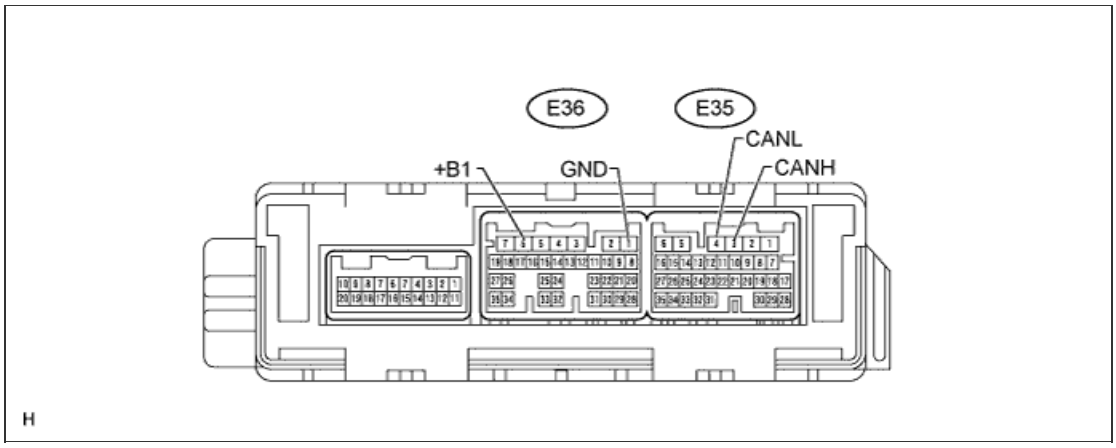



a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| A24-11 (CANH) - A24-1 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| A24-25 (CANL) - A24-1 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| A24-11 (CANH) - A24-2 (+BM1) | V - B | Engine switch off | 6 kΩ or higher |
| A24-25 (CANL) - A24-2 (+BM1) | L - B | Engine switch off | 6 kΩ or higher |

## CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY

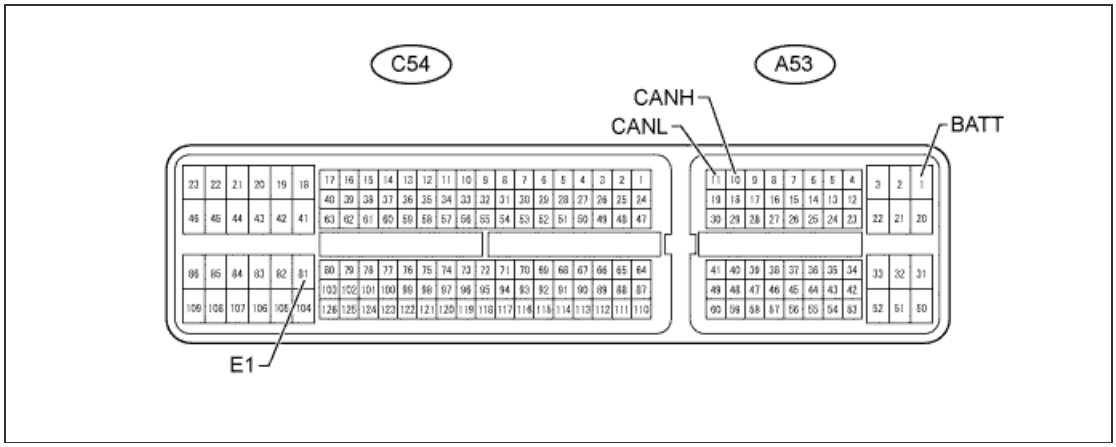



a. Disconnect the E35 and E36 air conditioning amplifier assembly connectors.

b. Measure the voltage and resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Condition | Specified Condition |
|---|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | G - B | Engine switch off | 54 to 69 Ω |
| E35-3 (CANH) - E36-1 (GND) | G - W-B | Engine switch off | 200 Ω or higher |
| E35-4 (CANL) - E36-1 (GND) | B - W-B | Engine switch off | 200 Ω or higher |
| E35-3 (CANH) - E36-6 (+B1) | G - R | Engine switch off | 6 kΩ or higher |
| E35-4 (CANL) - E36-6 (+B1) | B - R | Engine switch off | 6 kΩ or higher |

## CHECK ECM

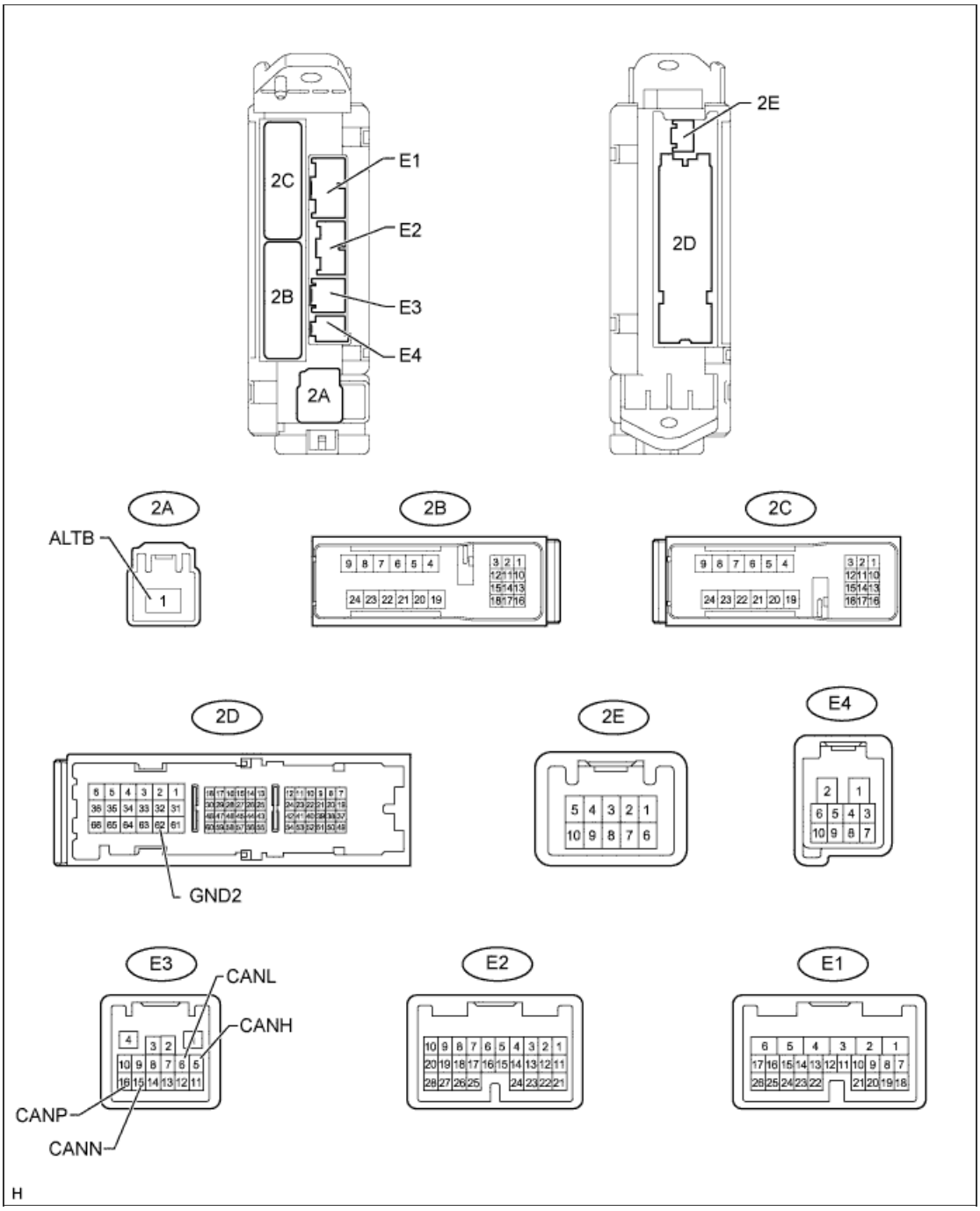



a. Disconnect the A53 and C54 ECM connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A53-10 (CANH) - A53-11 (CANL) | P - B | Engine switch off | 108 to 132 Ω |
| A53-10 (CANH) - C54-81 (E1) | P - W-B | Engine switch off | 200 Ω or higher |
| A53-11 (CANL) - C54-81 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| A53-10 (CANH) - A53-1 (BATT) | P - L | Engine switch off | 6 kΩ or higher |
| A53-11 (CANL) - A53-1 (BATT) | B - L | Engine switch off | 6 kΩ or higher |

## CHECK MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)




a. Disconnect the E3, 2A and 2D main body ECU (cowl side junction block LH) connectors.

b. Measure the resistance according to the value(s) in the table below.

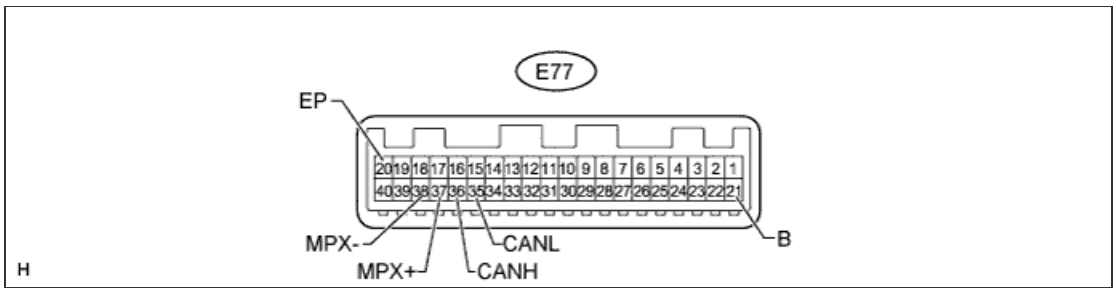
**V Bus**

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E3-5 (CANH) - E3-6 (CANL) | SB - B | Engine switch off | 54 to 69 Ω |
| E3-5 (CANH) - 2D-62 (GND2) | SB - W-B | Engine switch off | 200 Ω or higher |
| E3-6 (CANL) - 2D-62 (GND2) | B - W-B | Engine switch off | 200 Ω or higher |
| E3-5 (CANH) - 2A-1 (ALTB) | SB - B | Engine switch off | 6 kΩ or higher |
| E3-6 (CANL) - 2A-1 (ALTB) | B - B | Engine switch off | 6 kΩ or higher |

**MS Bus**

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | GR - R | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - 2D-62 (GND2) | GR - W-B | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - 2D-62 (GND2) | R - W-B | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - 2A-1 (ALTB) | GR - B | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - 2A-1 (ALTB) | R - B | Engine switch off | 6 kΩ or higher |

## CHECK COMBINATION METER ASSEMBLY




a. Disconnect the E77combination meter assembly connector.

b. Measure the resistance according to the value(s) in the table below.

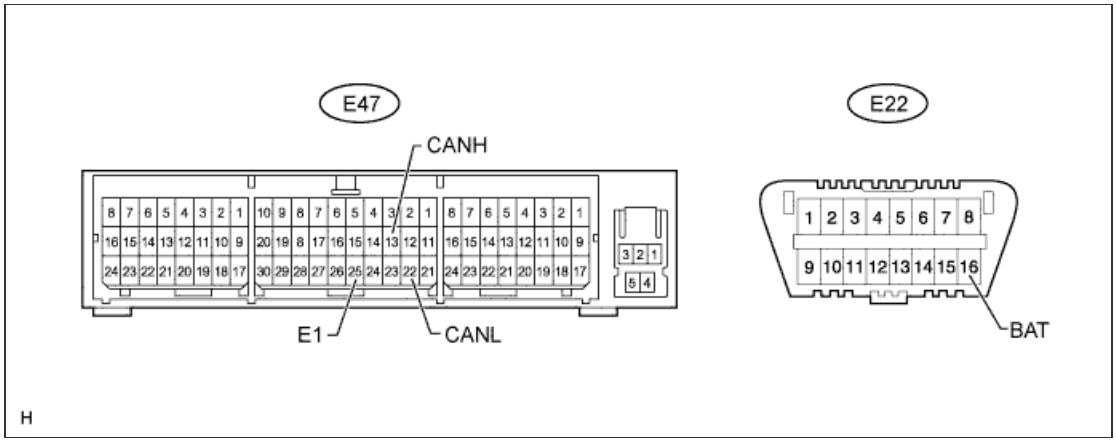
**V Bus**

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E77-36 (CANH) - E77-35 (CANL) | V - B | Engine switch off | 108 to 132 Ω |
| E77-36 (CANH) - E77-20 (EP) | V - W-B | Engine switch off | 200 Ω or higher |
| E77-35 (CANL) - E77-20 (EP) | B - W-B | Engine switch off | 200 Ω or higher |
| E77-36 (CANH) - E77-21 (B) | V - R | Engine switch off | 6 kΩ or higher |
| E77-35 (CANL) - E77-21 (B) | B - R | Engine switch off | 6 kΩ or higher |

**MS Bus**

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E77-37 (MPX+) - E77-38 (MPX-) | LG - R | Engine switch off | 108 to 132 Ω |
| E77-37 (MPX+) - E77-20 (EP) | LG - W-B | Engine switch off | 200 Ω or higher |
| E77-38 (MPX-) - E77-20 (EP) | R - W-B | Engine switch off | 200 Ω or higher |
| E77-37 (MPX+) - E77-21 (B) | LG - R | Engine switch off | 6 kΩ or higher |
| E77-38 (MPX-) - E77-21 (B) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK CENTER AIRBAG SENSOR ASSEMBLY

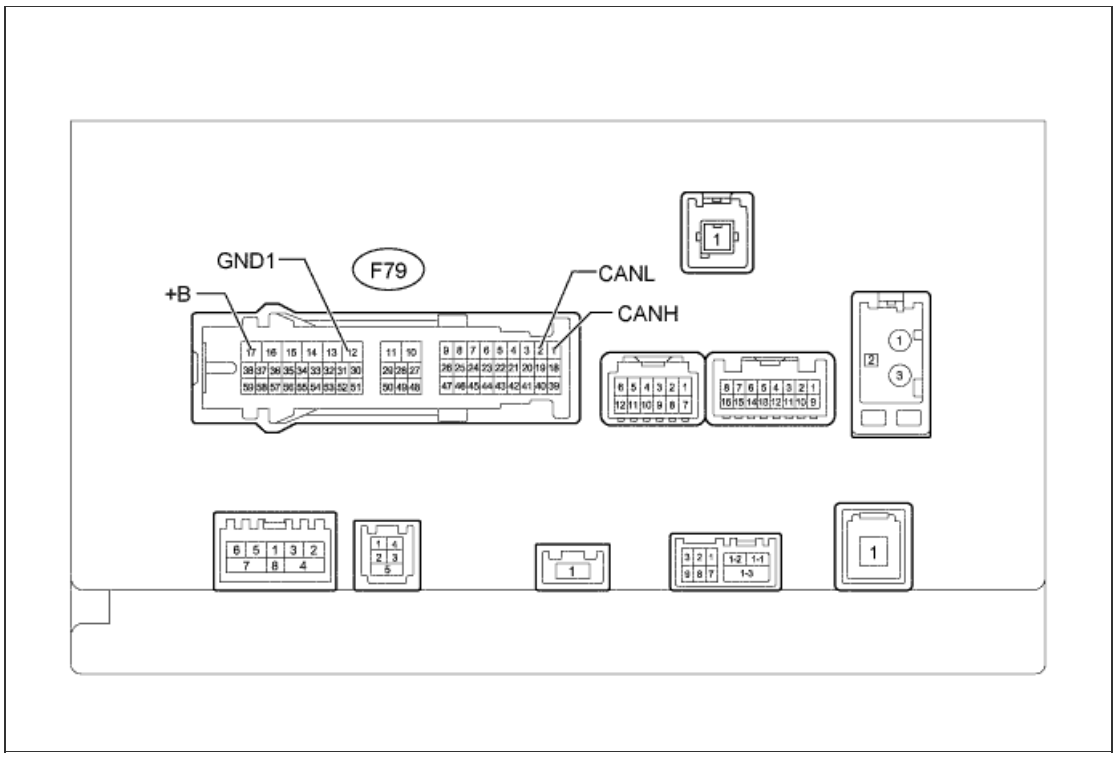



a. Disconnect the E47 center airbag sensor assembly connector ( Click here).

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | GR - B | Engine switch off | 54 to 69 Ω |
| E47-13 (CANH) - E47-25 (E1) | GR - W-B | Engine switch off | 200 Ω or higher |
| E47-22 (CANL) - E47-25 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| E47-13 (CANH) - E22-16 (BAT) | GR - BE | Engine switch off | 6 kΩ or higher |
| E47-22 (CANL) - E22-16 (BAT) | B - BE | Engine switch off | 6 kΩ or higher |

## CHECK MULTI-MEDIA MODULE RECEIVER ASSEMBLY

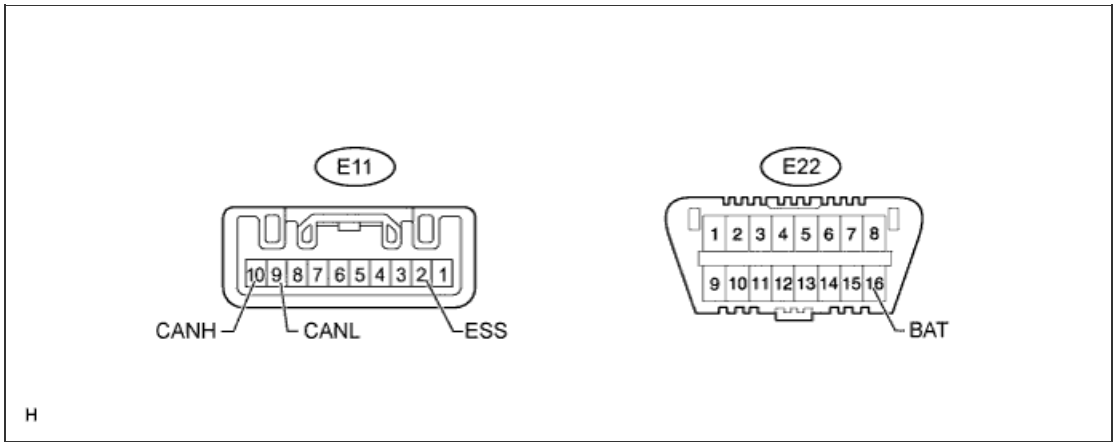



a. Disconnect the F76 multi-media module receiver assembly connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F76-1 (CANH) - F76-2 (CANL) | P - B | Engine switch off | 54 to 69 Ω |
| F76-1 (CANH) - F76-12 (GND1) | P - W-B | Engine switch off | 200 Ω or higher |
| F76-2 (CANL) - F76-12 (GND1) | B - W-B | Engine switch off | 200 Ω or higher |
| F76-1 (CANH) - F76-17 (+B1) | P - R | Engine switch off | 6 kΩ or higher |
| F76-2 (CANL) - F76-17 (+B1) | B - R | Engine switch off | 6 kΩ or higher |

## CHECK STEERING ANGLE SENSOR



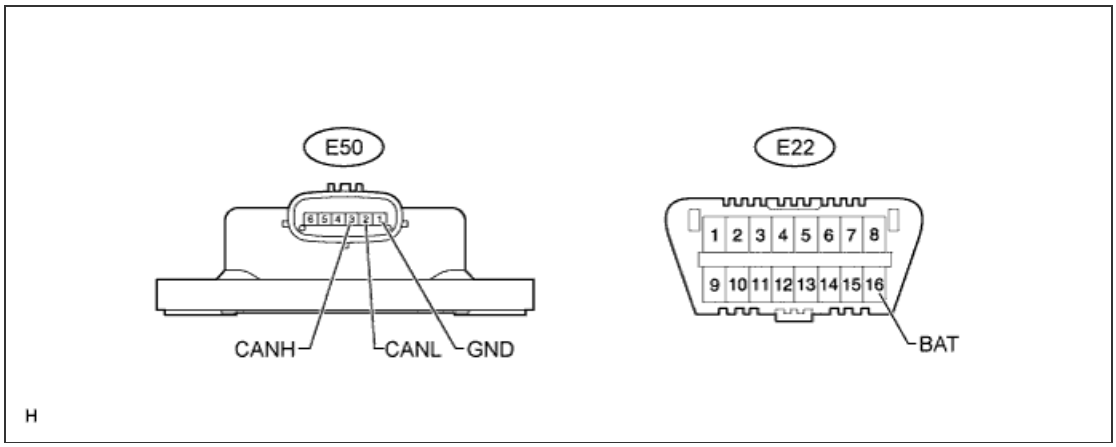

a. Disconnect the E11 st5eering angle sensor connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E11-10 (CANH) - E11-9 (CANL) | GR - L | Engine switch off | 54 to 69 Ω |
| | | | |

| | | | |
|---|---|---|---|
| E11-10 (CANH) - E11-2 (ESS) | GR - W-B | Engine switch off | 200 Ω or higher |
| E11-9 (CANL) - E11-2 (ESS) | L - W-B | Engine switch off | 200 Ω or higher |
| E11-10 (CANH) - E22-16 (BAT) | GR - BE | Engine switch off | 6 kΩ or higher |
| E11-9 (CANL) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK YAW RATE SENSOR ASSEMBLY

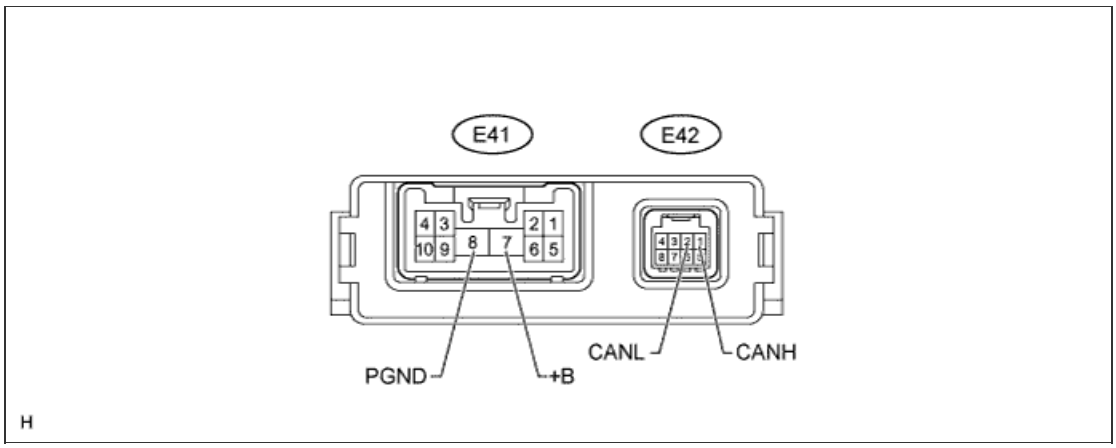



a. Disconnect the E50 yaw rate sensor assembly connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | BR - L | Engine switch off | 54 to 69 Ω |
| E50-3 (CANH) - E50-1 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| E50-2 (CANL) - E50-1 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| E50-3 (CANH) - E22-16 (BAT) | BR - BE | Engine switch off | 6 kΩ or higher |
| E50-2 (CANL) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK SEAT BELT CONTROL ECU (W/ Pre-crash Safety System)

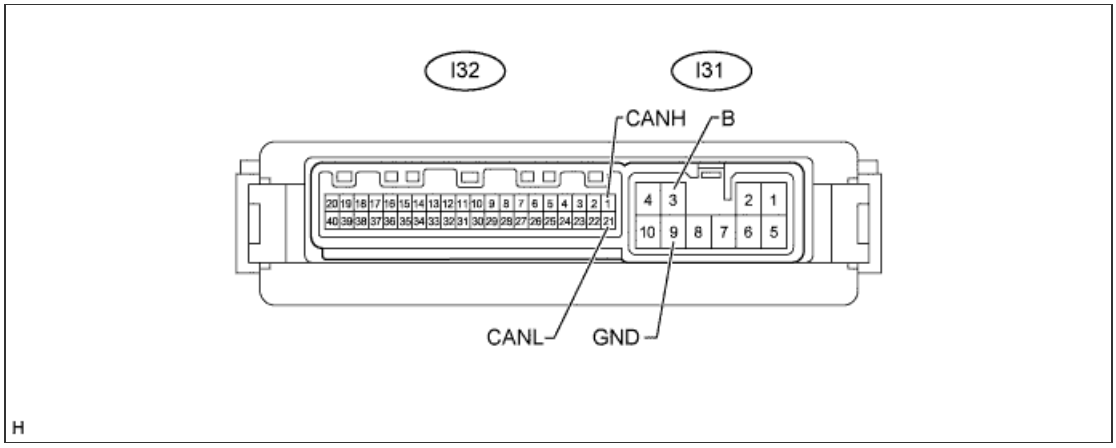



a. Disconnect the E41 and E42 seat belt control ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | G - L | Engine switch off | 54 to 69 Ω |
| E42-1 (CANH) - E41-8 (PGND) | G - W-B | Engine switch off | 200 Ω or higher |
| E42-2 (CANL) - E41-8 (PGND) | L - W-B | Engine switch off | 200 Ω or higher |
| E42-1 (CANH) - E41-7 (+B) | G - R | Engine switch off | 6 kΩ or higher |
| E42-2 (CANL) - E41-7 (+B) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK OUTER MIRROR CONTROL ECU ASSEMBLY

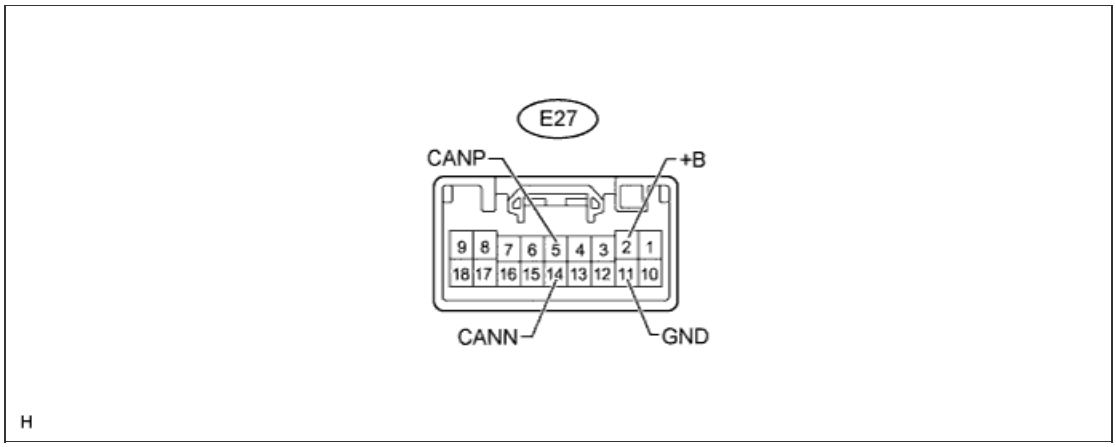



a. Disconnect the I31 and I32 outer mirror control ECU assembly connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| I32-1 (CANH) - I32-21 (CANL) | BR - R | Engine switch off | 54 to 69 Ω |
| I32-1 (CANH) - I31-9 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| I32-21 (CANL) - I31-9 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| I32-1 (CANH) - I31-3 (B) | BR - R | Engine switch off | 6 kΩ or higher |
| I32-21 (CANL) - I31-3 (B) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK MULTIPLEX TILT AND TELESCOPIC ECU

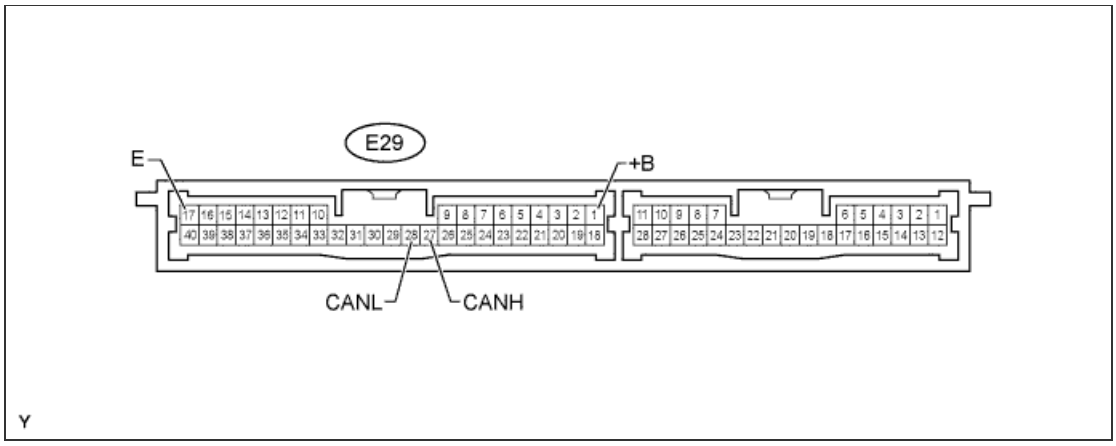



a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | P - R | Engine switch off | 54 to 69 Ω |
| E27-5 (CANP) - E27-11 (GND) | P - W-B | Engine switch off | 200 Ω or higher |
| E27-14 (CANN) - E27-11 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| E27-5 (CANP) - E27-2 (+B) | P - L | Engine switch off | 6 kΩ or higher |
| E27-14 (CANN) - E27-2 (+B) | R - L | Engine switch off | 6 kΩ or higher |

## CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

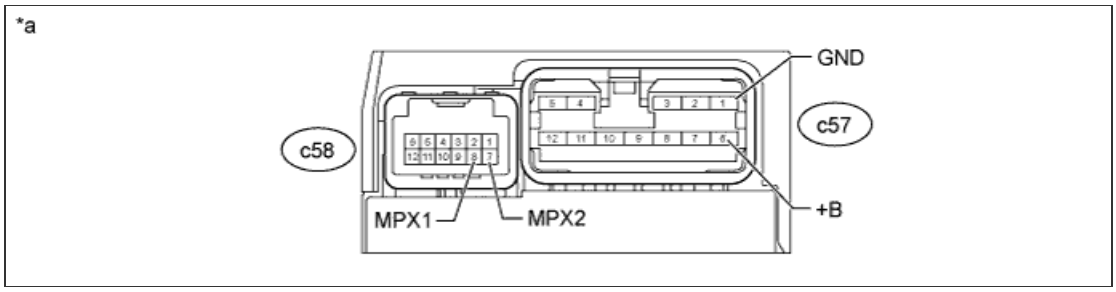



a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | LG - R | Engine switch off | 54 to 69 Ω |
| E29-27 (CANH) - E29-17 (E) | LG - W-B | Engine switch off | 200 Ω or higher |
| E29-28 (CANL) - E29-17 (E) | R - W-B | Engine switch off | 200 Ω or higher |
| E29-27 (CANH) - E29-1 (+B) | LG - B | Engine switch off | 6 kΩ or higher |
| E29-28 (CANL) - E29-1 (+B) | R - B | Engine switch off | 6 kΩ or higher |

## CHECK POSITION CONTROL ECU AND SWITCH

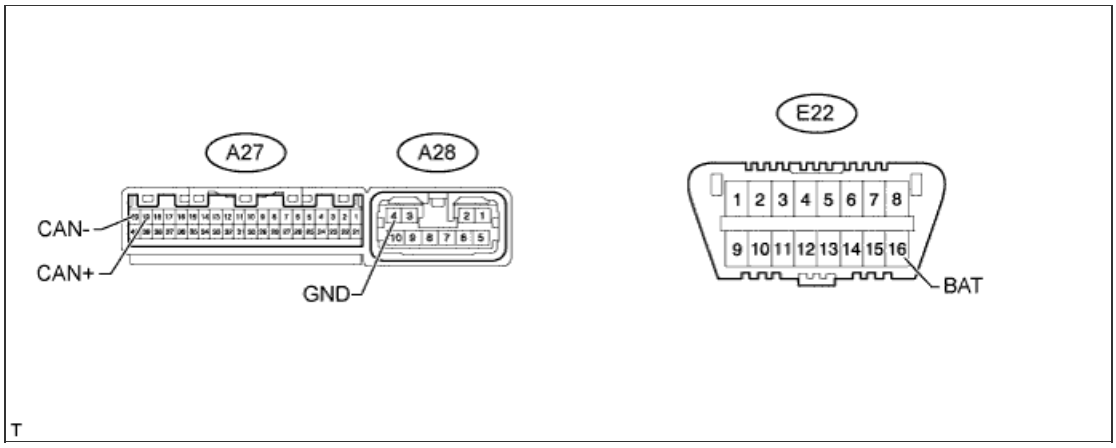



a. Disconnect the c57 and c58 position control ECU and switch connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| c58-8 (MPX1) - c58-7 (MPX2) | V - R | Engine switch off | 54 to 69 Ω |
| c58-8 (MPX1) - c57-1 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| c58-7 (MPX2) - c57-1 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| c58-8 (MPX1) - c57-6 (+B) | V - L | Engine switch off | 6 kΩ or higher |
| c58-7 (MPX2) - c57-6 (+B) | R - L | Engine switch off | 6 kΩ or higher |

## CHECK 4WD CONTROL ECU

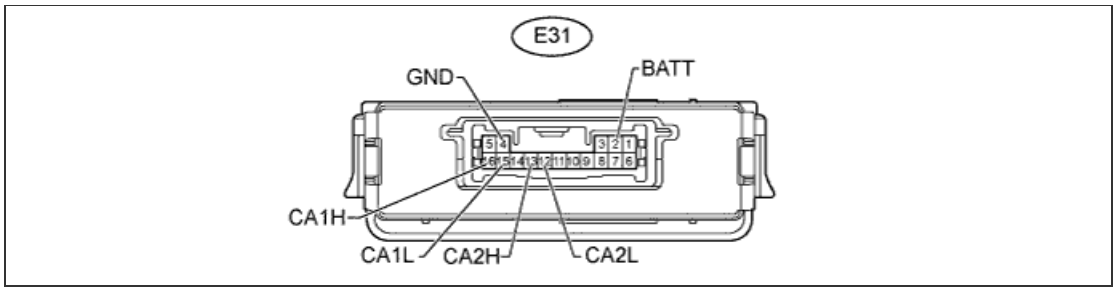



a. Disconnect the A27 and A28 4WD control ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| A27-19 (CAN+) - A27-20 (CAN-) | P - L | Engine switch off | 54 to 69 Ω |
| A27-19 (CAN+) - A28-4 (GND) | P - W | Engine switch off | 200 Ω or higher |
| A27-20 (CAN-) - A28-4 (GND) | L - W | Engine switch off | 200 Ω or higher |
| A27-19 (CAN+) - E22-16 (BAT) | P - BE | Engine switch off | 6 kΩ or higher |
| A27-20 (CAN-) - E22-16 (BAT) | L - BE | Engine switch off | 6 kΩ or higher |

## CHECK NETWORK GATEWAY ECU




a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

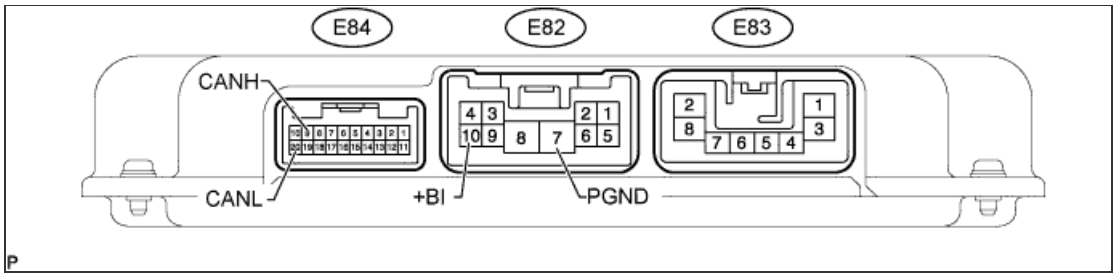
### V Bus

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L) | BR - B | Engine switch off | 54 to 69 Ω |
| E31-16 (CA1H) - E31-4 (GND) | BR - W-B | Engine switch off | 200 Ω or higher |
| E31-15 (CA1L) - E31-4 (GND) | B - W-B | Engine switch off | 200 Ω or higher |
| E31-16 (CA1H) - E31-2 (BATT) | BR - R | Engine switch off | 6 kΩ or higher |
| E31-15 (CA1L) - E31-2 (BATT) | B - R | Engine switch off | 6 kΩ or higher |

### Movement Control Bus

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | SB - L | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E31-4 (GND) | SB - W-B | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E31-4 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E31-2 (BATT) | SB - R | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E31-2 (BATT) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK STEERING CONTROL ECU

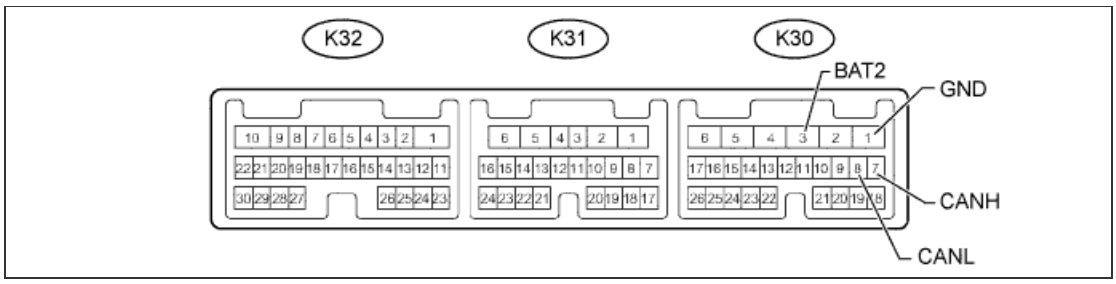



a. Disconnect the E82 and E84 steering control ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | LG - L | Engine switch off | 54 to 69 Ω |
| E84-9 (CANH) - E82-7 (PGND) | LG - W-B | Engine switch off | 200 Ω or higher |
| E84-20 (CANL) - E82-7 (PGND) | L - W-B | Engine switch off | 200 Ω or higher |
| E84-9 (CANH) - E82-10 (+BI) | LG - R | Engine switch off | 6 kΩ or higher |
| E84-20 (CANL) - E82-10 (+BI) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK SUSPENSION CONTROL ECU

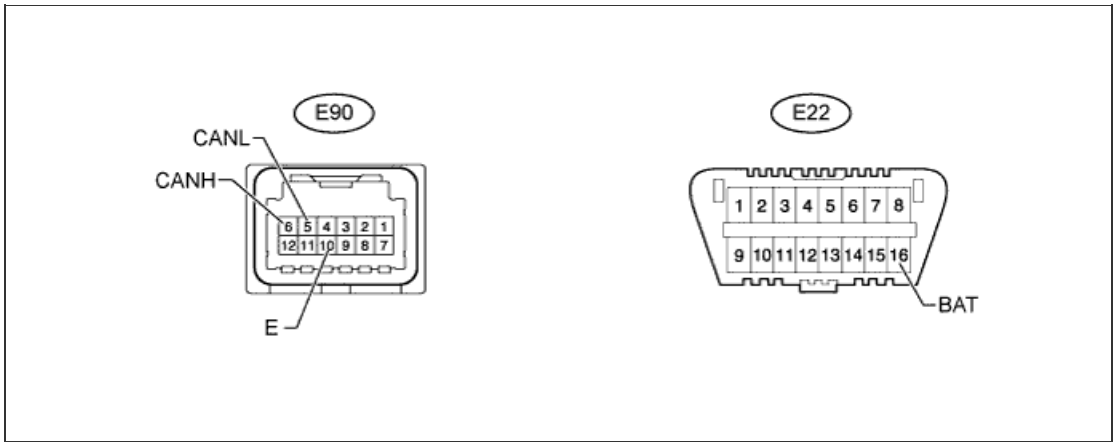



a. Disconnect the K30 suspension control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| K30-7 (CANH) - K30-1 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| K30-8 (CANL) - K30-1 (GND) | L - W-B | Engine switch off | 200 Ω or higher |
| K30-7 (CANH) - K30-3 (BAT2) | V - R | Engine switch off | 6 kΩ or higher |
| K30-8 (CANL) - K30-3 (BAT2) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK WINDSHIELD WIPER ECU

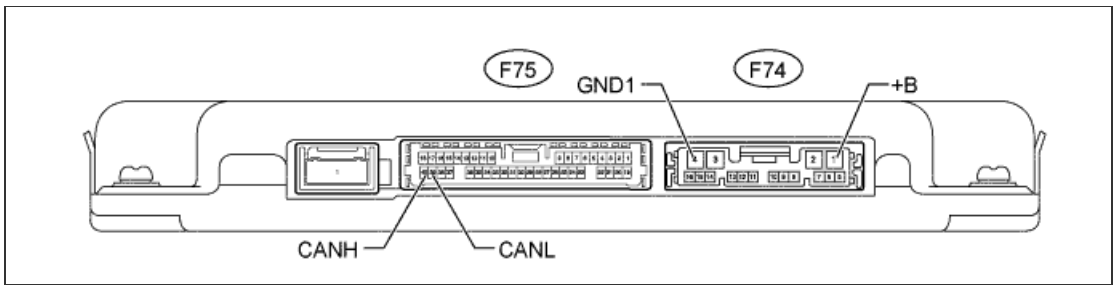



a. Disconnect the E90 windshield wiper ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | LG - R | Engine switch off | 54 to 69 Ω |
| E90-6 (CANH) - E90-10 (E) | LG - W-B | Engine switch off | 200 Ω or higher |
| E90-5 (CANL) - E90-10 (E) | R - W-B | Engine switch off | 200 Ω or higher |
| E90-6 (CANH) - E22-16 (BAT) | LG - BE | Engine switch off | 6 kΩ or higher |
| E90-5 (CANL) - E22-16 (BAT) | R - BE | Engine switch off | 6 kΩ or higher |

## CHECK PARKING ASSIST ECU

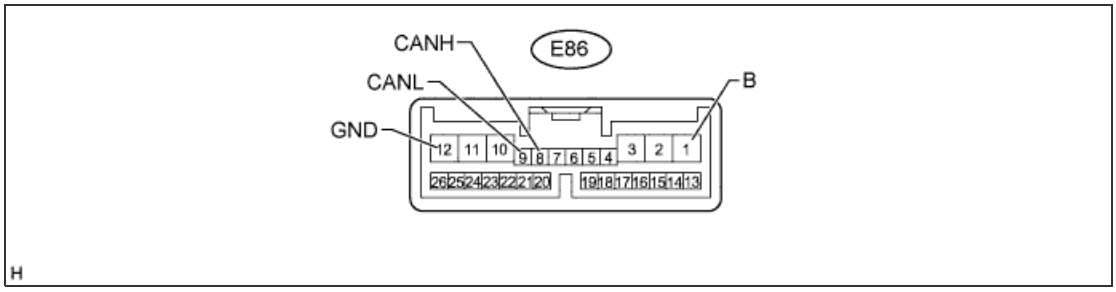



a. Disconnect the F74 and F75 parking assist ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| F75-40 (CANH) - F75-39 (CANL) | V - L | Engine switch off | 54 to 69 Ω |
| F75-40 (CANH) - F74-4 (GND1) | V - W-B | Engine switch off | 200 Ω or higher |
| F75-39 (CANL) - F74-4 (GND1) | L - W-B | Engine switch off | 200 Ω or higher |
| F75-40 (CANH) - F74-1 (+B) | V - L | Engine switch off | 6 kΩ or higher |
| F75-39 (CANL) - F74-1 (+B) | L - L | Engine switch off | 6 kΩ or higher |

## CHECK DISTANCE CONTROL ECU ASSEMBLY (w/ Dynamic Radar Cruise Control System)

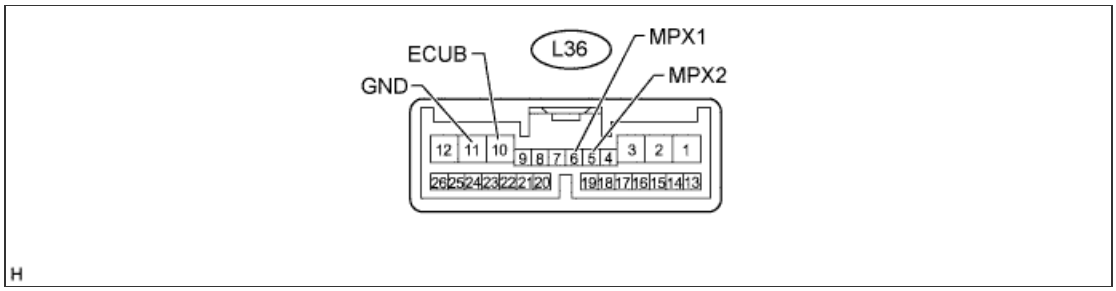



a. Disconnect the E86 distance control ECU assembly connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | SB - L | Engine switch off | 54 to 69 Ω |
| E86-8 (CANH) - E86-12 (GND) | SB - BR | Engine switch off | 200 Ω or higher |
| E86-9 (CANL) - E86-12 (GND) | L - BR | Engine switch off | 200 Ω or higher |
| E86-8 (CANH) - E86-1 (B) | SB - R | Engine switch off | 6 kΩ or higher |
| E86-9 (CANL) - E86-1 (B) | L - R | Engine switch off | 6 kΩ or higher |

## CHECK POWER BACK DOOR UNIT ASSEMBLY (POWER BACK DOOR ECU)

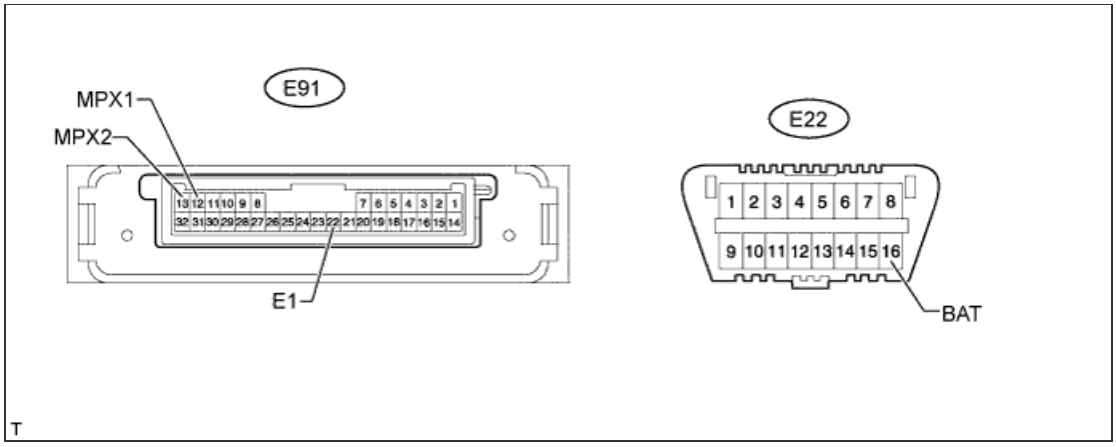



a. Disconnect the L36 power back door unit assembly (power back door ECU) connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | V - R | Engine switch off | 54 to 69 Ω |
| L36-6 (MPX1) - L36-11 (GND) | V - W-B | Engine switch off | 200 Ω or higher |
| L36-5 (MPX2) - L36-11 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| L36-6 (MPX1) - L36-10 (ECUB) | V - R | Engine switch off | 6 kΩ or higher |
| L36-5 (MPX2) - L36-10 (ECUB) | R - R | Engine switch off | 6 kΩ or higher |

## CHECK HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU)

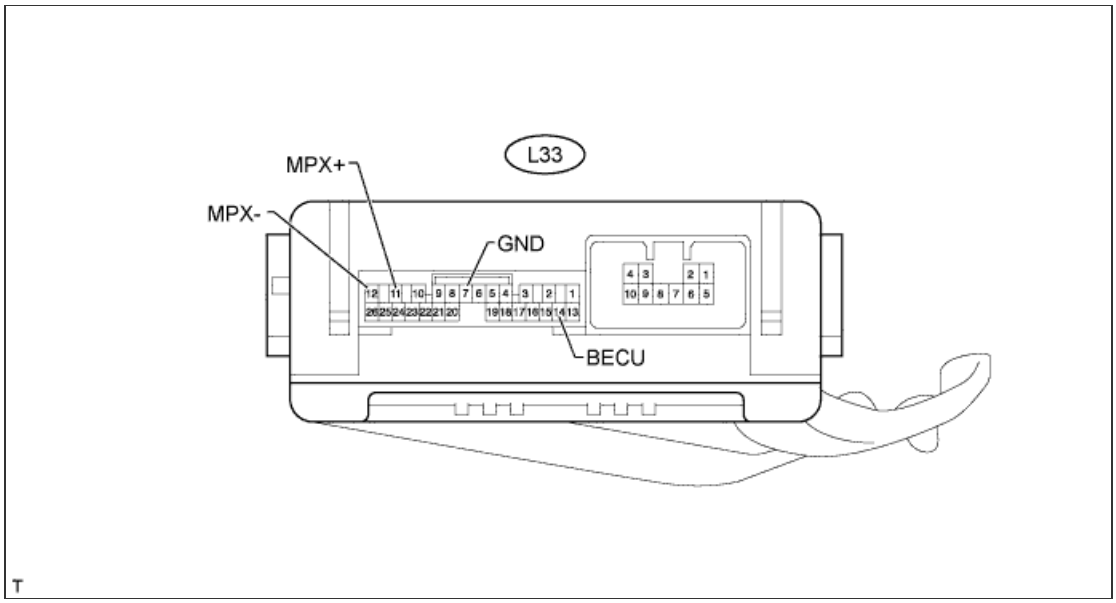



a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | LG - B | Engine switch off | 54 to 69 Ω |
| E91-12 (MPX1) - E91-22 (E1) | LG - W-B | Engine switch off | 200 Ω or higher |
| E91-13 (MPX2) - E91-22 (E1) | B - W-B | Engine switch off | 200 Ω or higher |
| E91-12 (MPX1) - E22-16 (BAT) | LG - BE | Engine switch off | 6 kΩ or higher |
| E91-13 (MPX2) - E22-16 (BAT) | B - BE | Engine switch off | 6 kΩ or higher |

## CHECK NO. 2 MAIN BODY ECU




a. Disconnect the L33 No. 2 main body ECU connector.

b. Measure the resistance according to the value(s) in the table below.

| Terminal No. (Symbol) | Wiring Color | Switch Condition | Specified Condition |
|---|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | LG - R | Engine switch off | 54 to 69 Ω |
| L33-11 (MPX+) - L33-7 (GND) | LG - W-B | Engine switch off | 200 Ω or higher |
| L33-12 (MPX-) - L33-7 (GND) | R - W-B | Engine switch off | 200 Ω or higher |
| L33-11 (MPX+) - L33-14 (BECU) | LG - R | Engine switch off | 6 kΩ or higher |
| L33-12 (MPX-) - L33-14 (BECU) | R - R | Engine switch off | 6 kΩ or higher |

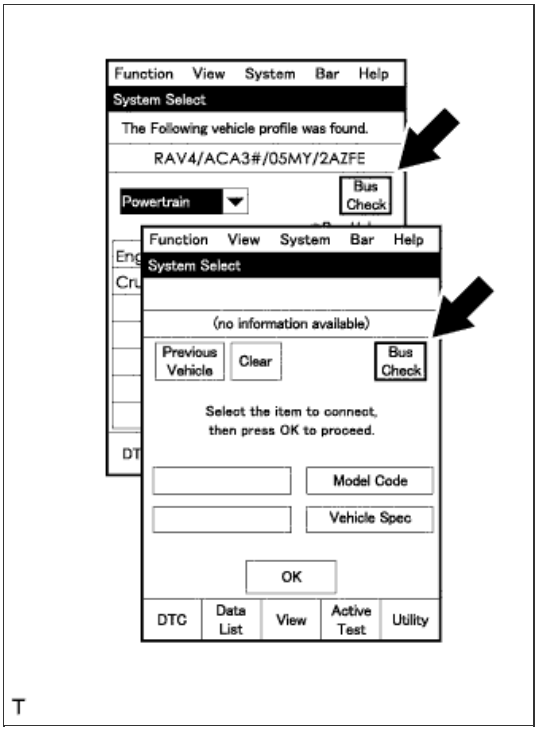
**for Preparation** Click here

## BUS CHECK (COMMUNICATION MALFUNCTION ECU)

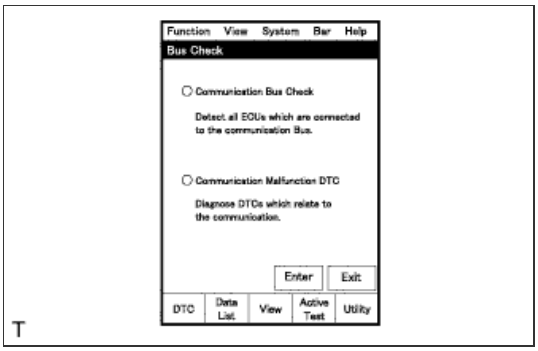
**HINT:**

Only CAN communication system DTCs for each ECU can be displayed on the intelligent tester.

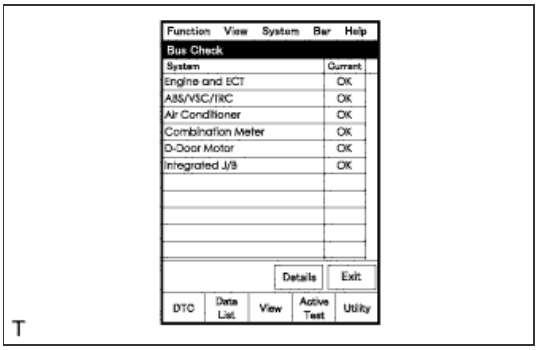
a. Select "Bus Check" from the "System Select" screen on the intelligent tester.



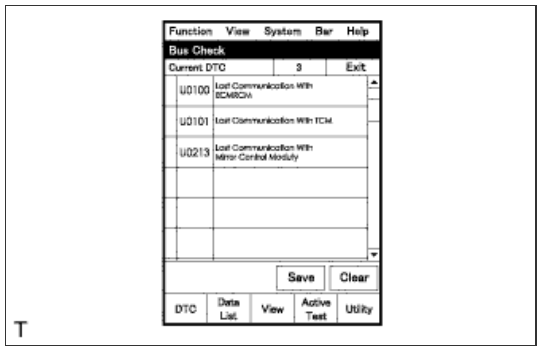

b. Select "Communication Malfunction DTC" from the "Bus Check" screen, and then select "Enter".




c. Select the system of the DTC to be checked and select "Details".




d. CAN communication system DTCs are displayed.

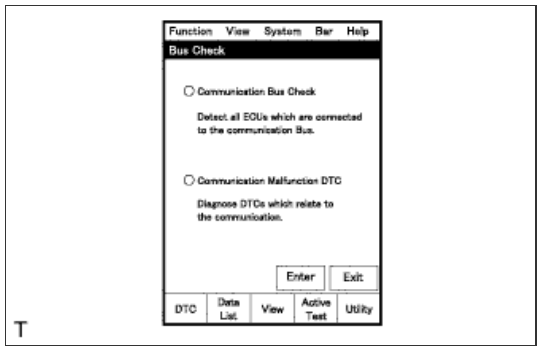



## BUS CHECK (COMMUNICATION BUS CHECK)

**HINT:**

The ECUs and sensors that are properly connected to the CAN communication system can be displayed using the intelligent tester.

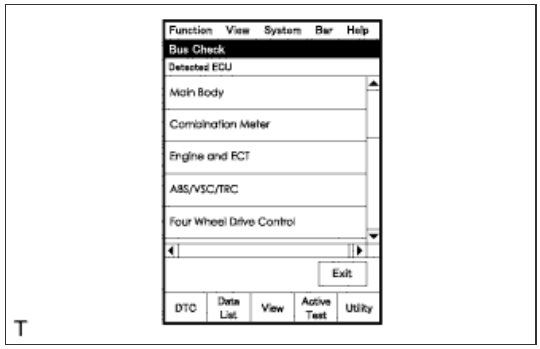
a. Select "Communication Bus Check" from the "Bus Check" screen.



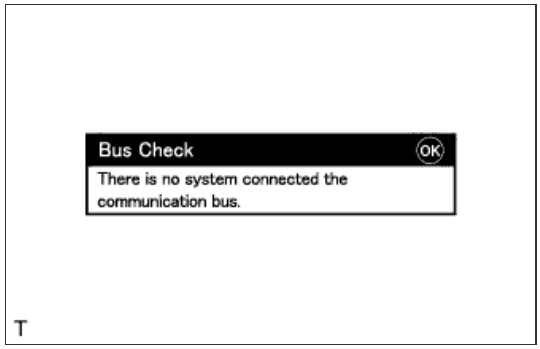

b. The screen displays the ECUs and sensors that are properly connected to the CAN communication system.

**HINT:**

If any properly connected ECUs or sensors are not displayed, there is a communication stop in the system (Click here).




c. "There is no system connected to the communication bus" is displayed if there are no ECUs or sensors connected to the CAN bus.




## CHECK INSTALLED SYSTEMS (ECUS AND SENSORS) THAT USE CAN COMMUNICATION

a. Systems (ECUs and sensors) that use CAN communication vary depending on the optional settings of the vehicle. Check which systems (ECUs and sensors) are installed on the vehicle.

| ECU/Sensor Name | Intelligent Tester Display | Installed on |
|---|---|---|
| Master cylinder solenoid (skid control ECU) | ABS/VSC/TRAC | All vehicles |
| Air conditioning amplifier | Air Conditioner | All vehicles |
| | | |

| | | |
|---|---|---|
| ECM | Engine | All vehicles |
| Main body ECU (cowl side junction block LH) | Main Body | All vehicles |
| Combination meter | Combination Meter | All vehicles |
| Center airbag sensor | SRS Airbag | All vehicles |
| Multi-display | AVN | All vehicles |
| Steering control ECU | VGRS | All vehicles |
| Steering angle sensor | Steering Angle Sensor | All vehicles |
| Yaw rate sensor | Yaw Rate / Deceleration Sensor | All vehicles |
| Seat belt control ECU | Pre-crash Seat Belt | Vehicles with pre-crash safety system |
| Clearance warning ECU | Clearance Sonar | Vehicles with LEXUS parking assist-sensor system |
| Parking assist ECU | Parking Assist Monitor | Vehicles with parking assist monitor system |
| Outer mirror control ECU | Driver Door/Mirror | All vehicles |
| Multiplex tilt and telescopic ECU | Tilt&Telescopic | All vehicles |
| Certification ECU (smart key ECU) | Entry & Start / Wireless Tuner | All vehicles |
| Position control ECU and switch | Driver Seat | All vehicles |
| Network gateway ECU | CAN Gateway | All vehicles |
| 4WD control ECU | Four Wheel Drive Control | All vehicles |
| No. 2 main body ECU | Body No.4 | All vehicles |
| Windshield wiper ECU | Rain Sensor | All vehicles |
| Distance control ECU | Cruise Control (ACC) | Vehicles with dynamic radar cruise control system |
| AFS ECU (headlight swivel ECU) | AFS/HL AutoLeveling | All vehicles |
| Steering control ECU | VGRS | All vehicles |
| Power back door unit (power back door ECU) | Power Back Door | Vehicles with power back door system |

## DTC TABLE BY ECU

**HINT:**

- **In the CAN communication system, CAN communication system DTCs stored by the ECU can be output by using the intelligent tester.**
- **If CAN communication system DTCs are output, the trouble cannot be determined solely from the DTCs. Perform troubleshooting according to "How to Proceed with Troubleshooting".**

a. MASTER CYLINDER SOLENOID (SKID CONTROL ECU)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0073 | Control Module Communication Bus OFF |
| U0100 | Lost Communication with ECM/PCM "A" |
| U0114/38 | Lost Communication with 4WD Control ECU |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |

b. ECM/ECT

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0101 | Lost Communication with TCM |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |

| | |
|---|---|
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U1101 | Lost Communication with Distance Control ECU |

c. MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0141 | Lost Communication with Body Control Module "A" |
| U0199 | Lost Communication with "Door Control Module A" |
| U0208 | Lost Communication with "Seat Control Module A" |
| U0230 | Lost Communication with Rear Gate Module |
| U0327 | Software Incompatibility with Vehicle Security Control Module |
| U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body ECU) |
| U1111 | Lost Communication with Front Controller Module |
| U1115 | Lost Communication with Tilt and Telescopic Module |

d. COMBINATION METER

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0129 | Lost Communication with Brake System Control Module |

e. SEAT BELT CONTROL ECU
For vehicles with the pre-crash safety system only.

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0151 | Lost Communication with Airbag ECU |
| U1101 | Lost Communication with Distance Control ECU |

f. MULTIPLEX TILT AND TELESCOPIC ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B2621 | Communication Interruption |
| B2624* | Vehicle Speed Malfunction |

**HINT:**

*: Refer to the Power Tilt and Power Telescopic Steering Column System ( Click here).

g. MULTI-DISPLAY

**HINT:**

The multi-display is connected to the CAN communication system but CAN communication DTCs are not stored.

h. OUTER MIRROR CONTROL ECU

**HINT:**

The outer mirror control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

i. CENTER AIRBAG SENSOR

**HINT:**

The center airbag sensor is connected to the CAN communication system but CAN communication DTCs are not stored.

j. CERTIFICATION ECU (SMART KEY ECU)

**HINT:**

The certification ECU (smart key ECU) is connected to the CAN communication system but CAN communication DTCs are not stored.

k. AIR CONDITIONING AMPLIFIER

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B1499 | Multiplex Communication Circuit |

l. POSITION CONTROL ECU AND SWITCH

**HINT:**

The position control ECU and switch is connected to the CAN communication system but CAN communication DTCs are not stored.

m. NETWORK GATEWAY ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0114/38 | Lost Communication with 4WD Control ECU |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |
| U0132 | Lost Communication with Ride Level Control Module |
| U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module (Network Gateway ECU) |
| U1100 | Lost Communication with Seat Belt Control Module |
| U1101 | Lost Communication with Distance Control ECU |
| U1110 | Lost Communication with Clearance Sonar Module |
| U1126 | Lost Communication with Parking Assist ECU |

n. CLEARANCE WARNING ECU
For vehicles with the LEXUS parking assist-sensor system only.

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| C1AEF | Shift Position Information |
| U0155 | Lost Communication with Instrument Panel Cluster Control Module |

o. PARKING ASSIST ECU
For vehicles with the parking assist monitor system only.

**HINT:**

The parking assist ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

p. 4WD CONTROL ECU

**HINT:**

The 4WD control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

q. NO. 2 MAIN BODY ECU

**HINT:**

The No. 2 main body ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

r. WINDSHIELD WIPER ECU

**HINT:**

The windshield wiper ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

s. POWER BACK DOOR UNIT (POWER BACK DOOR ECU)
For vehicles with the power back door system only.

**HINT:**

The power back door unit (power back door ECU) is connected to the CAN communication system but CAN communication DTCs are not stored.

t. SUSPENSION CONTROL ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0101 | Lost Communication with TCM |
| U0114/38 | Lost Communication with 4WD Control ECU |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |
| U0140 | Lost Communication with Main Body ECU |

u. DISTANCE CONTROL ECU
For vehicles with the dynamic radar cruise control system only.

**HINT:**

The distance control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

v. AFS ECU (HEADLIGHT SWIVEL ECU)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B2427 | CAN Communication Malfunction |

w. STEERING CONTROL ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |

## DTC COMBINATION TABLE

*4: The ECM receives diagnosis data from the distance control ECU and stores a DTC.
*5: The seat belt control ECU receives diagnosis data from the distance control ECU and stores a DTC.

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | V Bus | | | |
| | | | | Main Body ECU Communication Stop Mode | Combination Meter Communication Stop Mode | Center Airbag Sensor Communication Stop Mode | Air Conditioning Amplifier Communication Stop Mode |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with 4WD Control ECU | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | - |
| | | | • Main Body | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | ○*1 | ○ | X | X |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | ○ | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | X | X | X | X |
| Air Conditioning Amplifier | B1499 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | ○ | ○ | X | ○*1 |
| Steering Control ECU | U0126 | Shift Position Information | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | ○ | X | X |
| | | | • ECM | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | ○ | X | X | X |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | ○ | X |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | ○*1 | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | ○*1 | X | X |
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U1111 | with Body No. 5 Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | V Bus | | | |
| | | | | Multi-display Communication Stop Mode | AFS ECU Communication Stop Mode | ECM Communication Stop Mode | Network Gateway ECU Communication Stop Mode |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Master Cylinder Solenoid (Skid Control ECU) | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*2 | ○*1, *2 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*2, *4 | ○*1 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | ○ | ○ |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | ○ | ○ |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | ○ | ○ |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | | Vehicle Speed | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | B2624 | Malfunction | Combination Meter | X | X | X | X |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*3 | ○*1, *3 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block LH) | X | X | X | ○*1 |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | X | X | ○*3 | ○*1, *3 |
| Air Conditioning Amplifier | B1499 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | X | X | X | X |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○ | ○*1 |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | ○ | ○*1 |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | X | X | ○*1 |
| | | | • ECM<br>• Master Cylinder Solenoid (Skid Control | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | X | ○*1 | ○ | ○*1 |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*5 | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | X | ○*1 |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○*1 |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○ | X |
| Main Body ECU (Cowl Side Junction Block) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U0199 | with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | Movement Control Bus | | | |
| | | | | Network Gateway ECU Communication Stop Mode | Clearance Warning ECU Communication Stop Mode | Parking Assist ECU Communication Stop Mode | Skid Control ECU Communication Stop Mode |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X | ○*1 |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | X | X | X | ○*1 |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○*2 | X | X | ○*1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Master Cylinder Solenoid (Skid Control ECU) | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | ○*1 |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X | ○*1 |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | ○*1 |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | X | X | X | ○*1 |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○ | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○*4 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | ○ | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | ○ | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | ○ | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM | ECM | ○*3 | X | X | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | "A" | | | | | |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○ |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | X |
| Suspension Control ECU | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | X | X | X | X |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block LH) | ○ | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X | X |
| | U0101 | Lost Communication with TCM | ECT | ○*3 | X | X | X |
| Air Conditioning Amplifier | B1499 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Control ECU | X | X | X | X |
| Steering Control ECU | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○ |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○ | X | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | ○ | ○*1 | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | ○ | ○*1 | X | X |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering | ○ | X | X | ○ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | | | | |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○ | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○ |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | X |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | ○ | X | X | X |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○ | X | X | ○ |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Main Body ECU (Cowl Side Junction Block) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| | | Lost | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Network Gateway ECU | U1100 | Communication with Seat Belt Control Module | Seat Belt Control ECU | ○ | X | X | X |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | ○ | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | ○ | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | ○ | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | ○ | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○ | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○ | X | X | ○ |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | ○ | X | ○ | X |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | ○ | ○ | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | ○ | X | X | X |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | Movement Control Bus | | | |
| | | | | 4WD Control ECU Communication Stop Mode | Steering Angle Sensor Communication Stop Mode | Yaw Rate Sensor Communication Stop Mode | Distance Control ECU Communication Stop Mode |
| Master Cylinder | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | ○ | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | X | X | ○ | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor | Steering Angle Sensor | X | ○ | X | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Solenoid (Skid Control ECU) | | Module | | | | | |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○ | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | X | ○ | ○ | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | ○*1, *4 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | ○*1, *4 |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | ○*4 | ○*1, *4 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○*4 | X | ○*1, *4 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○*1, *4 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | ○ |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | ○ |
| | 1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | ○ |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | | Lost Communication with Vehicle | Master Cylinder Solenoid (Skid Control | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Suspension Control ECU | U0122 | Dynamics Control Module | ECU) | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | X | X | ○ | X |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | X | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○*3 | X | X | X |
| | U0101 | Lost Communication with TCM | ECT | X | X | X | X |
| Air Conditioning Amplifier | B1499 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | X | X | X |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl | X | ○ | X | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Side Junction Block LH) | | | | |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | ○ |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | X | X |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | X | X | X | X |
| | | Lost | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Network Gateway ECU | U0132 | Communication with Ride Level Control Module | Suspension Control ECU | X | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | ○ |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | ○ | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○ | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | X | X | X | X |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | X | X | X | X |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | |
|---|---|---|---|---|---|---|
| | | | | Movement Control Bus | | |
| | | | | Steering Control ECU Communication Stop Mode | Suspension Control ECU Communication Stop Mode | Seat Belt Control ECU Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | X | X |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | ○ | X | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | - | - | - |
| Suspension | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | ○*1 | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | ○*1 | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○*1 | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | ○*1 | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| Control ECU | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | X | ○*1 | X |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | X | ○*1 | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | ○*1 | X |
| | U0101 | Lost Communication with TCM | ECT | X | ○*1 | X |
| Air Conditioning Amplifier | B1499 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | ○*1 | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○*1 | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○*1 | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | X | X |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | ○ | X | X |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | ○*1 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | ○*1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | ○*1 |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - |
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | X | X | ○ |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | X | ○ | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | X | X | X |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | X | X | X |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | MS Bus | | | |
| | | | | Outer Mirror Control ECU Communication Stop Mode | Windshield Wiper ECU Communication Stop Mode | Multiplex Tilt and Telescopic ECU Communication Stop Mode | Position Control ECU and Switch Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ECM | U0123 | with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | X | X | ○*1 | ○ |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | X | X | ○*1 | X |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block LH) | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication | ECT | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | with TCM | | | | | |
| Air Conditioning Amplifier | B1499 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | - | - | - | - |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | - | - | - | - |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | - | - | - | - |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | - | - | - | - |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | X | X | X | X |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | X | X | X | X |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | X | X | X | X |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | X | X | X | X |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | X | X | X | ○ |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | X | X | ○ | X |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | X | ○ | X | X |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | ○ | X | X | X |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle | Master Cylinder Solenoid (Skid Control | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Dynamics Control Module | ECU) | | | | |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | MS Bus | | | |
| | | | | Power Back Door ECU Communication Stop Mode | No. 2 Main Body ECU Communication Stop Mode | Certification ECU Communication Stop Mode | Main Body ECU Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U0126 | with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| ECM | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | X | X | X | ○ |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | X | X | X | ○ |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | - | - | - | - |
| Air Conditioning | | Multiplex | • Main Body ECU (Cowl Side | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Amplifier | B1499 | Communication Circuit | Junction Block LH)<br>• Combination Meter | - | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | - | - | - | - |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | - | - | - | - |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | - | - | - | - |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | - | - | - | - |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway | MS Bus Network Malfunction | X | X | X | ○ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Module | | | | | |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | X | X | ○ | ○ |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | X | ○ | X | ○ |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | ○ | X | X | ○ |
| Main Body ECU (Cowl Side Junction Block LH) | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | X | X | X | ○ |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | X | X | X | ○ |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | X | X | X | ○ |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | X | X | X | ○ |
| | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| Network Gateway ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | | Lost | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U1126 | Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

**HINT:**

○: Stored.

x: When one side of branch wire is open, storage may occur.

*1: Only stored when communication recovery has occurred. During communication stop, cannot be stored.

*2: Stored when vehicle speed is 15 km/h (9 mph) or more.

*3: Stored when vehicle speed is 30 km/h (18 mph) or more.

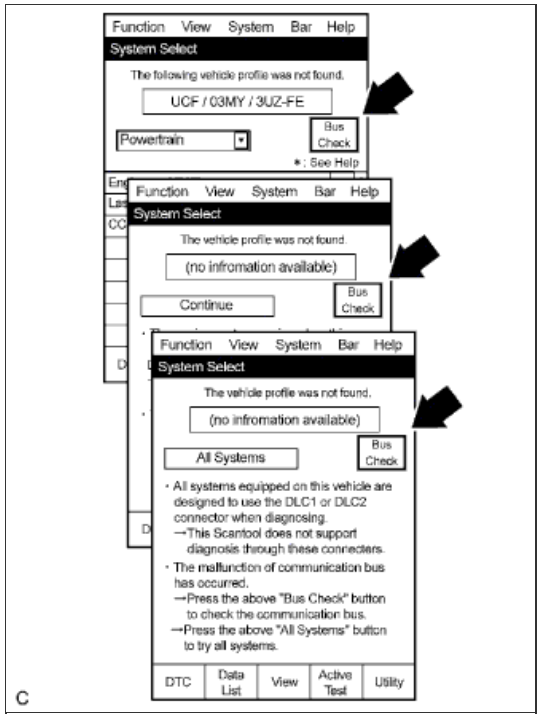
**for Preparation** Click here

## BUS CHECK (COMMUNICATION MALFUNCTION ECU)

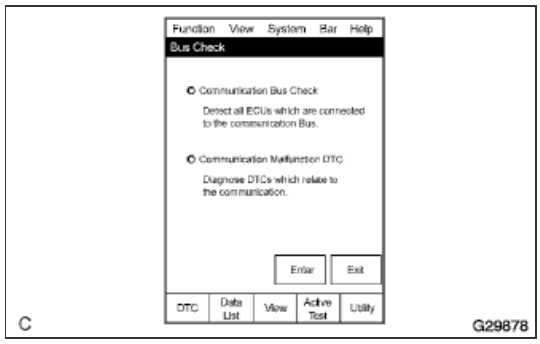
**HINT:**

Only CAN communication system DTCs for each ECU can be displayed on the intelligent tester.

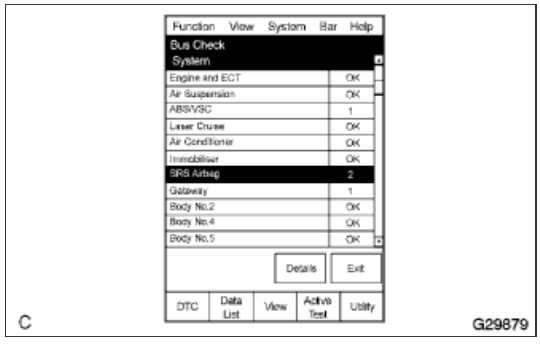
a. Select "Bus Check" from the "System Select" screen on the intelligent tester.



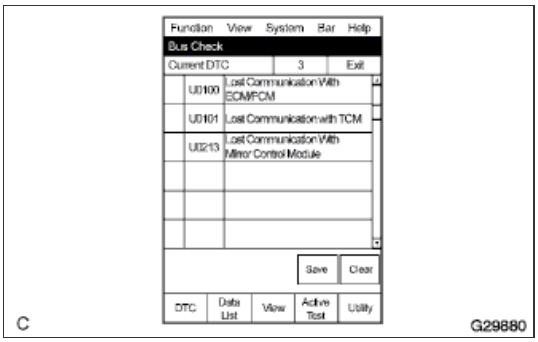

b. Select "Communication Malfunction DTC" from the "Bus Check" screen, and then select "Enter".




c. Select the system of the DTC to be checked and select "Details".




d. CAN communication system DTCs are displayed.

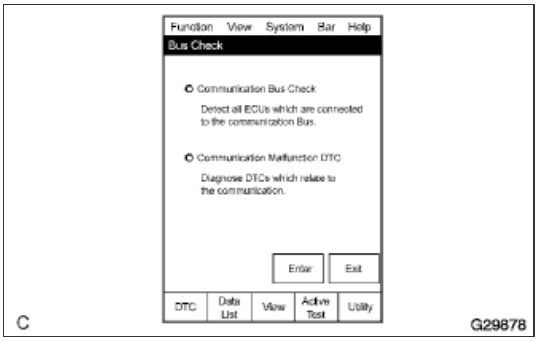



## BUS CHECK (COMMUNICATION BUS CHECK)

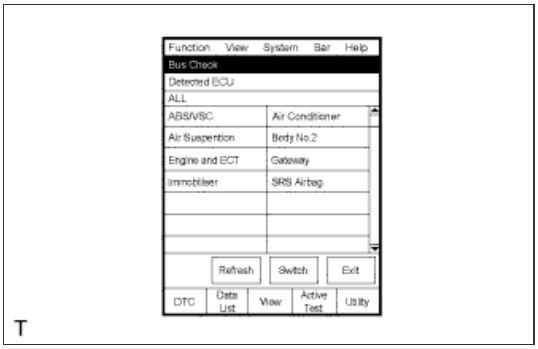
**HINT:**

The ECUs and sensors that are properly connected to the CAN communication system can be displayed using the intelligent tester.

a. Select "Communication Bus Check" from the "Bus Check" screen.

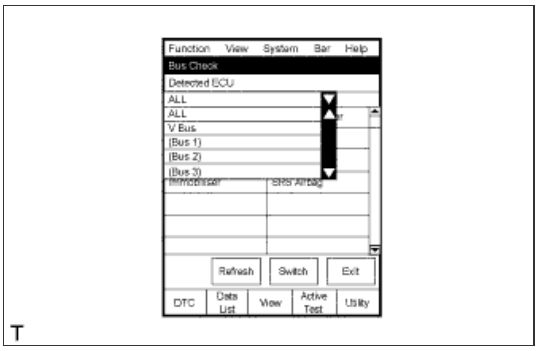



b. The screen displays the ECUs and sensors that are properly connected to the CAN communication system.




**HINT:**

- **If any properly connected ECUs or sensors are not displayed, there is a communication stop in the system (Click here).**




- **The default item displayed in the combo box is "ALL". When checking the ECUs (sensors) connected to each bus, pull down the combo box and select the bus to be checked from the drop down list. The drop down list displays "ALL", "V Bus", and the names of the remaining buses.**

| Combo Box | Display Content |
|---|---|
| ALL | All ECUs (sensors) connected to the CAN bus |
| V Bus | ECUs (sensors) connected to the V bus |
| Bus Name | ECUs (sensors) connected to the selected bus |

- **The connection status (shown below) is indicated by the background color displayed behind the system name.**

**ECU (Sensor) on V Bus**

| Background Color | Connection Status |
|---|---|
| White | Detected normally |
| Yellow | Could not be detected in the past, but is currently detected |
| Red | Detected in the past, but cannot be detected now |

| | |
|---|---|
| Not displayed | Has never been detected |

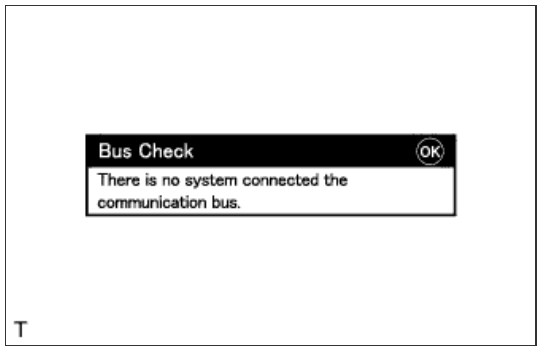
**ECU (Sensor) with no Data Monitor History**

| Background Color | Connection Status |
|---|---|
| White | Detected normally |
| Yellow | Could not be detected in the past, but is currently detected |
| Red | Detected in the past, but cannot be detected now |
| Not displayed | Has never been detected |

**ECU (Sensor) with no Data Monitor History**

| Background Color | Connection Status |
|---|---|
| White | Detected normally |
| Yellow | Could not be detected in the past, but is currently detected |
| Red | Detected in the past, but cannot be detected now |
| Red | Has never been detected bus has connection history |
| Not displayed | Has never been detected and has no connection history |

c. "There is no system connected to the communication bus" is displayed if there are no ECUs or sensors connected to the CAN bus.




## CHECK INSTALLED SYSTEMS (ECUS AND SENSORS) THAT USE CAN COMMUNICATION

a. Systems (ECUs and sensors) that use CAN communication vary depending on the optional settings of the vehicle. Check which systems (ECUs and sensors) are installed on the vehicle.

| ECU/Sensor Name | Intelligent Tester Display | Installed on |
|---|---|---|
| Master cylinder solenoid (skid control ECU) | ABS/VSC/TRAC | All vehicles |
| Air conditioning amplifier | Air Conditioner | All vehicles |
| ECM | Engine | All vehicles |
| Main body ECU (cowl side junction block LH) | Main Body | All vehicles |
| Combination meter | Combination Meter | All vehicles |
| Center airbag sensor | SRS Airbag | All vehicles |
| Display and navigation module display | AVN1 | All vehicles |
| Steering control ECU | VGRS | All vehicles |
| Steering angle sensor | Steering Angle Sensor | All vehicles |
| Yaw rate sensor | Yaw Rate / Deceleration Sensor | All vehicles |
| Seat belt control ECU | Pre-crash Seat Belt | Vehicles with pre-crash safety system |
| Clearance warning ECU | Clearance Sonar | Vehicles with LEXUS parking assist-sensor system |
| Parking assist ECU | Parking Assist Monitor | Vehicles with parking assist monitor |

| | | |
|---|---|---|
| | | system |
| Outer mirror control ECU | Driver Door/Mirror | All vehicles |
| Multiplex tilt and telescopic ECU | Tilt&Telescopic | All vehicles |
| Certification ECU (smart key ECU) | Entry & Start / Wireless Tuner | All vehicles |
| Position control ECU and switch | Driver Seat | All vehicles |
| Network gateway ECU | CAN Gateway | All vehicles |
| 4WD control ECU | Four Wheel Drive Control | All vehicles |
| No. 2 main body ECU | Body No.4 | All vehicles |
| Windshield wiper ECU | Rain Sensor | All vehicles |
| Distance control ECU | Cruise Control (ACC) | Vehicles with dynamic radar cruise control system |
| AFS ECU (headlight swivel ECU) | AFS/HL AutoLeveling | All vehicles |
| Steering control ECU | VGRS | All vehicles |
| Power back door unit (power back door ECU) | Power Back Door | Vehicles with power back door system |

## DTC TABLE BY ECU

**HINT:**

- **In the CAN communication system, CAN communication system DTCs stored by the ECU can be output by using the intelligent tester.**
- **If CAN communication system DTCs are output, the trouble cannot be determined solely from the DTCs. Perform troubleshooting according to "How to Proceed with Troubleshooting".**

a. MASTER CYLINDER SOLENOID (SKID CONTROL ECU)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0073 | Control Module Communication Bus OFF |
| U0100 | Lost Communication with ECM/PCM "A" |
| U0114/38 | Lost Communication with 4WD Control ECU |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |

b. ECM/ECT

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U1101 | Lost Communication with Distance Control ECU |

c. MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0141 | Lost Communication with Body Control Module "A" |
| U0199 | Lost Communication with "Door Control Module A" |
| U0208 | Lost Communication with "Seat Control Module A" |
| U0230 | Lost Communication with Rear Gate Module |

| | |
|---|---|
| U0327 | Software Incompatibility with Vehicle Security Control Module |
| U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body ECU) |
| U1111 | Lost Communication with Front Controller Module |
| U1115 | Lost Communication with Tilt and Telescopic Module |

d. COMBINATION METER

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0129 | Lost Communication with Brake System Control Module |

e. SEAT BELT CONTROL ECU
For vehicles with the pre-crash safety system only.

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0151 | Lost Communication with Airbag ECU |
| U1101 | Lost Communication with Distance Control ECU |

f. MULTIPLEX TILT AND TELESCOPIC ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B2621 | Communication Interruption |
| B2624* | Vehicle Speed Malfunction |

**HINT:**

*: Refer to the Power Tilt and Power Telescopic Steering Column System ( Click here).

g. DISPLAY AND NAVIGATION MODULE DISPLAY

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0073 | Control Module Communication Bus OFF |
| U0100 | Lost Communication with ECM/PCM "A" |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0129 | Lost Communication with Brake System Control Module |
| U0155 | Lost Communication with Combination Meter |
| U0164 | Lost Communication with A/C ECU |
| U1110 | Lost Communication with Clearance Sonar Module |

h. OUTER MIRROR CONTROL ECU

**HINT:**

The outer mirror control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

i. CENTER AIRBAG SENSOR

**HINT:**

The center airbag sensor is connected to the CAN communication system but CAN communication DTCs are not stored.

j. CERTIFICATION ECU (SMART KEY ECU)

**HINT:**

The certification ECU (smart key ECU) is connected to the CAN communication system but CAN communication DTCs are not stored.

k. AIR CONDITIONING AMPLIFIER

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B1499 | Multiplex Communication Circuit |

l. POSITION CONTROL ECU AND SWITCH

**HINT:**

The position control ECU and switch is connected to the CAN communication system but CAN communication DTCs are not stored.

m. NETWORK GATEWAY ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0114/38 | Lost Communication with 4WD Control ECU |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |
| U0132 | Lost Communication with Ride Level Control Module |
| U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module (Network Gateway ECU) |
| U1100 | Lost Communication with Seat Belt Control Module |
| U1101 | Lost Communication with Distance Control ECU |
| U1110 | Lost Communication with Clearance Sonar Module |
| U1126 | Lost Communication with Parking Assist ECU |

n. CLEARANCE WARNING ECU
For vehicles with the LEXUS parking assist-sensor system only.

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| C1AEF | Shift Position Information |
| U0155 | Lost Communication with Instrument Panel Cluster Control Module |

o. PARKING ASSIST ECU
For vehicles with the parking assist monitor system only.

**HINT:**

The parking assist ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

p. 4WD CONTROL ECU

**HINT:**

The 4WD control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

q. NO. 2 MAIN BODY ECU

**HINT:**

The No. 2 main body ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

r. WINDSHIELD WIPER ECU

**HINT:**

The windshield wiper ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

s. POWER BACK DOOR UNIT (POWER BACK DOOR ECU)
For vehicles with the power back door system only.

**HINT:**

The power back door unit (power back door ECU) is connected to the CAN communication system but CAN communication DTCs are not stored.

t. SUSPENSION CONTROL ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0101 | Lost Communication with TCM |
| U0114/38 | Lost Communication with 4WD Control ECU |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |
| U0140 | Lost Communication with Main Body ECU |

u. DISTANCE CONTROL ECU
For vehicles with the dynamic radar cruise control system only.

**HINT:**

The distance control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

v. AFS ECU (HEADLIGHT SWIVEL ECU)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B2427 | CAN Communication Malfunction |

w. STEERING CONTROL ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |

## DTC COMBINATION TABLE

*4: The ECM receives diagnosis data from the distance control ECU and stores a DTC.
*5: The seat belt control ECU receives diagnosis data from the distance control ECU and stores a DTC.
*6: Only stored while malfunction continues.

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | V Bus | | | |
| | | | | Main Body ECU Communication Stop Mode | Combination Meter Communication Stop Mode | Center Airbag Sensor Communication Stop Mode | Air Conditioning Amplifier Communication Stop Mode |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Master Cylinder Solenoid (Skid Control ECU) | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with 4WD Control ECU | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | | Vehicle Speed | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | B2624 | Malfunction | Combination Meter | ○*1 | ○ | X | X |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | ○ | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | X | X | X | X |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | ○ | ○ | X | ○*1 |
| Steering Control ECU | U0126 | Shift Position Information | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | ○ | X | X |
| AFS ECU (Headlight | B2427 | CAN Communication | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle | ○ | X | X | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Swivel ECU) | | Malfunction | Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | | | | |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | ○ | X |
| Display and Navigation Module Display | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | X | X | X | X |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | X | X | X | ○ |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X | X |
| | U0155 | Lost Communication with Combination Meter | Combination Meter | X | ○ | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | ○*1 | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | ○*1 | X | X |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | | Software | | | | | |

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|---|---|---|---|---|---|---|---|
| Main Body ECU (Cowl Side Junction Block LH) | U0327 | Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Body No. 5 Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |

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|---|---|---|---|---|---|---|---|
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | V Bus | | | |
| | | | | Display and Navigation Assembly Communication Stop Mode | AFS ECU Communication Stop Mode | ECM Communication Stop Mode | Network Gateway ECU Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*2 | ○*1, *2 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*2, *4 | ○*1 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | | Lost Communication | Master Cylinder | | | | |

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|---|---|---|---|---|---|---|---|
| | U0122 | with Vehicle Dynamics Control Module | Solenoid (Skid Control ECU) | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | ○ | ○ |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | ○ | ○ |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | X | X | X | X |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*3 | ○*1, *3 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block LH) | X | X | X | ○*1 |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | X | X | ○*3 | ○*1, *3 |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |

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|---|---|---|---|---|---|---|---|
| Steering Control ECU | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○ | ○*1 |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | ○ | ○*1 |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | X | X | ○*1 |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | X | ○*1 | ○ | ○*1 |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*5 | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | X | ○*1 |
| Display and Navigation Module Display | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | ○*1 | X | X | X |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | ○*1 | X | X | X |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | ○*1 | X | X | ○*1 |
| | U0155 | Lost Communication with Combination Meter | Combination Meter | ○*1 | X | X | X |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U0126 | with Steering Angle Sensor Module | Steering Angle Sensor | ○*1 | X | X | ○*1 |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○*1 | X | ○ | X |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○*1 | X | X | ○*1 |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○*1 |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○ | X |
| Main Body ECU (Cowl Side Junction Block) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control | Steering Control ECU | - | - | - | - |

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|---|---|---|---|---|---|---|---|
| Network Gateway ECU | | Module | | | | | |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | Movement Control Bus | | | |
| | | | | Network Gateway ECU Communication Stop Mode | Clearance Warning ECU Communication Stop Mode | Parking Assist ECU Communication Stop Mode | Skid Control ECU Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X | ○*1 |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | X | X | X | ○*1 |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○*2 | X | X | ○*1 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | ○*1 |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X | ○*1 |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | ○*1 |
| | | | • Yaw Rate | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U0073 | Control Module Communication Bus OFF | Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | X | X | X | ○*1 |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○ | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○*4 |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | ○ | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | ○ | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | - | - | - | - |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○*3 | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○ |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | | Lost Communication with Lateral | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U0124 | Acceleration Sensor Module | Yaw Rate Sensor | X | X | X | X |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block LH) | ○ | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X | X |
| | U0101 | Lost Communication with TCM | ECT | ○*3 | X | X | X |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Control ECU | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○ |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○ | X | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | ○ | ○*1 | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | ○ | ○*1 | X | X |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | ○ | X | X | ○ |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | ○ | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○ |
| | U1101 | Lost Communication with Distance | Distance Control ECU | X | X | X | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Control ECU | | | | | |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | ○ | X | X | X |
| Display and Navigation Module Display | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | ○*1 | ○ | X | X |
| | U0155 | Lost Communication with Combination Meter | Combination Meter | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | ○*1 | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○*1 | X | X | ○ |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○ | X | X | ○ |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Main Body ECU (Cowl Side Junction Block) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | | Lost | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | U1115 | Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | ○ | X | X | X |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | ○ | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | ○ | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | ○ | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | ○ | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○ | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○ | X | X | ○ |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | ○ | X | ○ | X |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | ○ | ○ | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | ○ | X | X | X |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | Movement Control Bus | | | |
| | | | | 4WD Control ECU Communication Stop Mode | Steering Angle Sensor Communication Stop Mode | Yaw Rate Sensor Communication Stop Mode | Distance Control ECU Communication Stop Mode |
| | U0123 | Lost Communication with Yaw Rate | | X | X | ○ | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Master Cylinder Solenoid (Skid Control ECU) | | Sensor Module | Yaw Rate Sensor | | | | |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | X | X | ○ | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○ | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | X | X | X | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | ○*1, *4 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | ○*1, *4 |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | ○*4 | ○*1, *4 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○*4 | X | ○*1, *4 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | ○*1, *4 |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | ○ |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | ○ |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | B2624 | Vehicle Speed Malfunction | Combination Meter | - | - | - | - |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | X | X | ○ | X |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | X | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○*3 | X | X | X |
| | U0101 | Lost Communication with TCM | ECT | X | X | X | X |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | X | X | X |
| | | | • ECM<br>• Master Cylinder Solenoid (Skid | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | X | ○ | X | X |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | ○ |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | X | X |
| Display and Navigation Module Display | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X | X |
| | U0155 | Lost Communication with Combination Meter | Combination Meter | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | | Lost | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Communication with Gateway Module | MS Bus Network Malfunction | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | X | X | X | X |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | X | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X | ○ |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | ○ | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○ | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | ○ | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics | Master Cylinder Solenoid (Skid Control ECU) | X | X | X | X |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Control Module | | | | | |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | X | X | X | X |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | X | X | X | X |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | |
|---|---|---|---|---|---|---|
| | | | | Movement Control Bus | | |
| | | | | Steering Control ECU Communication Stop Mode | Suspension Control ECU Communication Stop Mode | Seat Belt Control ECU Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | X | X |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | X | X | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Module | | | | |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | - | - | - |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | - | - | - |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | ○*1 | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | ○*1 | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | ○*1 | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | ○*1 | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | X | ○*1 | X |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | X | ○*1 | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | ○*1 | X |
| | U0101 | Lost Communication with TCM | ECT | X | ○*1 | X |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | ○*1 | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | ○*1 | X | X |
| | U0100 | Lost Communication | ECM | ○*1 | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | with ECM/PCM "A" | | | | |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | X | X | X |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | X | X | X |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | ○ | X | X |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | X | X | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | ○*1 |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | ○*1 |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | X | X | ○*1 |
| Display and Navigation Module Display | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X |
| | U0155 | Lost Communication with Combination Meter | Combination Meter | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |
| | | Lost | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Combination Meter | U0129 | Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - |
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | - | - | - |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | - | - | - |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | X | X | ○ |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | X | ○ | X |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | ○ | X | X |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | X | X | X |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control | Master Cylinder Solenoid (Skid Control ECU) | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Module | | | | | |
| U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | X | X | X | |
| U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | X | X | X | |
| U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | X | X | X | |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | MS Bus | | | |
| | | | | Outer Mirror Control ECU Communication Stop Mode | Windshield Wiper ECU Communication Stop Mode | Multiplex Tilt and Telescopic ECU Communication Stop Mode | Position Control ECU and Switch Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ECM | U0126 | with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | X | X | ○*1 | ○ |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | X | X | ○*1 | X |
| Suspension Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block LH) | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | - | - | - | - |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | - | - | - | - |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | - | - | - | - |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | - | - | - | - |
| Seat Belt Control ECU | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | - | - | - | - |
| Display and | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Navigation Module Display | U0155 | with Combination Meter | Combination Meter | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Main Body ECU (Cowl Side Junction Block LH) | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | X | X | X | X |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | X | X | X | X |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | X | X | X | X |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | X | X | X | X |
| | U0208 | Lost Communication with "Seat Control Module A" | Position Control ECU and Switch | X | X | X | ○ |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | X | X | ○ | X |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | X | ○ | X | X |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | ○ | X | X | X |
| | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level | Suspension Control ECU | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Control Module | | | | | |
| Network Gateway ECU | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

| Output from | Output DTC | Detection Item | Target ECU | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|---|
| | | | | MS Bus | | | |
| | | | | Power Back Door ECU Communication Stop Mode | No. 2 Main Body ECU Communication Stop Mode | Certification ECU Communication Stop Mode | Main Body ECU Communication Stop Mode |
| Master Cylinder Solenoid (Skid Control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | | | | | | | |

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|---|---|---|---|---|---|---|---|
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0235 | Lost Communication with Cruise Control Front Distance Range Sensor | Distance Control ECU | - | - | - | - |
| | U1102 | Lost Communication with Radar Sensor | Distance Control ECU | - | - | - | - |
| Multiplex Tilt and Telescopic ECU | B2621 | Communication Interruption | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | X | X | X | ○ |
| | B2624 | Vehicle Speed Malfunction | Combination Meter | X | X | X | ○ |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Suspension Control ECU | U0130 | with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | Main Body ECU (Cowl Side Junction Block) | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0101 | Lost Communication with TCM | ECT | - | - | - | - |
| Air Conditioning Amplifier | B1499*6 | Multiplex Communication Circuit | • Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | - | - | - | - |
| Steering Control ECU | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Clearance Warning ECU | C1AEF | Shift Position Information | ECM | - | - | - | - |
| | U0155 | Lost Communication with Instrument Panel Cluster Control Module | Combination Meter | - | - | - | - |
| AFS ECU (Headlight Swivel ECU) | B2427 | CAN Communication Malfunction | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Angle Sensor<br>• Steering Control ECU<br>• Main Body ECU (Cowl Side Junction Block LH) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | | Lost Communication | Master Cylinder | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Seat Belt Control ECU | U0122 | with Vehicle Dynamics Control Module | Solenoid (Skid Control ECU) | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0151 | Lost Communication with Airbag ECU | Center Airbag Sensor | - | - | - | - |
| Display and Navigation Module Display | U0073 | Control Module Communication Bus OFF | • Yaw Rate Sensor<br>• Steering Control ECU<br>• Steering Angle Sensor | - | - | - | - |
| | U0164 | Lost Communication with A/C ECU | Air Conditioning Amplifier | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U0155 | Lost Communication with Combination Meter | Combination Meter | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| Combination Meter | U0129 | Lost Communication with Brake System Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | ECM | - | - | - | - |
| Main Body ECU (Cowl Side Junction Block | U1002 (CAN MS BUS) | Lost Communication with Gateway Module | MS Bus Network Malfunction | X | X | X | ○ |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | Certification ECU (Smart Key ECU) | X | X | ○ | ○ |
| | U0141 | Lost Communication with Body Control Module "A" | No. 2 Main Body ECU | X | ○ | X | ○ |
| | U0230 | Lost Communication with Rear Gate Module | Power Back Door Unit (Power Back Door ECU) | ○ | X | X | ○ |
| | | Lost Communication | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| LH) | U0208 | with "Seat Control Module A" | Position Control ECU and Switch | X | X | X | ○ |
| | U1115 | Lost Communication with Tilt and Telescopic Module | Multiplex Tilt and Telescopic ECU | X | X | X | ○ |
| | U1111 | Lost Communication with Front Controller Module | Windshield Wiper ECU | X | X | X | ○ |
| | U0199 | Lost Communication with "Door Control Module A" | Outer Mirror Control ECU | X | X | X | ○ |
| Network Gateway ECU | U1100 | Lost Communication with Seat Belt Control Module | Seat Belt Control ECU | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | Suspension Control ECU | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | Steering Control ECU | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | Distance Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | Yaw Rate Sensor | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | Steering Angle Sensor | - | - | - | - |
| | U0114/38 | Lost Communication with 4WD Control ECU | 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | Master Cylinder Solenoid (Skid Control ECU) | - | - | - | - |
| | U1126 | Lost Communication with Parking Assist ECU | Parking Assist ECU | - | - | - | - |
| | U1110 | Lost Communication with Clearance Sonar Module | Clearance Warning ECU | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | Movement Control Bus Network Malfunction | - | - | - | - |

**HINT:**

○: Stored.

x: When one side of branch wire is open, storage may occur.

*1: Only stored when communication recovery has occurred. During communication stop, cannot be stored.

*2: Stored when vehicle speed is 15 km/h (9 mph) or more.

*3: Stored when vehicle speed is 30 km/h (18 mph) or more.

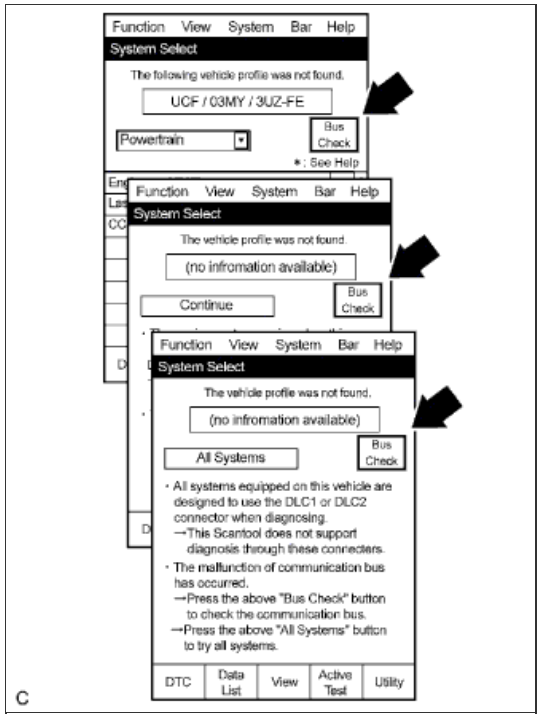
**for Preparation** Click here

## BUS CHECK (COMMUNICATION MALFUNCTION ECU)

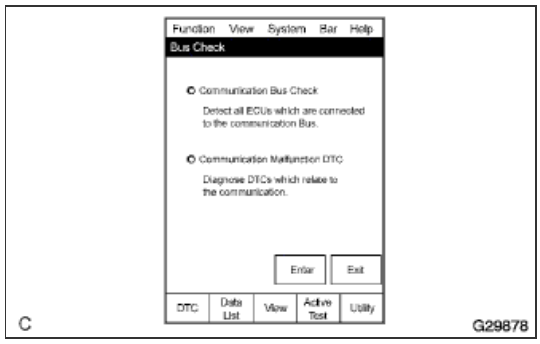
**HINT:**

Only CAN communication system DTCs for each ECU can be displayed on the intelligent tester.

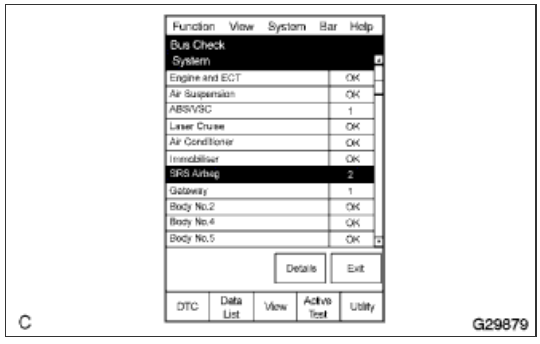
a. Select "Bus Check" from the "System Select" screen on the intelligent tester.



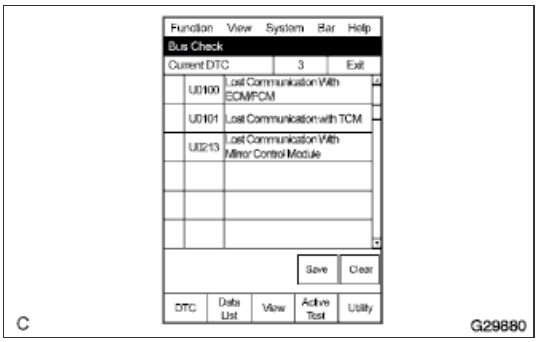

b. Select "Communication Malfunction DTC" from the "Bus Check" screen, and then select "Enter".




c. Select the system of the DTC to be checked and select "Details".




d. CAN communication system DTCs are displayed.

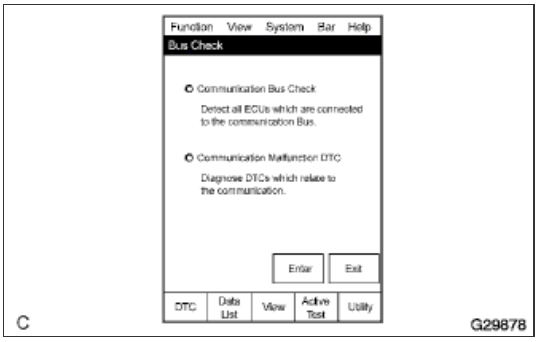



## BUS CHECK (COMMUNICATION BUS CHECK)

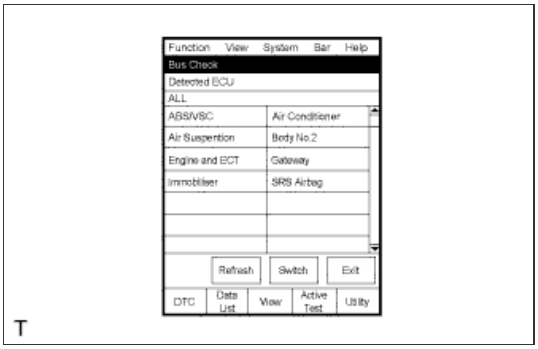
**HINT:**

The ECUs and sensors that are properly connected to the CAN communication system can be displayed using the intelligent tester.

a. Select "Communication Bus Check" from the "Bus Check" screen.

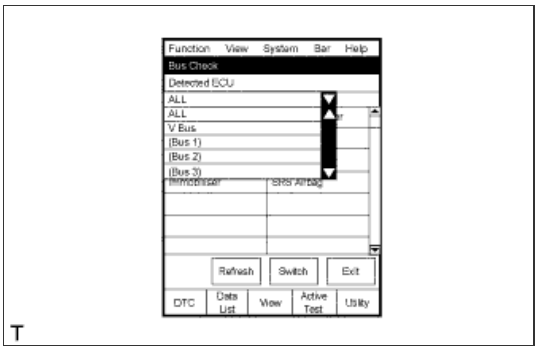



b. The screen displays the ECUs and sensors that are properly connected to the CAN communication system.




**HINT:**

- **If any properly connected ECUs or sensors are not displayed, there is a communication stop in the system (Click here).**




- **The default item displayed in the combo box is "ALL". When checking the ECUs (sensors) connected to each bus, pull down the combo box and select the bus to be checked from the drop down list. The drop down list displays "ALL", "V Bus", and the names of the remaining buses.**

| Combo Box | Display Content |
|---|---|
| ALL | All ECUs (sensors) connected to the CAN bus |
| V Bus | ECUs (sensors) connected to the V bus |
| Bus Name | ECUs (sensors) connected to the selected bus |

- **The connection status (shown below) is indicated by the background color displayed behind the system name.**

**ECU (Sensor) on V Bus**

| Background Color | Connection Status |
|---|---|
| White | Detected normally |
| Yellow | Could not be detected in the past, but is currently detected |
| Red | Detected in the past, but cannot be detected now |

| | |
|---|---|
| Not displayed | Has never been detected |

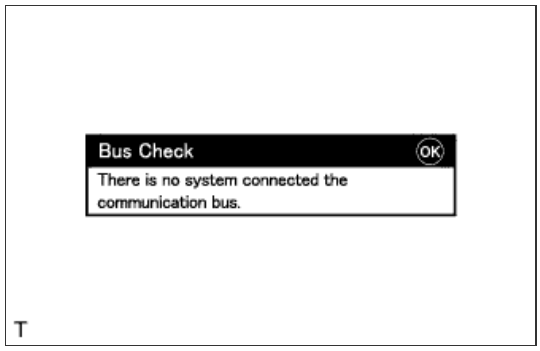
**ECU (Sensor) with no Data Monitor History**

| Background Color | Connection Status |
|---|---|
| White | Detected normally |
| Yellow | Could not be detected in the past, but is currently detected |
| Red | Detected in the past, but cannot be detected now |
| Not displayed | Has never been detected |

**ECU (Sensor) with no Data Monitor History**

| Background Color | Connection Status |
|---|---|
| White | Detected normally |
| Yellow | Could not be detected in the past, but is currently detected |
| Red | Detected in the past, but cannot be detected now |
| Red | Has never been detected bus has connection history |
| Not displayed | Has never been detected and has no connection history |

c. "There is no system connected to the communication bus" is displayed if there are no ECUs or sensors connected to the CAN bus.




## CHECK INSTALLED SYSTEMS (ECUS AND SENSORS) THAT USE CAN COMMUNICATION

a. System (ECUs and sensors) that use CAN communication vary depending on the optional settings of the vehicle. Check which systems (ECUs and sensors) are installed on the vehicle.

| ECU/Sensor Name | Tester Display | Installed to |
|---|---|---|
| ECM | ECM (Engine) | All vehicles |
| Air conditioning amplifier assembly | Air Conditioning Amplifier | All vehicles |
| Main body ECU (cowl side junction block LH) | Main Body | All vehicles |
| Combination meter assembly | Combination Meter | All vehicles |
| Master cylinder solenoid (skid control ECU) | Skid Control (ABS/VSC/TRAC) | All vehicles |
| Center airbag sensor assembly | Airbag | All vehicles |
| Multi-media module receiver assembly | Display and Navigation (AVN) | All vehicles |
| Steering angle sensor | Spiral cable (Steering Angle Sensor) | All vehicles |
| Yaw rate sensor assembly | Yaw Rate Sensor | All vehicles |
| Seat belt control ECU | Seat Belt Control (Pre-Crash) | Vehicles with pre-crash safety system |
| Outer mirror control ECU assembly | Front Door LH/L-Mirror (FL-Door2/L-Miror) | All vehicles |
| Multiplex tilt and telescopic ECU | Multiplex Tilt and Telescopic | All vehicles |
| Certification ECU (smart key ECU assembly) | Certification (Smart) | All vehicles |

| | | |
|---|---|---|
| Position control ECU and switch | D-Seat | All vehicles |
| Network gateway ECU | CAN Gateway | All vehicles |
| 4WD control ECU | Four Wheel Drive Control | All vehicles |
| No. 2 main body ECU | Rear Junction Block (Body No.4) | All vehicles |
| Parking assist ECU | Parking Assist Monitor System | All vehicles |
| Suspension control ECU | Suspension Control (Air Suspension) | All vehicles |
| Windshield wiper ECU | Front Controller (Body No.5) | All vehicles |
| Steering control ECU | Steering Control (VGRS) | All vehicles |
| Headlight swivel ECU assembly (AFS ECU) | Headlight swivel (AFS) | All vehicles |
| Distance control ECU assembly | Driving Support (Cruise Control-ACC) | Vehicles with dynamic radar cruise control system |
| Power back door unit assembly (power back door ECU) | Back Door | All vehicles |

## DTC TABLE BY ECU

**HINT:**

- **In the CAN communication system, CAN communication system DTCs stored by the ECU can be output by using the intelligent tester.**
- **If CAN communication system DTCs are output, the trouble cannot be determined solely from the DTCs. Perform troubleshooting according to "How to Proceed with Troubleshooting".**

a. ECM

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0235* | Lost Communication with Cruise Control Front Distance Range Sensor |
| U1101 | Lost Communication with Distance Control ECU |
| U1102* | Lost Communication with Radar Sensor |

**HINT:**

*: Refer to the Dynamic Radar Cruise Control System ( Click here).

b. MASTER CYLINDER SOLENOID (SKID CONTROL ECU)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0073 | Control Module Communication Bus OFF |
| U0100 | Lost Communication with ECM/PCM "A" |
| U0114 | Lost Communication with 4WD Control ECU |
| U0123 | Lost Communication with Yaw Rate Sensor Module |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with Steering Effort Control Module |

c. MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**HINT:**

DTC communication uses the CAN communication system.

| | |
|---|---|

| DTC Code | Detection Item |
|---|---|
| U0141 | Lost Communication with Body Control Module "A" |
| U0199 | Lost Communication with "Door Control Module A" |
| U0208 | Lost Communication with "Seat Control Module A" |
| U0230 | Lost Communication with Rear Gate Module |
| U0327 | Software Incompatibility with Vehicle Security Control Module |
| U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) |
| U1111 | Lost Communication with Body No.5 Module |
| U1115 | Lost Communication with Tilt and Telescopic Module |

d. COMBINATION METER ASSEMBLY

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0129 | Lost Communication with Brake System Control Module |
| U0130 | Lost Communication with VGRS |
| U0142 | Lost Communication with Body Control Module "B" |
| U0151 | Lost Communication with Restraints Control Module |

e. SEAT BELT CONTROL ECU
For vehicles with a pre-crash safety system.

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0122 | Lost Communication with Brake System Control Module |
| U0151 | Lost Communication With SRS Airbag ECU |
| U0235* | Lost Communication With Cruise Control Front Distance Range Sensor |
| U1101 | Lost Communication With Distance Control ECU |
| U1102* | Lost Communication With Front Radar Sensor |

**HINT:**

*: Refer to the Pre-crash Safety System ( Click here).

f. MULTIPLEX TILT AND TELESCOPIC ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B2621* | Communication Interruption |
| B2624* | Vehicles Speed |

**HINT:**

*: Refer to the Power Tilt and Power Telescopic Steering Column System ( Click here).

g. MULTI-MEDIA MODULE RECEIVER ASSEMBLY

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0073 | Sending Malfunction (Navigation to APGS) |
| U0100 | Engine ECU Communication |
| U0126 | Steering Sensor Communication |
| U0130 | VGRS ECU Communication |

| | |
|---|---|
| U0140 | Lost Communication with Body Control Module |
| U0155 | Meter ECU Communication |

h. AIR CONDITIONING AMPLIFIER ASSEMBLY

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication With ECM/PCM "A" |
| U0142 | Lost Communication With Body Control Module "B" |
| U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module |

i. NETWORK GATEWAY ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0104 | Lost Communication with Cruise Control Module |
| U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module |
| U0125 | Lost Communication with Yaw Rate Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0129 | Lost Communication with Brake System Control Module |
| U0130 | Lost Communication with Steering Effort Control Module |
| U0132 | Lost Communication with Ride Level Control Module |
| U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module |
| U1100 | Lost Communication with Pre-Crash Module |
| U110B | Lost Communication with Parking Assist Control Module "B" |

j. PARKING ASSIST ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0114 | Lost Communication with 4WD Control ECU |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0129 | Lost Communication with Brake System Control Module |
| U0130 | Lost Communication with Steering Effort Control Module |
| U0140 | Lost Communication with Body Control Module |

k. SUSPENSION CONTROL ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0101 | Lost Communication with TCM |
| U0114 | Lost Communication with 4WD Control ECU |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |
| U0130 | Lost Communication with VGRS |
| U0140 | Lost Communication with Main Body ECU |

l. HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU)

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| B2427 | CAN Lost Communication |

m. STEERING CONTROL ECU

**HINT:**

DTC communication uses the CAN communication system.

| DTC Code | Detection Item |
|---|---|
| U0100 | Lost Communication with ECM/PCM "A" |
| U0122 | Lost Communication with Vehicle Dynamics Control Module |
| U0126 | Lost Communication with Steering Angle Sensor Module |

n. YAW RATE SENSOR ASSEMBLY

**HINT:**

The yaw rate sensor assembly is connected to the CAN communication system but CAN communication DTCs are not stored.

o. STEERING ANGLE SENSOR

**HINT:**

The steering angle sensor is connected to the CAN communication system but CAN communication DTCs are not stored.

p. CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

**HINT:**

The certification ECU (smart key ECU assembly) is connected to the CAN communication system but CAN communication DTCs are not stored.

q. OUTER MIRROR CONTROL ECU ASSEMBLY

**HINT:**

The outer mirror control ECU assembly is connected to the CAN communication system but CAN communication DTCs are not stored.

r. POSITION CONTROL ECU AND SWITCH

**HINT:**

The position control ECU and switch is connected to the CAN communication system but CAN communication DTCs are not stored.

s. WINDSHIELD WIPER ECU

**HINT:**

The windshield wiper ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

t. POWER BACK DOOR UNIT ASSEMBLY (POWER BACK DOOR ECU)

**HINT:**

The power back door unit assembly (power back door ECU) is connected to the CAN communication system but CAN communication DTCs are not stored.

u. NO. 2 MAIN BODY ECU

**HINT:**

The No. 2 main body ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

v. 4WD CONTROL ECU

**HINT:**

The 4WD control ECU is connected to the CAN communication system but CAN communication DTCs are not stored.

w. CENTER AIRBAG SENSOR ASSEMBLY

**HINT:**

The center airbag sensor assembly is connected to the CAN communication system but CAN communication DTCs are not stored.

## DTC COMBINATION TABLE

**HINT:**

- **○: Stored.**
- **X: When one side of CAN branch wire is open, storage may occur.**
- **-: Not stored.**
- ***1: Only stored when communication recovery has occurred. During communication stop, cannot be stored.**
- ***2: Stored when vehicle speed is 15 km/h (9 mph) or more.**
- ***3: Stored when vehicle speed is 30 km/h (18 mph) or more.**

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|
| | | | V Bus | | | |
| | | | Main Body ECU Communication Stop Mode | Combination Meter ECU Communication Stop Mode | Center Airbag Sensor Communication Stop Mode | Air Conditioning Amplifier Communication Stop Mode |
| Master cylinder solenoid (skid control ECU) | U0073 | Control Module Communication Bus OFF | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | X | X | X | X |
| | U0100 | Lost Communication With ECM/PCM "A" | X | X | X | ○*1 |
| | | Lost | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Air conditioning amplifier assembly | U0142 | Communication With Body Control Module "B" | ○ | X | X | ○*1 |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | X | ○ | X | ○*1 |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | - | - | - | - |
| | B2624 | Vehicles Speed | ○ | ○ | X | X |
| Suspension control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | U0101 | Lost Communication with TCM | X | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with VGRS | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | ○ | X | X | X |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| Parking assist ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | | Lost | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0130 | Communication with Steering Effort Control Module | - | - | - | - |
| | U0140 | Lost Communication with Body Control Module | ○ | X | X | X |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | ○ | ○ | X | X |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0151 | Lost Communication With SRS Airbag ECU | - | - | ○ | - |
| | U1101 | Lost Communication With Distance Control ECU | - | - | - | - |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | X | X | X | X |
| | U0100 | Engine ECU Communication | X | X | X | X |
| | U0126 | Steering Sensor Communication | X | X | X | X |
| | U0130 | VGRS ECU Communication | X | X | X | X |
| | U0140 | Lost Communication with Body Control Module | ○ | X | X | X |
| | U0155 | Meter ECU Communication | X | ○ | X | X |
| Combination meter assembly | U0100 | Lost Communication with ECM/PCM "A" | X | ○*1 | X | X |
| | U0129 | Lost Communication with Brake System Control Module | X | ○*1 | X | X |
| | U0130 | Lost Communication with VGRS | X | ○*1 | X | X |
| | U0142 | Lost Communication with Body Control Module "B" | ○ | ○*1 | X | X |
| | U0151 | Lost Communication with Restraints Control Module | X | ○*1 | ○ | X |
| | U0141 | Lost Communication with Body Control Module "A" | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | - | - | - | - |
| | | Lost | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Main body ECU (cowl side junction block LH) | U0230 | Communication with Rear Gate Module | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | - | - | - | - |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | - | - | - | - |
| | U1111 | Lost Communication with Body No.5 Module | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | - | - | - | - |
| Network gateway ECU | U0104 | Lost Communication with Cruise Control Module | - | - | - | - |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | - | - | - | - |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | - | - | - | - |
| | U1100 | Lost Communication with Pre-Crash Module | - | - | - | - |
| | U110B | Lost Communication with Parking Assist Control Module "B" | - | - | - | - |

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|
| | | | V Bus | | | |
| | | | Multi-media Module Receiver Assembly Communication Stop Mode | AFS ECU Communication Stop Mode | ECM Communication Stop Mode | Gateway ECU Communication Stop Mode |
| | U0073 | Control Module Communication Bus | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | OFF | | | | |
| | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○*2 | ○*1 |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| Master cylinder solenoid (skid control ECU) | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○*3 | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | X | X | ○*3 | ○*1 |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | X | X | ○ | X |
| | U0142 | Lost Communication With Body Control Module "B" | X | X | X | X |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | X | X | X | X |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | - | - | - | - |
| | B2624 | Vehicles Speed | X | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○*3 | ○*1 |
| | U0101 | Lost Communication with TCM | X | X | ○*3 | ○*1 |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| Suspension control ECU | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with VGRS | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | X | X | X | ○*1 |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○ | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| Parking assist ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○ | ○*1 |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0140 | Lost Communication with Body Control Module | X | X | ○ | ○*1 |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | X | ○*1 | ○ | ○*1 |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0151 | Lost Communication With SRS Airbag ECU | - | - | - | ○*1 |
| | U1101 | Lost Communication With Distance | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Control ECU | | | | |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | ○*1 | X | X | X |
| | U0100 | Engine ECU Communication | ○*1 | X | ○ | X |
| | U0126 | Steering Sensor Communication | ○*1 | X | X | ○*1 |
| | U0130 | VGRS ECU Communication | ○*1 | X | X | ○*1 |
| | U0140 | Lost Communication with Body Control Module | ○*1 | X | X | X |
| | U0155 | Meter ECU Communication | ○*1 | X | X | X |
| Combination meter assembly | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○ | X |
| | U0129 | Lost Communication with Brake System Control Module | X | X | X | ○*1 |
| | U0130 | Lost Communication with VGRS | X | X | X | ○*1 |
| | U0142 | Lost Communication with Body Control Module "B" | X | X | X | X |
| | U0151 | Lost Communication with Restraints Control Module | X | X | X | X |
| Main body ECU (cowl side junction block LH) | U0141 | Lost Communication with Body Control Module "A" | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | - | - | - | - |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | - | - | - | - |
| | U1111 | Lost Communication with Body No.5 Module | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | - | - | - | - |
| | | Lost | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Network gateway ECU | U0104 | Communication with Cruise Control Module | - | - | - | - |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | - | - | - | - |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | - | - | - | - |
| | U1100 | Lost Communication with Pre-Crash Module | - | - | - | - |
| | U110B | Lost Communication with Parking Assist Control Module "B" | - | - | - | - |

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|
| | | | Movement Control Bus | | | |
| | | | Gateway ECU Communication Stop Mode | Parking Assist ECU Communication Stop Mode | 4WD Control ECU Communication Stop Mode | Skid Control ECU Communication Stop Mode |
| Master cylinder solenoid (skid control ECU) | U0073 | Control Module Communication Bus OFF | X | X | X | ○*1 |
| | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | X | X | ○*1 |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | ○ | ○*1 |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | X | X | X | ○*1 |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | X | X | X | ○*1 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X | ○*1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0130 | Lost Communication with Steering Effort Control Module | X | X | X | ○*1 |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | X | X | ○ |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | ○*1 | X | X | X |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | - | - | - | - |
| | U0142 | Lost Communication With Body Control Module "B" | - | - | - | - |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | - | - | - | - |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | - | - | - | - |
| | B2624 | Vehicles Speed | - | - | - | - |
| Suspension control ECU | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | X | X | X |
| | U0101 | Lost Communication with TCM | ○*1 | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | ○*3 | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | X | X | ○ |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | X | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X | X |
| | U0130 | Lost Communication with VGRS | X | X | X | X |
| | U0140 | Lost Communication with Main Body ECU | ○*1 | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | X | X | ○ |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X | X |
| Parking assist ECU | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | ○*1 | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | ○*1 | ○ | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | ○*1 | X | X |
| | U0129 | Lost Communication with Brake System Control Module | X | ○*1 | X | ○ |
| | U0130 | Lost Communication with Steering Effort Control Module | X | ○*1 | X | X |
| | U0140 | Lost Communication with Body Control Module | ○*1 | ○*1 | X | X |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | ○*1 | X | X | ○ |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | X | X | X | ○ |
| | U0151 | Lost Communication With SRS Airbag ECU | ○*1 | X | X | X |
| | U1101 | Lost Communication With Distance Control ECU | X | X | X | X |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | - | - | - | - |
| | U0100 | Engine ECU Communication | - | - | - | - |
| | U0126 | Steering Sensor Communication | ○*1 | X | X | X |
| | U0130 | VGRS ECU Communication | ○*1 | X | X | X |
| | U0140 | Lost Communication with Body Control Module | - | - | - | - |
| | U0155 | Meter ECU Communication | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| Combination meter assembly | U0129 | Lost Communication with Brake System Control Module | ○*1 | X | X | ○ |
| | U0130 | Lost Communication with VGRS | ○*1 | X | X | X |
| | U0142 | Lost Communication with Body Control Module "B" | - | - | - | - |
| | U0151 | Lost Communication with Restraints Control Module | - | - | - | - |
| Main body ECU (cowl side junction block LH) | U0141 | Lost Communication with Body Control Module "A" | - | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | - | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | - | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | - | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | - | - | - | - |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | - | - | - | - |
| | U1111 | Lost Communication with Body No.5 Module | - | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | - | - | - | - |
| Network gateway ECU | U0104 | Lost Communication with Cruise Control Module | ○*1 | X | X | X |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | ○*1 | X | ○ | X |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | ○*1 | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | ○*1 | X | X | X |
| | U0129 | Lost Communication with Brake System Control Module | ○*1 | X | X | ○ |
| | U0130 | Lost Communication | ○*1 | X | X | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | with Steering Effort Control Module | | | | |
| | U0132 | Lost Communication with Ride Level Control Module | ○*1 | X | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | ○*1 | X | X | X |
| | U1100 | Lost Communication with Pre-Crash Module | ○*1 | X | X | X |
| | U110B | Lost Communication with Parking Assist Control Module "B" | ○*1 | ○ | X | X |

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | |
|---|---|---|---|---|---|
| | | | Movement Control Bus | | |
| | | | Steering Angle Sensor Communication Stop Mode | Yaw Rate Sensor Communication Stop Mode | Distance Control ECU Communication Stop Mode |
| Master cylinder solenoid (skid control ECU) | U0073 | Control Module Communication Bus OFF | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | X | ○ | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | X | ○ | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | ○ | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | X | X | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | X | X | ○*1 |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | X | ○*1 |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | X | ○ | ○*1 |
| | U0126 | Lost Communication with Steering Angle Sensor Module | ○ | X | ○*1 |
| | U1101 | Lost Communication with Distance Control ECU | X | X | ○*1 |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | - | - | - |
| | U0142 | Lost Communication With Body Control Module "B" | - | - | - |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | - | - | - |
| Multiplex tilt and | B2621 | Communication Interruption | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| telescopic ECU | B2624 | Vehicles Speed | - | - | - |
| Suspension control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X |
| | U0101 | Lost Communication with TCM | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | X | ○ | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | ○ | X | X |
| | U0130 | Lost Communication with VGRS | X | X | X |
| | U0140 | Lost Communication with Main Body ECU | X | X | X |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | ○ | X | X |
| Parking assist ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | ○ | X | X |
| | U0129 | Lost Communication with Brake System Control Module | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | X | X | X |
| | U0140 | Lost Communication with Body Control Module | X | X | X |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | ○ | X | X |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | X | X | X |
| | U0151 | Lost Communication With SRS Airbag ECU | X | X | X |
| | U1101 | Lost Communication With Distance Control ECU | X | X | ○ |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | - | - | - |
| | U0100 | Engine ECU Communication | - | - | - |
| | U0126 | Steering Sensor Communication | ○ | X | X |
| | U0130 | VGRS ECU Communication | X | X | X |
| | U0140 | Lost Communication with Body Control Module | - | - | - |
| | U0155 | Meter ECU | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| | | Communication | | | |
| Combination meter assembly | U0100 | Lost Communication with ECM/PCM "A" | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | X | X | X |
| | U0130 | Lost Communication with VGRS | X | X | X |
| | U0142 | Lost Communication with Body Control Module "B" | - | - | - |
| | U0151 | Lost Communication with Restraints Control Module | - | - | - |
| Main body ECU (cowl side junction block LH) | U0141 | Lost Communication with Body Control Module "A" | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | - | - | - |
| | U0208 | Lost Communication with "Seat Control Module A" | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | - | - | - |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | - | - | - |
| | U1111 | Lost Communication with Body No.5 Module | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | - | - | - |
| Network gateway ECU | U0104 | Lost Communication with Cruise Control Module | X | X | ○ |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | X | X | X |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | X | ○ | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | ○ | X | X |
| | U0129 | Lost Communication with Brake System Control Module | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | X | X | X |
| | U0132 | Lost Communication with Ride Level Control Module | X | X | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | X | X | X |
| | U1100 | Lost Communication with Pre-Crash Module | X | X | X |
| | U110B | Lost Communication with Parking Assist Control Module "B" | X | X | X |

| | | | Detected Communication Stop Mode | | |
|---|---|---|---|---|---|
| | | | Movement Control Bus | | |

| Output from | Output DTC | Detection Item | Steering Control ECU Communication Stop Mode | Suspension Control ECU Communication Stop Mode | Seat Belt Control ECU Communication Stop Mode |
|---|---|---|---|---|---|
| Master cylinder solenoid (skid control ECU) | U0073 | Control Module Communication Bus OFF | X | X | X |
| | U0100 | Lost Communication with ECM/PCM "A" | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | X | X | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | ○ | X | X |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | X | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | X | X |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X |
| | U1101 | Lost Communication with Distance Control ECU | X | X | X |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | - | - | - |
| | U0142 | Lost Communication With Body Control Module "B" | - | - | - |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | - | - | - |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | - | - | - |
| | B2624 | Vehicles Speed | - | - | - |
| Suspension control ECU | U0100 | Lost Communication with ECM/PCM "A" | X | ○*1 | X |
| | U0101 | Lost Communication with TCM | X | ○*1 | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | ○*1 | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | X | ○*1 | X |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | X | ○*1 | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | ○*1 | X |
| | U0130 | Lost Communication with VGRS | ○ | ○*1 | X |
| | | Lost Communication | | | |

| | | | | | |
|---|---|---|---|---|---|
| | U0140 | with Main Body ECU | X | ○*1 | X |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | ○*1 | X | X |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | ○*1 | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | ○*1 | X | X |
| Parking assist ECU | U0100 | Lost Communication with ECM/PCM "A" | X | X | X |
| | U0114 | Lost Communication with 4WD Control ECU | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X |
| | U0129 | Lost Communication with Brake System Control Module | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | X | ○ | X |
| | U0140 | Lost Communication with Body Control Module | X | X | X |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | ○ | ○ | X |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | X | X | ○*1 |
| | U0151 | Lost Communication With SRS Airbag ECU | X | X | ○*1 |
| | U1101 | Lost Communication With Distance Control ECU | X | X | ○*1 |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | - | - | - |
| | U0100 | Engine ECU Communication | - | - | - |
| | U0126 | Steering Sensor Communication | X | X | X |
| | U0130 | VGRS ECU Communication | ○ | X | X |
| | U0140 | Lost Communication with Body Control Module | - | - | - |
| | U0155 | Meter ECU Communication | - | - | - |
| Combination meter assembly | U0100 | Lost Communication with ECM/PCM "A" | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | X | X | X |
| | U0130 | Lost Communication with VGRS | X | X | X |
| | U0142 | Lost Communication with Body Control Module "B" | - | - | - |
| | U0151 | Lost Communication with Restraints Control Module | - | - | - |
| | U0141 | Lost Communication with Body Control Module "A" | - | - | - |
| | U0199 | Lost Communication with "Door Control Module A" | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| Main body ECU (cowl side junction block LH) | U0208 | Lost Communication with "Seat Control Module A" | - | - | - |
| | U0230 | Lost Communication with Rear Gate Module | - | - | - |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | - | - | - |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | - | - | - |
| | U1111 | Lost Communication with Body No.5 Module | - | - | - |
| | U1115 | Lost Communication with Tilt and Telescopic Module | - | - | - |
| Network gateway ECU | U0104 | Lost Communication with Cruise Control Module | X | X | X |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | X | X | X |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | X | X | X |
| | U0126 | Lost Communication with Steering Angle Sensor Module | X | X | X |
| | U0129 | Lost Communication with Brake System Control Module | X | X | X |
| | U0130 | Lost Communication with Steering Effort Control Module | ○ | X | X |
| | U0132 | Lost Communication with Ride Level Control Module | X | ○ | X |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | X | X | X |
| | U1100 | Lost Communication with Pre-Crash Module | X | X | ○ |
| | U110B | Lost Communication with Parking Assist Control Module "B" | X | X | X |

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|
| | | | MS Bus | | | |
| | | | Outer Mirror Control ECU Communication Stop Mode | Windshield Wiper ECU Communication Stop Mode | Multiplex Tilt and Telescopic ECU Communication Stop Mode | Position Control ECU and Switch Communication Stop Mode |
| Master cylinder solenoid (skid control ECU) | U0073 | Control Module Communication Bus OFF | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | | Lost Communication | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0124 | with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | - | - | - | - |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | - | - | - | - |
| | U0142 | Lost Communication With Body Control Module "B" | - | - | - | - |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | - | - | - | - |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | X | X | ○*1 | ○ |
| | B2624 | Vehicles Speed | X | X | ○*1 | X |
| Suspension control ECU | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0101 | Lost Communication with TCM | - | - | - | - |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U0130 | Lost Communication with VGRS | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | - | - | - | - |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| Parking assist ECU | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0140 | Lost Communication with Body Control Module | - | - | - | - |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | - | - | - | - |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0151 | Lost Communication With SRS Airbag ECU | - | - | - | - |
| | U1101 | Lost Communication With Distance Control ECU | - | - | - | - |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | - | - | - | - |
| | U0100 | Engine ECU Communication | - | - | - | - |
| | U0126 | Steering Sensor Communication | - | - | - | - |
| | U0130 | VGRS ECU Communication | - | - | - | - |
| | U0140 | Lost Communication | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | with Body Control Module | | | | |
| | U0155 | Meter ECU Communication | - | - | - | - |
| Combination meter assembly | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with VGRS | - | - | - | - |
| | U0142 | Lost Communication with Body Control Module "B" | - | - | - | - |
| | U0151 | Lost Communication with Restraints Control Module | - | - | - | - |
| Main body ECU (cowl side junction block LH) | U0141 | Lost Communication with Body Control Module "A" | X | X | X | X |
| | U0199 | Lost Communication with "Door Control Module A" | ○ | X | X | X |
| | U0208 | Lost Communication with "Seat Control Module A" | X | X | X | ○ |
| | U0230 | Lost Communication with Rear Gate Module | X | X | X | X |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | X | X | X | X |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | X | X | X | X |
| | U1111 | Lost Communication with Body No.5 Module | X | ○ | X | X |
| | U1115 | Lost Communication with Tilt and Telescopic Module | X | X | ○ | X |
| | U0104 | Lost Communication with Cruise Control Module | - | - | - | - |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | - | - | - | - |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Sensor Module | | | | |
| Network gateway ECU | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | - | - | - | - |
| | U1100 | Lost Communication with Pre-Crash Module | - | - | - | - |
| | U110B | Lost Communication with Parking Assist Control Module "B" | - | - | - | - |

| Output from | Output DTC | Detection Item | Detected Communication Stop Mode | | | |
|---|---|---|---|---|---|---|
| | | | MS Bus | | | |
| | | | Power Back Door ECU Communication Stop Mode | No. 2 Main Body ECU Communication Stop Mode | Certification ECU Communication Stop Mode | Main Body ECU Communication Stop Mode |
| Master cylinder solenoid (skid control ECU) | U0073 | Control Module Communication Bus OFF | - | - | - | - |
| | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0123 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| ECM | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0123 | Lost Communication | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | with Yaw Rate Sensor Module | | | | |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U1101 | Lost Communication with Distance Control ECU | - | - | - | - |
| Air conditioning amplifier assembly | U0100 | Lost Communication With ECM/PCM "A" | - | - | - | - |
| | U0142 | Lost Communication With Body Control Module "B" | - | - | - | - |
| | U0155 | Lost Communication With Instrument Panel Cluster (IPC) Control Module | - | - | - | - |
| Multiplex tilt and telescopic ECU | B2621 | Communication Interruption | X | X | X | ○ |
| | B2624 | Vehicles Speed | X | X | X | ○ |
| Suspension control ECU | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0101 | Lost Communication with TCM | - | - | - | - |
| | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0124 | Lost Communication with Lateral Acceleration Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0130 | Lost Communication with VGRS | - | - | - | - |
| | U0140 | Lost Communication with Main Body ECU | - | - | - | - |
| Steering control ECU | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0122 | Lost Communication with Vehicle Dynamics Control Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0100 | Lost Communication | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | with ECM/PCM "A" | | | | |
| Parking assist ECU | U0114 | Lost Communication with 4WD Control ECU | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0140 | Lost Communication with Body Control Module | - | - | - | - |
| Headlight swivel ECU assembly (AFS ECU) | B2427 | CAN Lost Communication | - | - | - | - |
| Seat belt control ECU | U0122 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0151 | Lost Communication With SRS Airbag ECU | - | - | - | - |
| | U1101 | Lost Communication With Distance Control ECU | - | - | - | - |
| Multi-media module receiver assembly | U0073 | Sending Malfunction (Navigation to APGS) | - | - | - | - |
| | U0100 | Engine ECU Communication | - | - | - | - |
| | U0126 | Steering Sensor Communication | - | - | - | - |
| | U0130 | VGRS ECU Communication | - | - | - | - |
| | U0140 | Lost Communication with Body Control Module | - | - | - | - |
| | U0155 | Meter ECU Communication | - | - | - | - |
| Combination meter assembly | U0100 | Lost Communication with ECM/PCM "A" | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with VGRS | - | - | - | - |
| | U0142 | Lost Communication with Body Control Module "B" | - | - | - | - |
| | U0151 | Lost Communication with Restraints Control Module | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| Main body ECU (cowl side junction block LH) | U0141 | Lost Communication with Body Control Module "A" | X | ○ | X | ○*1 |
| | U0199 | Lost Communication with "Door Control Module A" | X | X | X | ○*1 |
| | U0208 | Lost Communication with "Seat Control Module A" | X | X | X | ○*1 |
| | U0230 | Lost Communication with Rear Gate Module | ○ | X | X | ○*1 |
| | U0327 | Software Incompatibility with Vehicle Security Control Module | X | X | ○ | ○*1 |
| | U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main Body) | X | X | X | ○*1 |
| | U1111 | Lost Communication with Body No.5 Module | X | X | X | ○*1 |
| | U1115 | Lost Communication with Tilt and Telescopic Module | X | X | X | ○*1 |
| Network gateway ECU | U0104 | Lost Communication with Cruise Control Module | - | - | - | - |
| | U0114 | Lost Communication with Four-Wheel Drive Clutch Control Module | - | - | - | - |
| | U0125 | Lost Communication with Yaw Rate Sensor Module | - | - | - | - |
| | U0126 | Lost Communication with Steering Angle Sensor Module | - | - | - | - |
| | U0129 | Lost Communication with Brake System Control Module | - | - | - | - |
| | U0130 | Lost Communication with Steering Effort Control Module | - | - | - | - |
| | U0132 | Lost Communication with Ride Level Control Module | - | - | - | - |
| | U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module | - | - | - | - |
| | U1100 | Lost Communication with Pre-Crash Module | - | - | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | U110B | Lost Communication with Parking Assist Control Module "B" | - | - | - | - |

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## FAIL-SAFE FUNCTION

a. When communication fails in any of the main wires (communication lines) due to a short circuit or other causes, the fail-safe function, which is specified for each system, operates to prevent the system from malfunctioning.

b. The table below shows the effects on each system when communication is impossible. For further details, refer to each system.

| System | Function | Control Description | 1. Control Master<br>2. System Related<br>3. Control Actuator | Related ECU | Fail-safe Function System Behavior | Indicator and Buzzer Behavior or User Notification |
|---|---|---|---|---|---|---|
| Airbag (ABG) | TC DTC/output service | When TC is on, DTCs (warning light turn on/turn off request signals) are output. | 1. Center Airbag Sensor<br>2. -<br>3. Combination Meter | • Center Airbag Sensor<br>• Combination Meter | - | - |
| | Event recorder (EDR) | Records the vehicle information during a collision (the vehicle speed, accelerator pedal opening angle, shift position, etc.). | 1. Center Airbag Sensor<br>2. Combination Meter, ECM<br>3. - | • Center Airbag Sensor<br>• Combination Meter<br>• ECM | - | - |
| | SRS warning light control | Turns the SRS warning light on/off. | 1. Combination Meter<br>2. Center Airbag Sensor<br>3. - | • Center Airbag Sensor<br>• Combination Meter | The SRS warning light turns on. | - |
| | Information output function (Refer to related system for control description details) | The collision detection signal stops the fuel pump during a collision. | 1. ECM<br>2. Center Airbag Sensor<br>3. - | • ECM<br>• Center Airbag Sensor | - | - |
| | | The driver/passenger seat buckle switch stops PSB control when the seat belt is not fastened. | 1. Seat Belt Control ECU, Combination Meter<br>2. Center Airbag Sensor<br>3. - | • Seat Belt Control ECU<br>• Combination Meter | - | - |
| | | The passenger seat occupant detection signal turns on the seat belt warning light when the seat belt is not fastened. | 1. Combination Meter<br>2. Center Airbag Sensor<br>3. - | Combination Meter | - | - |
| | Warning light control | BRL, ABS, VSC-OFF, SLIP and CRAWL light control (turn on/off, blink, DTC output). | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. -<br>3. Combination Meter | Combination Meter | - | - |
| | ABS control | ABS control according to the G sensor signal. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. Yaw Rate Sensor<br>3. Master Cylinder Solenoid (Skid Control ECU) | Yaw Rate Sensor | The ABS does not operate. | ABS warning light turns on. |
| | | | 1. Master Cylinder Solenoid (Skid | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Brake (VSC) | TRC control | Brake control and engine torque control during acceleration slip. | (Skid Control ECU)<br>2. ECM, 4WD Control ECU<br>3. Master Cylinder Solenoid (Skid Control ECU) | • ECM<br>• 4WD Control ECU | TRC does not operate. | VSC warning light turns on. |
| | VSC control | VSC control according to the yaw rate and steering angle sensor signal. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. ECM, 4WD Control ECU, Steering Angle Sensor, Yaw Rate Sensor, Steering Control ECU<br>3. Master Cylinder Solenoid (Skid Control ECU) | • ECM<br>• Steering Angle Sensor<br>• Yaw Rate Sensor<br>• Steering Control ECU<br>• 4WD Control ECU | VSC does not operate. | ABS and VSC warning lights turn on. |
| Brake (ABS) | ACC control | The brake control according to the request from the distance control ECU via the ECM. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. ECM<br>3. Master Cylinder Solenoid (Skid Control ECU) | ECM | ACC does not operate. | VSC warning light turns on. |
| Dynamic Radar Cruise Control (ACC) | ACC | Acceleration/deceleration control when following the vehicle in front. | 1. -<br>2. ECM<br>3. ECM | ECM | ACC control is canceled. | • "Check Cruise Control System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | Yaw Rate Sensor | | |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. Master Cylinder Solenoid (Skid Control ECU) | Master Cylinder Solenoid (Skid Control ECU) | - | - |
| | | | 1. Distance Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | - | - |
| | | | 1. -<br>2. Combination | Combination Meter | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 3. Meter<br>3. - | [illegible] | | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | - | - |
| Dynamic Radar Cruise Control (ACC) | PSC | Seat belt and brake control immediately before a collision. | 1. -<br>2. ECM<br>3. - | ECM | Radar linked PCS control stops. | • "Check Cruise Control System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | Yaw Rate Sensor | | |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | PCS control stops. | |
| | | | 1. Distance Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | - | - |
| | | | 1. -<br>2. -<br>3. Seat Belt Control ECU | Seat Belt Control ECU | - | - |
| Tilt and Telescopic (TAT) | Microcomputer preset steering | Automatically begins the steering auto away/auto return when the engine switch is turned on (IG) or off. | 1. Multiplex Tilt and Telescopic ECU<br>2. Position Control ECU and Switch, Main Body ECU (Cowl Side Junction Block LH) (V Bus), Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Combination Meter<br>3. Multiplex Tilt and Telescopic ECU | Main Body ECU (Cowl Side Junction Block LH) | The power tilt and power telescopic steering column system does not operate. | - |
| | | | | Position Control ECU and Switch | Memory restore control does not operate. | - |
| | | | | Combination Meter | Auto return/auto away control does not operate. | - |
| | Switching control between High and Low | Switching between High and Low is prohibited during the following conditions: 1) When there is a vehicle speed violation, engine speed violation, or large difference in wheel speeds, 2) when the shift lever is not in N, or 3) when the clutch is not on. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU) | Switching between High and Low is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if switching between High and Low can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or 4LO indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | | | [illegible] | [illegible] | [illegible] | [illegible] |

| | | | | | | |
|---|---|---|---|---|---|---|
| Mechanical 4WD (FWM) | Neutral switching control | Switching to neutral is prohibited during the following conditions: 1) When there is a vehicle speed violation or engine speed violation, or 2) when the shift lever is not in N or the clutch is not on. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU) | Switching to neutral is prohibited. | 4LO indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | Center differential lock switching control (between Free and Lock) | Center differential lock switching is prohibited when there is a vehicle speed violation or large difference in wheel speeds. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Center differential lock switching is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if center differential lock switching can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| Mechanical 4WD (FWM) | Rear differential lock switching control (between Rr Free and Rr Lock) | Rear differential lock switching is prohibited when there is a vehicle speed violation. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Rear differential lock switching is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if rear differential lock switching can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | L4F switching control | Switching to L4F is prohibited and the operation is performed with L4L when VSC is malfunctioning. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | L4F switching is prohibited and the operation is performed with L4L. | No user notification. |
| | Specialized control when temperature is low | Changes the ACT conductive current value according to the temperature (low temperature use or normal temperature use). | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Air Conditioning Amplifier, ECM<br>3. - | • Air Conditioning Amplifier<br>• ECM | Changes the temperature used for the calculation of ACT temperature adjustment control. | No user notification. |
| Mechanical 4WD (FWM) | Specialized control during wheel speed failure | When there is a wheel speed failure, switching is permitted only when specified conditions are met (the wheel speed malfunction is 1 wheel or more and 3 wheels or less, the brake is applied, the engine speed is low, and all normal wheel speeds are low). | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU) | If the wheel speed malfunction is 1 wheel or more and 3 wheels or less, only when the wheel speed failure specified conditions are met, switching is permitted. When 4 wheels are malfunctioning, switching is prohibited | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | (the wheel speed failure specialized control does not operate). | |
| Mechanical 4WD (FWM) | Indicator and buzzer signal output | Signal output of the indicator and buzzer condition that indicates the actuator position and switching status. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | High-Low actuator failure signal output | When the High-Low actuator limit switch is malfunctioning, a signal is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | C/C cancel signal output | Outputs a cruise control cancel signal when center differential switching is not completed even though 5 sec. or more have elapsed from the start of switching. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | L4 status signal condition output | A signal is output when switching between the L4F and L4L position is completed. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | C/D lock condition signal output | CDL switch condition is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | R/D lock condition signal output | R switch condition is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| | T/F N condition signal output | NP switch condition is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - | - |
| Gasoline Engine | Engine control system | Adjusts the fuel injection volume according to each sensor value and controls the engine. | 1. ECM<br>2. -<br>3. - | - | - | - |
| | ECT control system | Changes the ECT shift position based on the vehicle speed and torque. | 1. ECM<br>2. -<br>3. - | - | - | - |
| | Cruise control system | Maintains a constant vehicle speed and drives the vehicle. | 1. ECM<br>2. -<br>3. - | - | - | - |
| Power | Power back door operation conditions | Prohibits the power back door operation according to the vehicle state (the engine switch, shift position, vehicle speed, and lock position). | 1. Power Back Door Unit (Power Back Door ECU)<br>2. -<br>3. Power Back Door Unit (Power Back Door ECU) | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) Main Body ECU (Cowl Side Junction Block LH) (V Bus), Combination Meter, ECM<br>3. - | • ECM<br>• Main Body ECU (Cowl Side Junction Block LH)<br>• Combination Meter | The power back door system does not operate (when the start signal is received, the buzzer sounds a warning that the conditions are not met). | - |
| | Power back door operation requests | Receives the power back door close/open operation trigger from the operation switch or wireless switch and begins the power back door operation. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. -<br>3. Power Back Door Unit (Power Back Door ECU) | - | - | - |
| | | | 1. -<br>2. Main body ECU (Cowl Side Junction Block LH) | • Main Body ECU (Cowl Side Junction Block LH) | The power back door system does not | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| Back Door (BKD) | | | (MS Bus), Certification ECU (Smart Key ECU)<br>3. - | Block LH)<br>• Certification ECU (Smart Key ECU) | operate. | |
| | Power back door operation status output | Sends the hazard illumination request when the power back door operation begins and back door unlock request. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | When the back door operation begins, the hazard warning lights may not illuminate. | - |
| | | | 1. -<br>2. -<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | Main Body ECU (Cowl Side Junction Block LH) | - | - |
| | DTC transmission/reception | Performs the power back door customization, malfunction detection, Active Test, etc. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. -<br>3. Power Back Door Unit (Power Back Door ECU) | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | DTC function does not operate. | - |
| Active Height Control Suspension (4-WHEEL AHC) | Damping force control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, and steering angle sensor, detects the driving conditions, road surface conditions, etc. and changes the damping force of the shock absorbers. | 1. Suspension Control ECU<br>2. -<br>3. Suspension Control ECU | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | Damping force control is prohibited. | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | | - |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | | - |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | | - |
| Active Height Control Suspension (4-WHEEL AHC) | Spring switching control is prohibited | Based on the information from the master cylinder solenoid (skid control ECU), steering control ECU, yaw rate sensor and steering angle sensor, detects the driving conditions, road surface conditions, etc. and changes the front spring constant value (ON/OFF). | 1. Suspension Control ECU<br>2. -<br>3. Suspension Control ECU | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Spring switching control is prohibited. | "Check 4-WHEEL AHC System" illuminates. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | | |
| | | | 1 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | Yaw Rate Sensor | | |
| Active Height Control Suspension (4-WHEEL AHC) | Vehicle height control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, 4WD, main body ECU (cowl side junction block LH), and steering angle sensor, detects the driving conditions, road surface conditions, etc. and restricts vehicle height changes. | 1. Suspension Control ECU<br>2. -<br>3. Suspension Control ECU | - | - | - |
| | | | 1. Suspension Control ECU<br>2. ECM<br>3. Suspension Control ECU | ECM | Vehicle height control is prohibited. | - |
| | | | 1. -<br>2. ECM<br>3. - | ECT | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | Vehicle height control is prohibited. | - |
| | | | 1. -<br>2. 4WD Control ECU<br>3. - | 4WD Control ECU | - | - |
| Active Height Control Suspension (4-WHEEL AHC) | Vehicle height control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, 4WD, main body ECU (cowl side junction block LH), and steering angle sensor, detects the driving conditions, road surface conditions, etc. and restricts vehicle height changes. | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Vehicle height control is prohibited. | "Check 4-WHEEL AHC System" illuminates. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | | |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | Yaw Rate Sensor | | |
| Air Conditioner (ACN) | Air conditioning system | • Air conditioning vent temperature control according to the engine coolant temperature information.<br>• Air conditioning vent switching control according to the engine coolant temperature information.<br>• Air conditioning vent airflow amount control according to the engine coolant temperature information.<br>• Compensation of the engine | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | None | Coolant information: Control is performed by using the default value (80°C (176°F).<br>Engine type: The condition is maintained (when unconfirmed, control is performed by using the default (507F)). | - |

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| | | of the engine coolant temperature information according to the engine type.<br>• Compressor lock judgment value switching according to the engine type. | | | | |
| Air Conditioner (ACN) | Air conditioning system | Compressor lock judgment by NE. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | None | NE: Control is performed by using the default value (0 km/h (0 mph)). | - |
| | | The electric load control condition is limited according to the load control level. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | None | Load control: No load control (normal control). | - |
| | | • Activation control according to the viscous heater activation permission information.<br>• Activation control according to the PTC heater activation permission information. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | None | Permission information: Control is performed according to the operation prohibition state. | - |
| | | • Air conditioning system operation status control and panel switch IND output control according to panel switch operation information.<br>• Exhaust gas automatic air presence judgment and circulation control switching according to exhaust gas automatic air presence information. | 1. Air Conditioning Amplifier<br>2. Multi-Display<br>3. - | Multi-display | None (Air conditioning system operation condition switching is not possible). | - |
| Air | | Dimmer information output to the LIN panel according to the display dimmer information. | 1. Air Conditioning Amplifier<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | None | Condition is maintained (after the reset, the dimmer condition is fixed). | - |
| | | PTC control switching based on the headlight illumination information. | 1. Air Conditioning Amplifier<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | None | PTC control (the headlight flickering countermeasure) is not performed. | - |
| | | | 1. Air Conditioning | | | |

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| Conditioner (ACN) | Air conditioning system | A/C control pattern switching based on the country specific information. | 1. Amplifier<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | None | Condition is maintained (when unconfirmed, control is performed according to the default value). | - |
| | | Air conditioning system operation condition switching and the outside temperature display output adjustment according to the vehicle speed information. | 1. Air Conditioning Amplifier<br>2. Combination Meter<br>3. - | None | • Decrease in reliability and consistency of the exterior temperature value of the outside temperature display.<br>• Decrease in the optimum level of A/C vent airflow amount adjustment. | - |
| Steering Sensor (STR) | Steering angle detection function | The steering angle change information is output to the CAN according to the steering wheel operation. | 1. Steering Angle Sensor<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | • Initialization condition: Data output response request (STS=0).<br>• When the trigger frame VSC 1S01 is not received from the master cylinder solenoid (skid control ECU), the data output response of the output response request changes from STS=0 to STS=1. | - |
| | | | | Master Cylinder Solenoid (Skid Control ECU) | Communication is stopped after transmission is sent 4 times at 12 msec. intervals as the data output response non-request STS=0. When the above conditions are met, the sensor internal zero point memory invalid SAZS=1 and SFRZ=previous value + 1 during the next transmission. | - |
| Steering Sensor (STR) | Steering angle detection function | The steering angle change information is output to the CAN according to the steering wheel operation. | 1. -<br>2. -<br>3. - | • Master Cylinder Solenoid (Skid Control ECU)<br>• Steering Control ECU<br>• ECM | Communication is stopped after transmission is sent 4 times at 12 millisecond intervals as the data output response non-request STS=0. When the above conditions are met, the sensor internal zero point memory invalid SAZA=1 and SFRZ=previous value + 1 during the next transmission. | Depends on the partner ECU specification. |
| | | | 1. Position Control ECU and Switch<br>2. -<br>3. Position Control ECU | • Master Cylinder Solenoid (Skid Control ECU)<br>• Steering | - | - |

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| | | | and Switch | Control ECU<br>• ECM | | |
| | | | 1. -<br>2. ECM<br>3. - | ECT | The memory restore function does not operate. | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The memory restore function does not operate. | - |
| | | Memory restore function | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The memory restore function does not operate. | - |
| Seat (DST) | Seat system | | 1. -<br>2. Position Control ECU and Switch<br>3. - | Position Control ECU and Switch | The memory restore function does not operate. | - |
| | | Memory call function | 1. Position Control ECU and Switch<br>2. -<br>3. Position Control ECU and Switch | - | - | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | Certification ECU (Smart Key ECU) | The memory call does not operate. | - |
| | | Tilt and telescopic operation permission function | 1. Position Control ECU and Switch<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Multiplex Tilt and Telescopic ECU<br>3. Multiplex Tilt and Telescopic ECU | Multiplex Tilt and Telescopic ECU | The tilt and telescopic operation does not operate. | - |
| | Mirror surface manual control | Function that adjusts the mirror surface with the manual switch. | 1. Outer Mirror Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The mirror surface manual adjustment function does not operate (stops if there is a disruption during the operation). | - |
| | Mirror surface memory control | Function that records the mirror surface position. | 1. Outer Mirror Control ECU<br>2. Position Control ECU and Switch, Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | • Main Body ECU (Cowl Side Junction Block LH)<br>• Position Control ECU and Switch | The mirror surface recording function does not operate | - |
| | Mirror surface recovery control | Function that moves the mirror surface to the recorded mirror surface position. | 1. Outer Mirror Control ECU<br>2. Position Control ECU and Switch<br>3. - | Position Control ECU and Switch | The mirror surface recovery function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | | | 1. Outer Mirror Control ECU<br>2. Main Body | | | |

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| Mirror (DRD) | Mirror surface reverse control | Function that tilts the mirror surface downward when the vehicle is moving in reverse. | ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), ECM<br>3. - | • Main Body ECU (Cowl Side Junction Block LH)<br>• ECT | The reverse shift-linked function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Electric retract/return control | Function that retracts/returns the mirror housing. | 1. Outer Mirror Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), ECM<br>3. - | • Main Body ECU (Cowl Side Junction Block LH)<br>• ECT | The mirror housing retract/return function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Foot light illumination control | Function that turns on/off the foot light illumination that is on the bottom of the mirror housing. | 1. Outer Mirror Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The foot light illumination turns off (if illuminated, turns off). | - |
| Wiper (FRN) | Front wiper control | System that operates the wiper HI and LO operation, vehicle speed sensing intermittent wiper function, vehicle speed switching function, washer linked function, and auto wiper. | 1. Windshield Wiper ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | With the engine switch on (IG) and the wipers operating with the LO switch on, the intermittent wiper function does not operate while the vehicle is stopped due to the vehicle speed switching control not operating. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | • With the engine switch on (IG) and the wipers operating with the LO switch on, the intermittent wiper function does not operate while the vehicle is stopped due to the vehicle speed switching control not operating.<br>• With the engine switch on (IG), the | - |

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| | | | | | • washer fluid delay timing becomes fixed.<br>• With the engine switch on (IG), the intervals do not change according to the vehicle speed while the intermittent wiper function is operating. | |
| Wiper (FRN) | LIN communication control | System that assists the outer wiper function by communication with the windshield wiper ECU. | 1. Windshield Wiper ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | With the engine switch on (IG), the disruption value data is routed to the rain sensor. Otherwise, the rain sensor operation depends on the specifications. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | | - |
| Navigation (EMV) | Auto dimmer function and forced day screen function | Forced day screen switching, and auto dimmer function control. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. -<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The auto dimmer function and forced day screen function do not operate. | - |
| | Air conditioning function | Displays the air conditioning control screen by using the information from the air conditioning amplifier, and has a control function that notifies the air conditioning ECU of screen switch operating information. | 1. -<br>2. Multi-display<br>3. - | - | - | - |
| | | | 1. Air Conditioning Amplifier<br>2. -<br>3. - | Air Conditioning Amplifier (air conditioning functions) | • With the engine switch on (IG), the screen is displayed without air conditioning if ACN1S06 is not received for 10 sec.<br>• Panel switch control, screen switch control, and voice control do not operate. | Warning function: The screen displays without the air conditioning.<br>Warning function: Nothing.<br>Behavior: The air conditioning control screen/panel indicator light and set temperature indicator turn on and do not change.<br>Displayed using the EMV. |
| Navigation (EMV) | Country specification switching function | Function that changes the country specification based on the country specification information received from the vehicle. | 1. -<br>2. Multi-display<br>3. - | - | - | - |
| | | | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. -<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | - | - |
| | | | 1. -<br>2. Multi-display | - | - | - |

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| | | | 3. - | | | |
| | Clearance sonar screen display and clearance sonar cooperative display | System that displays the clearance sonar detection information. | 1. Clearance Warning ECU<br>2. -<br>3. - | Clearance Warning ECU | The clearance sonar screen display is off (it is determined that the clearance sonar ECU is not present). | Warning function: Nothing.<br>Behavior: Information menu screen "CLEAN SONAR" TSW is not displayed.<br>Displayed using the EMV. |
| Navigation (EMV) | Clearance sonar screen display and clearance sonar cooperative display | System that displays the clearance sonar detection information. | 1. ECM<br>2. -<br>3. - | ECT | Shift: Maintains previous value concerning R information, however there is no particular problem (Shift: Maintained in R). It is not possible to make the warning screen not display by shifting to N → R → N consecutively. However, it is possible to switch to the warning screen and cooperative screen (camera) if the normal shift operation is performed. Therefore, there is no problem (Shift: Maintained in a position other than R (default)). It is not possible to make the camera screen not display by shifting to P → N → R when starting. However, it is possible to switch to the warning screen and cooperative screen (camera) if the normal shift operation is performed. Therefore, there is no problem. | - |
| Navigation (EMV) | Clearance sonar settings | System that sets the operation of the clearance sonar. | 1. -<br>2. Multi-display<br>3. - | - | - | - |
| | | | 1. Clearance Warning ECU<br>2. -<br>3. - | Clearance Warning ECU | The clearance sonar screen display is off (it is determined that the clearance sonar ECU is not present). | Warning function: Nothing.<br>Behavior: The information menu screen "CLEAN SONAR" TSW is not displayed.<br>Displayed using the EMV. |
| No. 2 Body ECU (RRJ) | Rear wiper control | System that performs the rear wiper LO speed operation, washer linked function, intermittent wiper function, vehicle speed switching control, and reverse linked control. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | With the engine switch on (IG), the rear wiper does not stop due to the rear upper door opening during the rear wiper operation. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | With the engine switch on (IG), the intermittent wiper function does not operate while the wipers are stopped due to the vehicle speed switching control not operating during the rear wiper operation. | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | With the engine switch on (IG), the rear wiper does not activate due to the reverse operation control not operating when the front wiper is operating. | - |
| | | | 1. -<br>2. Windshield Wiper ECU<br>3. - | Windshield Wiper ECU | | - |
| | | | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - | - |

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| | Lower door closer control | System that independently controls the internal closer motors (RH, LH) of the rear lower door at the same time. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | Does not activate release, and does not release the lower door latch. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | With the engine switch on (IG), does not activate release, and does not release the lower door latch. | - |
| No. 2 Body ECU (RRJ) | Illumination control | System that fades the inside handle illumination, and step illumination in and out. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | Does not turn on the inside handle illumination or step illumination. | - |
| | LIN communication control | System that routes the CAN data to the overhead module using LIN communication. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | Routes the disrupted value data to the overhead module. | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | Certification ECU (Smart Key ECU) | | - |
| Variable Gear Ratio Steering (VGR) | VGRS system | System that changes the steering gear ratio based on the vehicle speed information and steering angle. | 1. Steering Control ECU<br>2. -<br>3. Steering Control ECU | - | - | - |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | VGRS system does not operate. | Master warning light illuminates and display is shown on multi-information display (meter display). |
| | | | 1. -<br>2. ECM<br>3. - | ECM | | |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | | |
| Clearance Sonar (CSR) | LEXUS parking assist-sensor system | System that activates the ultrasonic sensor, measures the distance from obstacles, and notifies the user by using the display and buzzer. | 1. Clearance Warning ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Air Conditioning Amplifier<br>3. - | Air Conditioning Amplifier | The sonar system functions normally. Maintains distance by maintaining the outside temperature at 25°C (77°F). | - |
| | | | 1. -<br>2. Windshield Wiper ECU<br>3. - | Windshield Wiper ECU | The sonar system functions normally. Operates the obstacle judgments with the wiper off (except in rain). | - |
| | | | 1. -<br>2. ECM | ECM | If data received from the ECM is lost, the system is inoperable as control is performed with the | - |

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| | | | 3. - | | is performed with the shift position data set to P. | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The clearance sonar main switch indicator is maintained with the brightness as the previous value. | - |
| | | | | | The sonar system functions normally. Control is maintained with the country specification information as the previous value (with or without a warning sound). | - |
| Clearance Sonar (CSR) | LEXUS parking assist-sensor system | System that activates the ultrasonic sensor, measures the distance from obstacles, and notifies the user by using the display and buzzer. | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | If data received from the meter ECU is lost, the system is inoperable as the clearance sonar is controlled at 20 km/h (12.5 mph) or more. | - |
| | | | 1. -<br>2. Multi-display<br>3. - | Multi-display | The sonar system functions normally. The clearance sonar customize information is maintained. | - |
| | | | | | The sonar system functions normally. Information on the camera presence is maintained. | - |
| | | | | | The sonar system functions normally. Notification on the screen that the clearance sonar is off is disabled. | - |
| AFS | Leveling | System that adjusts the beam axis direction of the headlights vertically according to the pitch angle requested by the wheel speed sensor and vehicle height sensor. | 1. AFS ECU (Headlight Swivel ECU)<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | • Leveling control continues.<br>• Swivel control centers the headlights. | AFS OFF indicator light blinks. |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | • Leveling control continues with the vehicle speed set to 0 km/h (0 mph).<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | - | - |
| | | | 1. AFS ECU (Headlight Swivel ECU)<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | • Leveling control continues.<br>• Swivel control | |

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| AFS | Swivel | System that measures the turning diameter based on the wheel speed and steering angle, and then moves the headlights left and right according to the turning diameter. | 3. | | centers the headlights. | AFS OFF indicator blinks. |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | • Leveling control continues with the vehicle speed set to 0.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering Angle Sensor, Steering Control ECU<br>3. - | • Steering Angle Sensor<br>• Steering Control ECU | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | • Level control continues.<br>• Swivel control centers the headlights. | |
| | AFS indicator | Monitors for AFS system malfunctions and blinks the indicator of the meter when a malfunction is detected. | 1. AFS ECU (Headlight Swivel ECU)<br>2. -<br>3. AFS ECU (Headlight Swivel ECU) | - | - | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | - | - |
| Rear View Monitor (DS2) | Rear view monitor system | System that displays the expected course lines in the back camera image of the display that links to the steering angle to assist in parking (garage parking, parallel parking, etc.). | 1. Parking Assist ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECT | The rear view monitor system does not operate. | Nothing (informed to user by not displaying image). |
| | | | 1. -<br>2. Steering Angle Sensor, Steering Control ECU<br>3. - | • Steering Angle Sensor<br>• Steering Control ECU | | Does not display the expected course lines on the display. Displays "Guidance unavailable" on the navigation screen. |
| | Wide view front and side monitor system | System that displays the front and side camera image on the display (the side monitor is linked with the steering angle to display the expected course lines). | 1. Parking Assist ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECT | The wide view front and side monitor system does not operate. | Nothing (informed to user by not displaying image). |
| | | | 1. -<br>2. Steering Angle Sensor, Steering Control ECU<br>3. - | • Steering Angle Sensor<br>• Steering Control ECU | | Does not display the expected course lines on the display. Displays "Guidance unavailable" on the navigation screen. |
| | | When the VSC system suddenly brakes and/or the vehicle is unable to be | 1. Seat Belt Control ECU<br>2. -<br>3. Seat Belt Control ECU | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control | Master Cylinder Solenoid (Skid Control | Detects that communication with the | - |

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| | | controlled (while spinning or drifting), the seat belt control ECU operates the pre-collision seat belts (PSB) that are fastened (receives the buckle switch information from the center airbag sensor) by tightening the seat belts to increase the occupant restraint. | (Skid Control ECU)<br>3. - | ECU) | seat belt control ECU is lost. Control is stopped. | |
| | PCS (brake linked) | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Detects that communication with the seat belt control ECU is lost. Control is stopped (brake linked). | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | Center Airbag Sensor | Detects that communication with the seat belt control ECU is lost. Control is stopped. | - |
| Pre-crash Seat Belt (PSB) | PCS (millimeter wave radar sensor linked) | When ACC determines that a collision is unavoidable based on the information from the millimeter wave radar sensor, the seat belt control ECU operates the pre-collision seat belts (PSB) that are fastened by tightening the seat belts to increase the occupant restraint. | 1. Seat Belt Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Distance Control ECU<br>3. - | Distance Control ECU | Detects that communication with the seat belt control ECU is lost. Control is stopped (millimeter wave radar sensor linked). | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | Center Airbag Sensor | Detects that communication with the seat belt control ECU is lost. Control is stopped. | - |
| | Meter display request | Receives the seat belt control ECU malfunction information or ACC malfunction information, and requests the display of the indicator to the meter ("PCS" indicator turn off/turn on request).<br>**HINT:**<br>As long as there is a signal in the ACC frame, the blinking request outputs an illumination request to the combination meter. When communication with the ACC frame is lost, it is determined that a malfunction exists and an illumination request is output along with the malfunction.<br>The priority order is determined by the combination meter. The illumination is the first priority. | 1. Seat Belt Control ECU<br>2. -<br>3. - | - | - | Exclusive indicator "PCS" turns on. |
| | | | 1. -<br>2. Combination Meter, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • Combination Meter<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• Distance Control ECU | | |
| | | | 1. -<br>2. Combination Meter, Distance Control ECU<br>3. - | • Combination Meter<br>• Distance Control ECU | | |
| | 2 digit DTC output | When terminal TC of the DLC3 is connected to terminal GND, a 2 digit DTC (BCD) is displayed by the blinking of "PCS". | 1. Seat Belt Control ECU<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | - | - |
| | Speedometer | Indicates the vehicle speed according to the vehicle speed signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | The speedometer indicates 0 km/h (0 mph). | - |
| | | | 1. Combination Meter | | | |

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| | Tachometer | Indicates the engine speed according to the engine speed signal. | Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The tachometer indicates 0 rpm. | - |
| Meter (MET) | ODO/TRIP meter | Calculates and displays the driven distance according to the vehicle speed pulse signal calculated value. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | • The ODO/TRIP meter stops calculating and the last displayed value continues to be displayed.<br>• Optitron meter: In multi-display.<br>• Regular analog meter: Independent LCD. | - |
| | Engine coolant temperature gauge | Indicates the coolant temperature according to the engine coolant temperature signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The coolant temperature gauge displays less than the C mark. | - |
| Meter (MET) | Fuel gauge | Indicates the remaining fuel according to the fuel sender (direct line) input (uses the CAN communication (the vehicle speed signal) to determine if the vehicle is being driven or not). | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | Control is performed with the speed input as 0 km/h (0 mph). | - |
| | Oil pressure gauge | Indicates the engine oil pressure according to the oil pressure sender (direct line) input (uses the CAN communication to determine if the engine is on or off by the engine speed signal). | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The oil pressure gauge displays less than the L mark. | - |
| | Shift lever indicator | The shift information is displayed according to the shift position signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The shift lever indicator and shift position in the multi-information display turns off. | - |
| Meter (MET) | Buzzer | Controls the buzzer to sound and not sound according to the various | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body | • Master Cylinder Solenoid (Skid Control ECU)<br>• Main Body ECU (Cowl Side Junction Block LH) | Conditions for the seat belt buzzer not sounding:<br>When VSC1S03 is lost: Does not sound.<br>When BDB1S01 is lost: Does not sound.<br>When ECT1S90 is lost: Control is performed with B_R=0b. | - |
| | | | | • Master Cylinder Solenoid | Conditions for the seat belt buzzer sounding:<br>When VSC1S03 is lost: Control is performed | |

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| (MET) | | according to the various signals that are input. | ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | (Skid Control ECU)<br>• Main Body ECU (Cowl Side Junction Block LH) | with the vehicle speed as 0 km/h (0 mph).<br>When VSC1S95 is lost: Control is performed with B_CPKB=0b.<br>When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | | • Master Cylinder Solenoid (Skid Control ECU)<br>• Main Body ECU (Cowl Side Junction Block LH) | The door ajar driving warning buzzer does not sound. | - |
| Meter (MET) | Buzzer | Controls the buzzer to sound and not sound according to the various signals that are input. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The light reminder buzzer does not sound. | - |
| | | | | Main Body ECU (Cowl Side Junction Block LH) | The sliding roof buzzer condition is maintained (until bus sleep). | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The A/T reverse buzzer does not sound. | - |
| | | | | ECM | • The sports shift reject buzzer condition is maintained.<br>• The radar cruise low speed buzzer does not sound.<br>• The radar cruise warning buzzer does not sound. | - |
| | | | 1. -<br>2. 4WD Control ECU<br>3. - | 4WD Control ECU | The last state of the 4WD buzzer is maintained. | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | Certification ECU (Smart Key ECU) | The door control transmitter buzzer (single push, continuous push, and intermittent push) does not sound.<br>The immobiliser verification completion notification buzzer does not sound. | - |
| | | | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. Master Cylinder (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | The ABS indicator turns on. | The ABS indicator turns on. |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side | • Master Cylinder Solenoid (Skid Control | Brake warning light<br>When VSC1S95 is lost: Illuminates. | |

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| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | ECU)<br>• Main Body ECU (Cowl Side Junction Block LH) | When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | SLIP indicator light condition is maintained.<br>VSC OFF indicator light condition is maintained.<br>The downhill assist control indicator light condition is maintained.<br>The CRAWL indicator light condition is maintained. | - |
| | | | | Master Cylinder Solenoid (Skid Control ECU) | Control is performed with the speed condition as 0 km/h (0 mph) for the following display:<br>FUEL FILTER clog indicator.<br>The odometer calculation is stopped for the following display conditions: T-BELT indicator. | - |
| | | | 1. -<br>2. AFS ECU<br>3. - | AFS ECU | Maintains the AFS OFF indicator condition. | - |
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | When there is determined to be a disruption, the following indicators operate as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off.<br>• DOOR indicator light<br>• Driver side seat belt indicator light | - |
| | | | | Main Body ECU (Cowl Side Junction Block LH) | When there is determined to be a disruption, the following indicators operate as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off.<br>• FRONT FOG indicator light<br>• REAR FOG indicator light<br>• TAIL indicator<br>• HEAD indicator<br>• BEAM indicator | - |
| | | | 1. -<br>2. Parking Assist ECU<br>3. - | Parking Assist ECU | CLEARANCE SONAR indicator light turns off. | - |
| | | | 1. -<br>2. ECM | ECM | The A/T P warning light condition is maintained.<br><br>The ECT PWR indicator light condition is maintained.<br>The 2nd START indicator light condition | - |

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| | | | 2. ECM<br>3. - | ECM | Indicator light condition is maintained.<br>The CHARGE warning light condition is maintained.<br>The CRUISE main indicator light condition is maintained. | |
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. ECM, 4WD Control ECU<br>3. - | • ECM<br>• 4WD Control ECU | The A/T P warning light conditions are maintained. | - |
| | | | 1. -<br>2. 4WD Control ECU<br>3. - | 4WD Control ECU | The center differential lock indicator light turns off.<br>The 4LO indicator light turns off. | - |
| | | | 1. -<br>2. Seat Belt Control ECU<br>3. - | Seat Belt Control ECU | The PCS indicator light condition is maintained. | - |
| | | | 1. -<br>2. Suspension Control ECU<br>3. - | Suspension Control ECU | The ACCESS MODE indicator light<br>• When the engine switch is on (IG): The condition is maintained.<br>• When the engine switch is off: Turns off. | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | Center Airbag Sensor | The SRS warning light turns on. | The SRS warning indicator turns on. |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, radar cruise, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • ECM<br>• Master Cylinder Solenoid (Skid Control ECU) | Displays a blank screen and drive monitor operation and calculation of the following values stops: instant fuel economy, average fuel economy after refueling, distance to empty, average vehicle speed after engine start, driving distance after engine start. | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Parking brake drag warning display conditions:<br>When VSC1S03 is lost: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>When VSC1S95 is lost: Control is performed with B_CPKB=0b.<br>When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid | • Master Cylinder Solenoid (Skid Control ECU)<br>• Main Body ECU (Cowl Side Junction Block LH) | The CRAWL system display is maintained.<br>The VSC display is maintained. | - |

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| | | | 1. -<br>2. Control ECU<br>3. - | | | |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | Control is performed with the speed condition as 0 km/h (0 mph) for the following displays: Door open while driving display, FUEL FILTER clog display.<br>ODO calculation stops for the following display conditions: Oil maintenance display, T-BELT display. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • Master Cylinder Solenoid (Skid Control ECU)<br>• Main Body ECU (Cowl Side Junction Block LH) | Conditions for the door open display and door open while driving display:<br>VSC1S03: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>BSB1S01: Display state is maintained.<br>BDB1S08: No display. | - |
| | | | 1. -<br>2. Air Conditioning Amplifier<br>3. - | Air Conditioning Amplifier | The outside temperature display is "E". | The outside temperature display is "E" (in the meter). |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The shift lever display turns off. | - |
| | | | | Main Body ECU (Cowl Side Junction Block LH) | The door control transmitter display condition is as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off. | - |
| | | | | Main Body ECU (Cowl Side Junction Block LH) | The sliding roof open display condition is as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off. | - |
| | | | 1. -<br>2. Parking Assist ECU<br>3. - | Parking Assist ECU | The clearance warning sonar display condition is maintained. | - |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. ECM<br>3. - | ECM | The A/T shift position display turns off. | - |
| | | | | ECM | The A/T OIL TEMP display state is maintained. | - |
| | | | 1. -<br>2. Seat Belt Control ECU<br>3. - | Seat Belt Control ECU | The PCS display condition is maintained. | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | Certification ECU (Smart Key ECU) | The door control transmitter display condition is maintained.<br>The security display condition is maintained.<br>The door control transmitter unlock mode display condition is maintained. | - |
| | | | 1. -<br>2. Suspension Control ECU<br>3. - | Suspension Control ECU | 4-WHEEL AHC vehicle height display turns off.<br>"Check 4-WHEEL AHC System" is displayed. | 4-WHEEL AHC vehicle height display turns off.<br>"Check 4-WHEEL AHC System" is displayed. |

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| | | | 1. -<br>2. Steering Control ECU<br>3. - | Steering Control ECU | "Check VGRS System" is displayed. | "Check VGRS System" is displayed. |
| | Illumination function | Controls dimming and meter illumination on/off according to the CAN signals. | 1. Combination Meter<br>2. -<br>3. Combination Meter | Combination Meter | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | Daytime brightness. | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | - | - |
| Meter (MET) | Passenger seat belt warning indicator | Blinks the passenger seat belt warning indicator according to the CAN signals. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | Center Airbag Sensor | The passenger seat belt warning indicator condition is maintained. | - |
| | | | 1. -<br>2. -<br>3. Multi-display | Multi-display | - | - |
| Body (BDB) | Power supply switching control | The system that switches the power supply between +B, ACC, and IG. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter, ECM<br>3. - | ECM | The forced engine switch off function does not operate. | - |
| | | | | Combination Meter | When the power supply switching conditions are met, power supply switching control is permitted.<br>When the power supply condition IG2 start/stop switch turns from off to on, the power supply condition is changed to IG1, and the IG relay output stops. | - |
| Body (BDB) | Security | The system that operates the warning when a theft is detected. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Certification ECU (Smart Key ECU)<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | Certification ECU (Smart Key ECU) | The security control does not operate (The headlight/taillight warning output, horn warning output, and hazard warning light output do not operate).<br>The forced door lock function lock output does not operate.<br>The dome light warning control does not operate.<br>The lighting system answer back control does not operate. (The taillight warning output and hazard warning light output do not operate). | - |
| | | | | Certification ECU (Smart Key ECU) | When the security warning is operating, warning output stops during hazard warning light output. | - |
| | | | | Certification ECU (Smart Key ECU) | When the security warning is operating, the dome light turns off during dome light illumination. | - |
| | | The system that operates the lock/unlock, engine switch, back door opener, warning, etc. by pressing | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | | Entry and start/wireless control does not | |

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| | Entry and start/wireless | the switch when the door control transmitter is within the vehicle detection area. The system that operates the vehicle lock/unlock, panic, back door opener, etc. by remote control. | 2. Certification ECU (Smart Key ECU)<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | Certification ECU (Smart Key ECU) | operate.<br>The door lock/unlock control and entry and start back door opener control do not operate. | - |
| Body (BDB) | Vehicle speed linked auto lock | The system that locks the doors when the vehicle speed is 20 km/h (12 mph) or more. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter, ECM<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | ECM | When the vehicle speed linked auto lock signal is lost, operation is permitted. | - |
| | | | | Combination Meter | The vehicle speed linked auto lock does not operate. | - |
| | Shift linked auto lock/unlock | The system that unlocks all the doors when the shift lever is moved to P, and locks all doors when the shift lever is moved from P to another position while the engine is running. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter, ECM<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | ECM | The shift linked auto lock/unlock function does not operate. | - |
| | | | | Combination Meter | When the shift linked auto lock/unlock signal is lost, operation is permitted. | - |
| | DRL | The system that illuminates lights when driving the vehicle to improve the visibility of pedestrians and other vehicles in the daytime. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. ECM<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | ECM | DRL control does not operate.<br>**HINT:**<br>If operated once, the operation continues until the engine switch is turned off, even if the signal is lost. | - |
| | Boarding | System that controls the front (rear) dome light, door mirror foot light, center console spot light, and interior foot light. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Certification ECU (Smart Key ECU), Combination Meter, ECM, Parking Assist ECU<br>3. Outer Mirror Control ECU, No. 2 Main Body ECU, Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus) | Certification ECU (Smart Key ECU) | Front (rear) dome light, door mirror foot light, center console spot light, and interior foot light control does not operate. | - |
| | | | | Combination Meter | While the interior foot light is illuminated, the center console does not turn off. | - |
| | | | | ECM | When the interior foot light is illuminated, the dimmer operates.<br>When the engine switch is on (IG), the door mirror foot light does not operate by the manual unlock. | - |
| | | | | Parking Assist ECU | When the side monitor is operating, the door mirror foot light can illuminate. | - |
| | | | 1. Power Back Door Unit | | | |

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| | Back door | System that operates the hazard warning lights as an answer back when the power back door begins to operate. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. Power Back Door Unit (Power Back Door ECU)<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | Power Back Door Unit (Power Back Door ECU) | The hazard warning light answer back does not operate when the back door begins to operate. | - |
| | Back door opener | The system that releases the door latch (turns opener motor on) by turning on the switch built into the outside door handle. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | Combination Meter | Prohibits the back door opener control. | - |
| Body (BDB) | One motion power back door opener | System that unlocks and opens the back door in one motion when the wireless back door opening operation is performed. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Power Back Door Unit (Power Back Door ECU)<br>3. Power Back Door Unit (Power Back Door ECU) | Power Back Door Unit (Power Back Door ECU) | Back door opener control does not operate. | - |
| | Display automatic dimmer control | System that controls the brightness of the interior display/indicators, etc. only during twilight and nighttime by determining the time of day and using the light sensor signal. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter<br>3. Windshield Wiper ECU, No. 2 Main Body ECU, ECU, Combination Meter, Multi-display, Air Conditioning Amplifier, Clearance Warning ECU | Combination Meter | Operates the display automatic dimmer control when the tail cancel switch is on. When the value of the light sensor illumination intensity signal is less than the display dimmer value, the brightness of the vehicle interior display/indicator is dimmed. | - |
| | Power window | The system that operates power window control based on the request from wireless/entry and start control. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Certification ECU (Smart Key ECU)<br>3. - | Certification ECU (Smart Key ECU) | Power window control does not operate. Power window control stops during wireless/entry power window control operation. | - |
| | | | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. - | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl | | • The entry lock/unlock does not operate.<br>• The entry back door does not operate.<br>• The entry | |

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| Verification (IDT) | Entry function | Entry and start/lock/back door/warning, etc. | Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | and start warning message does not operate.<br>• The key lock-in prevention function does not operate.<br>• The entry illumination does not operate. | - |
| | | | | Main Body ECU (Cowl Side Junction Block LH) | Package default setting. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | Combination Meter | The vehicle speed is determined to be 0 km/h (0 mph). | - |
| | | | | Combination Meter | - | - |
| | Wireless buzzer function | The wireless buzzer sounding control. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. Certification ECU (Smart Key ECU) | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | Does not sound even though there is a wireless buzzer request. | - |
| | | | | Main Body ECU (Cowl Side Junction Block LH) | Package default settings. | - |
| | | | 1. -<br>2. Suspension Control ECU<br>3. - | Suspension Control ECU | Does not sound even though there is an access mode warning buzzer request. | - |
| Verification (IDT) | Immobiliser function | The immobiliser control by the warning and remote engine start. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. Certification ECU (Smart Key ECU) | - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The engine switch is forcibly turned off. | - |
| | Wireless function | Wireless electric wave information transmission. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. Certification ECU (Smart Key ECU) | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | - | - |
| | Security function | Security alarm control. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. Certification ECU (Smart Key ECU) | - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Main Body ECU (Cowl Side Junction Block LH) | The alarm is not unset.<br>The alarm is not set. | - |
| | | | 1. -<br>2. ECM<br>3. - | ECM | The alarm is not unset by the engine start. | - |
| | | | 1. Network | | | |

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| Movement Control Bus (CGW) | Movement control bus monitor function | Monitoring of communication stop. | 1. Network Gateway ECU (Movement Control Bus)<br>2. Seat Belt Control ECU<br>3. - | Seat Belt Control ECU | The reception interval counter (RAM and CAN controller initialization). | - |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Distance Control ECU<br>3. - | Distance Control ECU | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Clearance Warning ECU<br>3. - | Clearance Warning ECU | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Parking Assist ECU<br>3. - | Parking Assist ECU | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Steering Angle Sensor<br>3. - | Steering Angle Sensor | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Suspension Control ECU<br>3. - | Suspension Control ECU | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Master Cylinder Solenoid (Skid Control ECU) | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Yaw Rate Sensor<br>3. - | Yaw Rate Sensor | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Steering Control ECU<br>3. - | Steering Control ECU | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. 4WD Control ECU | 4WD Control ECU | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 3. - | | | |
| Movement Control Bus (CGW) | Movement control bus monitor function | Monitoring of communication stop. | 1. Network Gateway ECU (Movement Control Bus)<br>2. Parking Assist ECU, Master Cylinder Solenoid (Skid Control ECU), 4WD Control ECU, Steering Angle Sensor, Yaw Rate Sensor, Distance Control ECU, Steering Control ECU, Seat Belt Control ECU, Suspension Control ECU<br>3. - | • Parking Assist ECU<br>• Clearance Warning ECU<br>• Master Cylinder Solenoid (Skid Control ECU)<br>• 4WD Control ECU<br>• Steering Angle Sensor<br>• Yaw Rate Sensor<br>• Distance Control ECU<br>• Steering Control ECU<br>• Seat Belt Control ECU<br>• Suspension Control ECU | The reception interval counter (RAM and CAN controller initialization). | - |

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## FAIL-SAFE FUNCTION

a. When communication fails in any of the main wires (communication lines) due to a short circuit or other causes, the fail-safe function, which is specified for each system, operates to prevent the system from malfunctioning.

b. The table below shows the effects on each system when communication is impossible. For further details, refer to each system.

| System | Function | Control Description | 1. Control Master<br>2. System Related<br>3. Control Actuator | Fail-safe Function System Behavior | Indicator and Buzzer Behavior or User Notification |
|---|---|---|---|---|---|
| Airbag (ABG) | TC DTC/output service | When TC is on, DTCs (warning light turn on/turn off request signals) are output. | 1. Center Airbag Sensor<br>2. -<br>3. Combination Meter | - | - |
| | Event recorder (EDR) | Records the vehicle information during a collision (the vehicle speed, accelerator pedal opening angle, shift position, etc.). | 1. Center Airbag Sensor<br>2. Combination Meter, ECM<br>3. - | - | - |
| | SRS warning light control | Turns the SRS warning light on/off. | 1. Combination Meter<br>2. Center Airbag Sensor<br>3. - | The SRS warning light turns on. | - |
| | Information output function (Refer to related system for control description details) | The collision detection signal stops the fuel pump during a collision. | 1. ECM<br>2. Center Airbag Sensor<br>3. - | - | - |
| | | The driver/passenger seat buckle switch stops PSB control when the seat belt is not fastened. | 1. Seat Belt Control ECU<br>2. Center Airbag Sensor<br>3. - | - | - |
| | | The passenger seat occupant detection signal turns on the seat belt warning light when the seat belt is not fastened. | 1. Combination Meter<br>2. Center Airbag Sensor<br>3. - | - | - |
| | Warning light control | BRL, ABS, VSC-OFF, SLIP and CRAWL light control (turn on/off, blink, DTC output). | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. -<br>3. Combination Meter | - | - |
| | ABS control | ABS control according to the G sensor signal. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. Yaw Rate Sensor<br>3. Master | The ABS does not operate. | ABS warning light turns on. |

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|---|---|---|---|---|---|
| | | | Cylinder Solenoid (Skid Control ECU) | | |
| Brake (VSC) | TRC control | Brake control and engine torque control during acceleration slip. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. ECM, 4WD Control ECU<br>3. Master Cylinder Solenoid (Skid Control ECU) | TRC does not operate. | VSC warning light turns on. |
| | VSC control | VSC control according to the yaw rate and steering angle sensor signal. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. ECM, 4WD Control ECU, Steering Angle Sensor, Yaw Rate Sensor, Steering Control ECU<br>3. Master Cylinder Solenoid (Skid Control ECU) | VSC does not operate. | ABS and VSC warning lights turn on. |
| Brake (ABS) | ACC control | The brake control according to the request from the distance control ECU via the ECM. | 1. Master Cylinder Solenoid (Skid Control ECU)<br>2. ECM<br>3. Master Cylinder Solenoid (Skid Control ECU) | ACC does not operate. | VSC warning light turns on. |
| | | | 1. -<br>2. ECM<br>3. ECM | ACC control is canceled. | • "Check Cruise Control System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | | |
| | | | 1. -<br>2. Master Cylinder Solenoid | | |

| | | | | | |
|---|---|---|---|---|---|
| Dynamic Radar Cruise Control (ACC) | ACC | Acceleration/deceleration control when following the vehicle in front. | (Skid Control ECU)<br>3. Master Cylinder Solenoid (Skid Control ECU) | - | - |
| | | | 1. Distance Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | - | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | - | - |
| Dynamic Radar Cruise Control (ACC) | PCS | Seat belt and brake control immediately before a collision. | 1. -<br>2. ECM<br>3. - | Radar linked PCS control stops. | • "Check Cruise Control System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | | |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. Master Cylinder Solenoid (Skid Control ECU) | PCS control stops. | |
| | | | 1. Distance Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | - | - |
| | | | 1. -<br>2. -<br>3. Seat Belt Control ECU | - | - |
| | | | 1. Multiplex Tilt and Telescopic ECU<br>2. Position Control ECU | The power tilt and power telescopic steering column system does not operate. | - |
| | | | | Memory restore control does not operate. | - |

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| Tilt and Telescopic (TAT) | Microcomputer preset steering | Automatically begins the steering auto away/auto return when the engine switch is turned on (IG) or off. | and Switch, Main Body ECU (Cowl Side Junction Block LH) (V Bus), Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Combination Meter<br>3. Multiplex Tilt and Telescopic ECU | Auto return/auto away control does not operate. | - |
| Mechanical 4WD (FWM) | Switching control between High and Low | Switching between High and Low is prohibited during the following conditions: 1) When there is a vehicle speed violation, engine speed violation, or large difference in wheel speeds, 2) when the shift lever is not in N, or 3) when the clutch is not on. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Switching between High and Low is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if switching between High and Low can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or 4LO indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | Neutral switching control | Switching to neutral is prohibited during the following conditions: 1) When there is a vehicle speed violation or engine speed violation, or 2) when the shift lever is not in N or the clutch is not on. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Switching to neutral is prohibited. | 4LO indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | Center differential lock switching control (between Free and Lock) | Center differential lock switching is prohibited when there is a vehicle speed violation or large difference in wheel speeds. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Center differential lock switching is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if center differential lock switching can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | Rear differential lock | Rear differential lock | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. - | Rear differential lock switching is prohibited.<br>**HINT:** | |

| | | | | | |
|---|---|---|---|---|---|
| Mechanical 4WD (FWM) | switching control (between Rr Free and Rr Lock) | switching is prohibited when there is a vehicle speed violation. | 2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | When there is a wheel speed malfunction, function No. 7 is controlled to determine if rear differential lock switching can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | L4F switching control | Switching to L4F is prohibited and the operation is performed with L4L when VSC is malfunctioning. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | L4F switching is prohibited and the operation is performed with L4L. | No user notification. |
| | Specialized control when temperature is low | Changes the ACT conductive current value according to the temperature (low temperature use or normal temperature use). | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Air Conditioning Amplifier, ECM<br>3. - | Changes the temperature used for the calculation of ACT temperature adjustment control. | No user notification. |
| Mechanical 4WD (FWM) | Specialized control during wheel speed failure | When there is a wheel speed failure, switching is permitted only when specified conditions are met (the wheel speed malfunction is 1 wheel or more and 3 wheels or less, the brake is applied, the engine speed is low, and all normal wheel speeds are low). | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | If the wheel speed malfunction is 1 wheel or more and 3 wheels or less, only when the wheel speed failure specified conditions are met, switching is permitted. When 4 wheels are malfunctioning, switching is prohibited (the wheel speed failure specialized control does not operate). | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| Mechanical 4WD (FWM) | Indicator and buzzer signal output | Signal output of the indicator and buzzer condition that indicates the actuator position and switching status. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | High-Low actuator failure signal output | When the High-Low actuator limit switch is malfunctioning, a signal is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | C/C cancel signal output | Outputs a cruise control cancel signal when center differential switching is not completed even though 5 sec. or more have elapsed from the start of switching. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | L4 status signal condition output | A signal is output when switching between the L4F and L4L position is completed. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | C/D lock condition signal output | CDL switch condition is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |

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| | R/D lock condition signal output | R switch condition is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| | T/F N condition signal output | NP switch condition is output. | 1. 4WD Control ECU<br>2. -<br>3. - | - | - |
| Gasoline Engine | Engine control system | Adjusts the fuel injection volume according to each sensor value and controls the engine. | 1. ECM<br>2. -<br>3. - | - | - |
| | ECT control system | Changes the ECT shift position based on the vehicle speed and torque. | 1. ECM<br>2. -<br>3. - | - | - |
| | Cruise control system | Maintains a constant vehicle speed and drives the vehicle. | 1. ECM<br>2. -<br>3. - | - | - |
| Power Back Door (BKD) | Power back door operation conditions | Prohibits the power back door operation according to the vehicle state (the engine switch, shift position, vehicle speed, and lock position). | 1. Power Back Door Unit (Power Back Door ECU)<br>2. -<br>3. Power Back Door Unit (Power Back Door ECU) | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) Main Body ECU (Cowl Side Junction Block LH) (V Bus), Combination Meter, ECM<br>3. - | The power back door system does not operate (when the start signal is received, the buzzer sounds a warning that the conditions are not met). | - |
| | Power back door operation requests | Receives the power back door close/open operation trigger from the operation switch or wireless switch and begins the power back door operation. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. -<br>3. Power Back Door Unit (Power Back Door ECU) | - | - |
| | | | 1. -<br>2. Main body ECU (Cowl Side Junction Block LH) (MS Bus), Certification ECU (Smart Key ECU)<br>3. - | The power back door system does not operate. | - |
| | Power back door | Sends the hazard illumination request when | 1. Power Back Door Unit (Power Back Door ECU)<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. Power Back | When the back door operation begins, the hazard warning lights may not illuminate. | - |

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| | operation status output | the power back door operation begins and back door unlock request. | Door Unit (Power Back Door ECU) | | |
| | | | 1. -<br>2. -<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | - | - |
| | DTC transmission/reception | Performs the power back door customization, malfunction detection, Active Test, etc. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. -<br>3. Power Back Door Unit (Power Back Door ECU) | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | DTC function does not operate. | - |
| Active Height Control Suspension (4-WHEEL AHC) | Damping force control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, and steering angle sensor, detects the driving conditions, road surface conditions, etc. and changes the damping force of the shock absorbers. | 1. Suspension Control ECU<br>2. -<br>3. Suspension Control ECU | - | - |
| | | | 1. -<br>2. ECM<br>3. - | Damping force control is prohibited. | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | | - |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | | - |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | | - |
| Active Height Control Suspension (4-WHEEL AHC) | Spring switching control is prohibited | Based on the information from the master cylinder solenoid (skid control ECU), steering control ECU, yaw rate sensor and steering angle sensor, detects the driving conditions, road surface conditions, etc. and changes the front spring constant value (ON/OFF). | 1. Suspension Control ECU<br>2. -<br>3. Suspension Control ECU | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Spring switching control is prohibited. | "Check 4-WHEEL AHC System" illuminates. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | | |
| | | | 1. - | | |

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| | | | 2. Steering Control ECU<br>3. - | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | | |
| Active Height Control Suspension (4-WHEEL AHC) | Vehicle height control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, 4WD, main body ECU (cowl side junction block LH), yaw rate sensor and steering angle sensor, detects the driving conditions, road surface conditions, etc. and restricts vehicle height changes. | 1. Suspension Control ECU<br>2. -<br>3. Suspension Control ECU | - | - |
| | | | 1. Suspension Control ECU<br>2. ECM<br>3. Suspension Control ECU | Vehicle height control is prohibited. | - |
| | | | 1. -<br>2. ECM<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V bus)<br>3. - | Vehicle height control is prohibited. | - |
| | | | 1. -<br>2. 4WD Control ECU<br>3. - | - | - |
| Active Height Control Suspension (4-WHEEL AHC) | Vehicle height control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, 4WD, main body ECU (cowl side junction block LH), yaw rate sensor and steering angle sensor, detects the driving conditions, road surface conditions, etc. and restricts vehicle height changes. | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Vehicle height control is prohibited. | "Check 4-WHEEL AHC System" illuminates. |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | | |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | | |
| | | | 1. -<br>2. Yaw Rate Sensor<br>3. - | | |
| | | • Air conditioning vent temperature control according to the engine coolant temperature information.<br>• Air conditioning vent switching control according to the engine coolant temperature information. | | Coolant information: Control is performed by | |

| | | | | | |
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| Air Conditioner (ACN) | Air conditioning system | • Air conditioning vent airflow amount control according to the engine coolant temperature information.<br>• Compensation of the engine coolant temperature information according to the engine type.<br>• Compressor lock judgment value switching according to the engine type. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | using the default value (80°C (176°F).<br>Engine type: The condition is maintained (when unconfirmed, control is performed by using the default (507F)). | - |
| Air Conditioner (ACN) | Air conditioning system | Compressor lock judgment by NE. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | NE: Control is performed by using the default value (0 km/h (0 mph)). | - |
| | | The electric load control condition is limited according to the load control level. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | Load control: No load control (normal control). | - |
| | | • Activation control according to the viscous heater activation permission information.<br>• Activation control according to the PTC heater activation permission information. | 1. Air Conditioning Amplifier<br>2. ECM<br>3. - | Permission information: Control is performed according to the operation prohibition state. | - |
| | | • Air conditioning system operation status control and panel switch IND output control according to panel switch operation information.<br>• Exhaust gas automatic air presence judgment and circulation control switching according to exhaust gas automatic air presence information. | 1. Air Conditioning Amplifier<br>2. Display and Navigation Module Display<br>3. - | None (Air conditioning system operation condition switching is not possible). | - |

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| Air Conditioner (ACN) | Air conditioning system | Dimmer information output to the LIN panel according to the display dimmer information. | 1. Air Conditioning Amplifier<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Condition is maintained (after the reset, the dimmer condition is fixed). | - |
| | | PTC control switching based on the headlight illumination information. | 1. Air Conditioning Amplifier<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | PTC control (the headlight flickering countermeasure) is not performed. | - |
| | | A/C control pattern switching based on the country specific information. | 1. Air Conditioning Amplifier<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Condition is maintained (when unconfirmed, control is performed according to the default value). | - |
| | | Air conditioning system operation condition switching and the outside temperature display output adjustment according to the vehicle speed information. | 1. Air Conditioning Amplifier<br>2. Combination Meter<br>3. - | • Decrease in reliability and consistency of the exterior temperature value of the outside temperature display.<br>• Decrease in the optimum level of A/C vent airflow amount adjustment. | - |
| Steering Sensor (STR) | Steering angle detection function | The steering angle change information is output to the CAN according to the steering wheel operation. | 1. Steering Angle Sensor<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • Initialization condition: Data output response request (STS=0).<br>• When the trigger frame VSC 1S01 is not received from the master cylinder solenoid (skid control ECU), the data output response of the output response request changes from STS=0 to STS=1. | - |
| | | | | Communication is stopped after | |

| | | | | | |
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| | | | | transmission is sent 4 times at 12 msec. intervals as the data output response non-request STS=0.<br>When the above conditions are met, the sensor internal zero point memory invalid SAZS=1 and SFRZ=previous value + 1 during the next transmission. | - |
| Steering Sensor (STR) | Steering angle detection function | The steering angle change information is output to the CAN according to the steering wheel operation. | 1. Steering Angle Senso<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | - | Depends on the partner ECU specification. |
| Seat (DST) | Seat system | Memory restore function | 1. Position Control ECU and Switch<br>2. -<br>3. Position Control ECU and Switch | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The memory restore function does not operate. | - |
| | | | 1. -<br>2. ECM<br>3. - | The memory restore function does not operate. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | The memory restore function does not operate. | - |
| | | | 1. -<br>2. Outer Mirror Control ECU<br>3. - | The memory restore function does not operate. | - |
| | | Memory call function | 1. Position Control ECU and Switch<br>2. -<br>3. Position Control ECU and Switch | - | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | The memory call does not operate. | - |
| | | Tilt and telescopic operation permission function | 1. Position Control ECU and Switch<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Multiplex Tilt and Telescopic ECU<br>3. Multiplex Tilt and Telescopic ECU | The tilt and telescopic operation does not operate. | - |
| | | | 1. Outer Mirror | | |

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| Mirror (DRD) | Mirror surface manual control | Function that adjusts the mirror surface with the manual switch. | Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | The mirror surface manual adjustment function does not operate (stops if there is a disruption during the operation). | - |
| | Mirror surface memory control | Function that records the mirror surface position. | 1. Outer Mirror Control ECU<br>2. Position Control ECU and Switch, Main Body ECU (Cowl Side Junction Block LH)<br>3. - | The mirror surface recording function does not operate | - |
| | Mirror surface recovery control | Function that moves the mirror surface to the recorded mirror surface position. | 1. Outer Mirror Control ECU<br>2. Position Control ECU and Switch<br>3. - | The mirror surface recovery function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Mirror surface reverse control | Function that tilts the mirror surface downward when the vehicle is moving in reverse. | 1. Outer Mirror Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | The reverse shift-linked function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Electric retract/return control | Function that retracts/returns the mirror housing. | 1. Outer Mirror Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | The mirror housing retract/return function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Foot light illumination control | Function that turns on/off the foot light illumination that is on the bottom of the mirror housing. | 1. Outer Mirror Control ECU<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | The foot light illumination turns off (if illuminated, turns off). | - |
| | | | 1. Windshield Wiper ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | With the engine switch on (IG) and the wipers operating with the LO switch on, the intermittent wiper function does not operate while the vehicle is stopped due to the vehicle speed switching control not operating. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | | - |
| | | | | • With the engine switch on (IG) and the wipers operating with the LO switch on, the | |

| | | | | | |
|---|---|---|---|---|---|
| Wiper (FRN) | Front wiper control | System that operates the wiper HI and LO operation, vehicle speed sensing intermittent wiper function, vehicle speed switching function, washer linked function, and auto wiper. | 1. -<br>2. Combination Meter<br>3. - | intermittent wiper function does not operate while the vehicle is stopped due to the vehicle speed switching control not operating.<br>• With the engine switch on (IG), the washer fluid delay timing becomes fixed.<br>• With the engine switch on (IG), the intervals do not change according to the vehicle speed while the intermittent wiper function is operating. | - |
| Wiper (FRN) | LIN communication control | System that assists the outer wiper function by communication with the windshield wiper ECU. | 1. Windshield Wiper ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | With the engine switch on (IG), the disruption value data is routed to the rain sensor. Otherwise, the rain sensor operation depends on the specifications. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | | - |
| Navigation (EMVN) | Air Conditioner Control | Controls all Air Conditioner functions | 1. Display and Navigation Module Display<br>2. Air Conditioning Amplifier<br>3. - | Clears display screens that do not respond to SW | Displayed on-screen |
| | Clearance Sonar Settings / Communication | Displays Sonar Status, and issues audible warnings | 1. Display and Navigation Module Display<br>2. ECM, Parking Assist ECU<br>3. - | Clears display screens that do not respond to SW | Icon disappears |
| | Destination ID | Determines the vehicle destination, and decides the display language, time zones, etc | 1. Display and Navigation Module Display<br>2. Main Body ECU (Cowl Side Junction | Destination data saved prior to system stoppage is used | Cannot detect |

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| | | | Block LH)<br>3. - | | |
| No. 2 Body ECU (RRJ) | Rear wiper control | System that performs the rear wiper LO speed operation, washer linked function, intermittent wiper function, vehicle speed switching control, and reverse linked control. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | With the engine switch on (IG), the rear wiper does not stop due to the rear upper door opening during the rear wiper operation. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | With the engine switch on (IG), the intermittent wiper function does not operate while the wipers are stopped due to the vehicle speed switching control not operating during the rear wiper operation. | - |
| | | | 1. -<br>2. ECM<br>3. - | With the engine switch on (IG), the rear wiper does not activate due to the reverse operation control not operating when the front wiper is operating. | - |
| | | | 1. -<br>2. Windshield Wiper ECU<br>3. - | | - |
| | Lower door closer control | System that independently controls the internal closer motors (RH, LH) of the rear lower door at the same time. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | Does not activate release, and does not release the lower door latch. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | With the engine switch on (IG), does not activate release, and does not release the lower door latch. | - |
| No. 2 Body ECU (RRJ) | Illumination control | System that fades the inside handle illumination, and step illumination in and out. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Does not turn on the inside handle illumination or step illumination. | - |
| | LIN communication control | System that routes the CAN data to the overhead module using LIN communication. | 1. No. 2 Main Body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Routes the disrupted value data to the overhead module. | - |
| | | | 1. -<br>2. Certification ECU (Smart | | - |

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| | | | Key ECU)<br>3. - | | |
| Variable Gear Ratio Steering (VGR) | VGRS system | System that changes the steering gear ratio based on the vehicle speed information and steering angle. | 1. Steering Control ECU<br>2. -<br>3. Steering Control ECU | - | - |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | VGRS system does not operate. | Master warning light illuminates and display is shown on multi-information display (meter display). |
| | | | 1. -<br>2. ECM<br>3. - | | |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | | |
| Clearance Sonar (CSR) | LEXUS parking assist-sensor system | System that activates the ultrasonic sensor, measures the distance from obstacles, and notifies the user by using the display and buzzer. | 1. Clearance Warning ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Air Conditioning Amplifier<br>3. - | The sonar system functions normally. Maintains distance by maintaining the outside temperature at 25°C (77°F). | - |
| | | | 1. -<br>2. Windshield Wiper ECU<br>3. - | The sonar system functions normally. Operates the obstacle judgments with the wiper off (except in rain). | - |
| | | | 1. -<br>2. ECM<br>3. - | If data received from the ECM is lost, the system is inoperable as control is performed with the shift position data set to P. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH)<br>3. - | The clearance sonar main switch indicator is maintained with the brightness as the previous value. | - |
| | | | | The sonar system functions normally. Control is maintained with the country specification information as the previous value (with or without a warning sound). | - |
| Clearance Sonar (CSR) | LEXUS parking assist-sensor system | System that activates the ultrasonic sensor, measures the distance from obstacles, and notifies the user by using the display and buzzer. | 1. -<br>2. Combination Meter<br>3. - | If data received from the meter ECU is lost, the system is inoperable as the clearance sonar is controlled at 20 km/h (12.5 mph) or more. | - |
| | | | 1. -<br>2. Display and Navigation | The sonar system functions normally. The clearance sonar customize information is maintained. | - |
| | | | | The sonar system functions normally. Information on the | - |

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| | | | Module<br>Display<br>3. - | camera presence is maintained. | |
| | | | | The sonar system functions normally. Notification on the screen that the clearance sonar is off is disabled. | - |
| AFS | Leveling | System that adjusts the beam axis direction of the headlights vertically according to the pitch angle requested by the wheel speed sensor and vehicle height sensor. | 1. AFS ECU (Headlight Swivel ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | AFS OFF indicator light blinks. |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • Leveling control continues with the vehicle speed set to 0 km/h (0 mph).<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | - | - |
| AFS | Swivel | System that measures the turning diameter based on the wheel speed and steering angle, and then moves the headlights left and right according to the turning diameter. | 1. AFS ECU (Headlight Swivel ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | AFS OFF indicator blinks. |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • Leveling control continues with the vehicle speed set to 0.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering Angle Sensor, Steering Control ECU | • Leveling control continues.<br>• Swivel control centers the | |

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| | | | 3. - | headlights. | |
| | | | 1. -<br>2. Steering Angle Sensor<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | • Level control continues.<br>• Swivel control centers the headlights. | |
| | AFS indicator | Monitors for AFS system malfunctions and blinks the indicator of the meter when a malfunction is detected. | 1. AFS ECU (Headlight Swivel ECU)<br>2. -<br>3. AFS ECU (Headlight Swivel ECU) | - | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | - | - |
| Rear View Monitor (DS2) | Rear view monitor system | System that displays the expected course lines in the back camera image of the display that links to the steering angle to assist in parking (garage parking, parallel parking, etc.). | 1. Parking Assist ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The rear view monitor system does not operate. | Nothing (informed to user by not displaying image). |
| | | | 1. -<br>2. Steering Angle Sensor, Steering Control ECU<br>3. - | | Does not display the expected course lines on the display. Displays "Guidance unavailable" on the navigation screen. |
| | Wide view front and side monitor system | System that displays the front and side camera image on the display (the side monitor is linked with the steering angle to display the expected course lines). | 1. Parking Assist ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The wide view front and side monitor system does not operate. | Nothing (informed to user by not displaying image). |
| | | | 1. -<br>2. Steering Angle Sensor, Steering Control ECU<br>3. - | | Does not display the expected course lines on the display. Displays "Guidance unavailable" on the navigation screen. |
| | PCS (brake linked) | When the VSC system suddenly brakes and/or the vehicle is unable to be controlled (while spinning or drifting), the seat belt control ECU operates the pre-collision seat belts (PSB) that are fastened (receives the buckle switch information from the center airbag sensor) by tightening the seat belts to increase the | 1. Seat Belt Control ECU<br>2. -<br>3. Seat Belt Control ECU | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Detects that communication with the seat belt control ECU is lost. Control is stopped. | - |
| | | | 1. -<br>2. Distance Control ECU<br>3. - | - | - |

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| Pre-crash Seat Belt (PSB) | | occupant restraint. | 1. -<br>2. Center Airbag Sensor<br>3. - | Detects that communication with the seat belt control ECU is lost. Control is stopped. | - |
| | PCS (millimeter wave radar sensor linked) | When ACC determines that a collision is unavoidable based on the information from the millimeter wave radar sensor, the seat belt control ECU operates the pre-collision seat belts (PSB) that are fastened by tightening the seat belts to increase the occupant restraint. | 1. Seat Belt Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Distance Control ECU<br>3. - | Detects that communication with the seat belt control ECU is lost. Control is stopped (millimeter wave radar sensor linked). | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | Detects that communication with the seat belt control ECU is lost. Control is stopped. | - |
| Pre-crash Seat Belt (PSB) | Meter display request | Receives the seat belt control ECU malfunction information or ACC malfunction information, and requests the display of the indicator to the meter ("PCS" indicator turn off/turn on request).<br>**HINT:**<br>As long as there is a signal in the ACC frame, the blinking request outputs an illumination request to the combination meter. When communication with the ACC frame is lost, it is determined that a malfunction exists and an illumination request is output along with the malfunction.<br>The priority order is determined by the combination meter. The illumination is the first priority. | 1. Seat Belt Control ECU<br>2. -<br>3. - | - | Exclusive indicator "PCS" turns on. |
| | | | 1. -<br>2. Combination Meter, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | | |
| | | | 1. -<br>2. Combination Meter, Distance Control ECU<br>3. - | | |
| | 2 digit DTC output | When terminal TC of the DLC3 is connected to terminal GND, a 2 digit DTC (BCD) is displayed by the blinking of "PCS". | 1. Seat Belt Control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | - | - |
| | Speedometer | Indicates the vehicle speed according to the vehicle speed signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | The speedometer indicates 0 km/h (0 mph). | - |
| | | | 1. Combination | | |

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| Meter (MET) | Tachometer | Indicates the engine speed according to the engine speed signal. | 1. Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The tachometer indicates 0 rpm. | - |
| | ODO/TRIP meter | Calculates and displays the driven distance according to the vehicle speed pulse signal calculated value. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | • The ODO/TRIP meter stops calculating and the last displayed value continues to be displayed.<br>• Optitron meter: In multi-display.<br>• Regular analog meter: Independent LCD. | - |
| | Engine coolant temperature gauge | Indicates the coolant temperature according to the engine coolant temperature signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The coolant temperature gauge displays less than the C mark. | - |
| Meter (MET) | Fuel gauge | Indicates the remaining fuel according to the fuel sender (direct line) input (uses the CAN communication (the vehicle speed signal) to determine if the vehicle is being driven or not). | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Control is performed with the speed input as 0 km/h (0 mph). | - |
| | Oil pressure gauge | Indicates the engine oil pressure according to the oil pressure sender (direct line) input (uses the CAN communication to determine if the engine is on or off by the engine speed signal). | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The oil pressure gauge displays less than the L mark. | - |
| | Shift lever indicator | The shift information is displayed according to the shift position signal. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The shift lever indicator and shift position in the multi-information display turns off. | - |
| | | | 1. Combination Meter<br>2. -<br>3. Combination | - | - |

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| | | | Meter | | |
| Meter (MET) | Buzzer | Controls the buzzer to sound and not sound according to the various signals that are input. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Conditions for the seat belt buzzer not sounding:<br>When VSC1S03 is lost: Does not sound.<br>When BDB1S01 is lost: Does not sound.<br>When ECT1S90 is lost: Control is performed with B_R=0b. | - |
| | | | | Conditions for the seat belt buzzer sounding:<br>When VSC1S03 is lost: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>When VSC1S95 is lost: Control is performed with B_CPKB=0b.<br>When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | | The door ajar driving warning buzzer does not sound. | - |
| Meter (MET) | Buzzer | Controls the buzzer to sound and not sound according to the various signals that are input. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | The light reminder buzzer does not sound. | - |
| | | | | The sliding roof buzzer condition is maintained (until bus sleep). | - |
| | | | 1. -<br>2. ECM<br>3. - | The A/T reverse buzzer does not sound. | - |
| | | | | • The sports shift reject buzzer condition is maintained.<br>• The radar cruise low speed buzzer does not sound.<br>• The radar cruise warning buzzer does not sound. | - |
| | | | 1. -<br>2. 4WD Control ECU<br>3. - | The last state of the 4WD buzzer is maintained. | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | The door control transmitter buzzer (single push, continuous push, and intermittent push) does not sound.<br>The immobiliser verification completion notification buzzer does not sound. | - |
| | | | 1. Combination Meter<br>2. -<br>3. Combination | - | - |

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| | | | Meter | | |
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. Master Cylinder (Skid Control ECU)<br>3. - | The ABS indicator turns on. | The ABS indicator turns on. |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Brake warning light<br>When VSC1S95 is lost: Illuminates.<br>When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | SLIP indicator light condition is maintained.<br>VSC OFF indicator light condition is maintained.<br>The downhill assist control indicator light condition is maintained.<br>The CRAWL indicator light condition is maintained. | - |
| | | | | Control is performed with the speed condition as 0 km/h (0 mph) for the following display:<br>FUEL FILTER clog indicator.<br>The odometer calculation is stopped for the following display conditions: T-BELT indicator. | - |
| | | | 1. -<br>2. AFS ECU<br>3. - | Maintains the AFS OFF indicator condition. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body | When there is determined to be a disruption, the following indicators operate as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off.<br>• DOOR indicator light<br>• Driver side seat belt indicator light | - |
| | | | | When there is determined to be a disruption, the following indicators operate as | |

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| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off.<br>• FRONT FOG indicator light<br>• REAR FOG indicator light<br>• TAIL indicator<br>• HEAD indicator<br>• BEAM indicator | - |
| | | | 1. -<br>2. Parking Assist ECU<br>3. - | CLEARANCE SONAR indicator light turns off. | - |
| | | | 1. -<br>2. ECM<br>3. - | The A/T P warning light condition is maintained.<br>The ECT PWR indicator light condition is maintained.<br>The 2nd START indicator light condition is maintained.<br>The CHARGE warning light condition is maintained.<br>The CRUISE main indicator light condition is maintained. | - |
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. ECM, 4WD Control ECU<br>3. - | The A/T P warning light conditions are maintained. | - |
| | | | 1. -<br>2. 4WD Control ECU<br>3. - | The center differential lock indicator light turns off.<br>The 4LO indicator light turns off. | - |
| | | | 1. -<br>2. Seat Belt Control ECU<br>3. - | The PCS indicator light condition is maintained. | - |
| | | | 1. -<br>2. Suspension Control ECU<br>3. - | The ACCESS MODE indicator light<br>• When the engine switch is on (IG): The condition is maintained.<br>• When the engine switch is off: Turns off. | - |
| | | | 1. -<br>2. Center Airbag Sensor<br>3. - | The SRS warning light turns on. | The SRS warning indicator turns on. |
| | | | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | | Displays a blank screen | |

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| | | | 1. -<br>2. ECM, Master Cylinder Solenoid (Skid Control ECU)<br>3. - | and drive monitor operation and calculation of the following values stops: instant fuel economy, average fuel economy after refueling, distance to empty, average vehicle speed after engine start, driving distance after engine start. | - |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, radar cruise, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Parking brake drag warning display conditions:<br>When VSC1S03 is lost: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>When VSC1S95 is lost: Control is performed with B_CPKB=0b.<br>When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control ECU)<br>3. - | The TRC system display is maintained.<br>The VSC display is maintained. | - |
| | | | 1. -<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | Control is performed with the speed condition as 0 km/h (0 mph) for the following displays: Door open while driving display, FUEL FILTER clog display.<br>ODO calculation stops for the following display conditions: Oil maintenance display, T-BELT display. | - |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus), Master Cylinder Solenoid (Skid Control | Conditions for the door open display and door open while driving display:<br>VSC1S03: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>BSB1S01: Display state is maintained.<br>BDB1S08: No display. | - |

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| | | | ECU)<br>3. - | | |
| | | | 1. -<br>2. Air Conditioning Amplifier<br>3. - | The outside temperature display is "E". | The outside temperature display is "E" (in the meter). |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | The shift lever display turns off. | - |
| | | | | The door control transmitter display condition is as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off. | - |
| | | | | The sliding roof open display condition is as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off. | - |
| | | | 1. -<br>2. Parking Assist ECU<br>3. - | The clearance warning sonar display condition is maintained. | - |
| Meter (MET) | Multi-display | Displays information about the drive monitor, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. ECM<br>3. - | The A/T shift position display turns off. | - |
| | | | | The A/T OIL TEMP display state is maintained. | - |
| | | | 1. -<br>2. Seat Belt Control ECU<br>3. - | The PCS display condition is maintained. | - |
| | | | 1. -<br>2. Certification ECU (Smart Key ECU)<br>3. - | The door control transmitter display condition is maintained.<br>The security display condition is maintained.<br>The door control transmitter unlock mode display condition is maintained. | - |
| | | | 1. -<br>2. Suspension Control ECU<br>3. - | 4-WHEEL AHC vehicle height display turns off.<br>"Check 4-WHEEL AHC System" is displayed. | 4-WHEEL AHC vehicle height display turns off.<br>"Check 4-WHEEL AHC System" is displayed. |
| | | | 1. -<br>2. Steering Control ECU<br>3. - | "Check VGRS System" is displayed. | "Check VGRS System" is displayed. |
| | Illumination function | Controls dimming and meter illumination on/off according to the CAN signals. | 1. Combination Meter<br>2. -<br>3. Combination Meter | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | Daytime brightness. | - |
| | | | 1. -<br>2. ECM<br>3. - | - | - |
| | | | 1. Combination | | |

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| | | | Meter<br>2. -<br>3. Combination Meter | - | - |
| Meter (MET) | Passenger seat belt warning indicator | Blinks the passenger seat belt warning indicator according to the CAN signals. | 1. -<br>2. Center Airbag Sensor<br>3. - | The passenger seat belt warning indicator condition is maintained. | - |
| | | | 1. -<br>2. -<br>3. Display and Navigation Module Display | - | - |
| Body (BDB) | Power supply switching control | The system that switches the power supply between +B, ACC, and IG. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter, ECM<br>3. - | The forced engine switch off function does not operate. | - |
| | | | | When the power supply switching conditions are met, power supply switching control is permitted.<br>When the power supply condition IG2 start/stop switch turns from off to on, the power supply condition is changed to IG1, and the IG relay output stops. | - |
| Body (BDB) | Security | The system that operates the warning when a theft is detected. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Certification ECU (Smart Key ECU)<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | The security control does not operate (The headlight/taillight warning output, horn warning output, and hazard warning light output do not operate).<br>The forced door lock function lock output does not operate.<br>The dome light warning control does not operate.<br>The lighting system answer back control does not operate. (The taillight warning output and hazard warning light output do not operate). | - |
| | | | | When the security warning is operating, warning output stops during hazard warning light output. | - |
| | | | | When the security warning is operating, the dome light turns off during dome light illumination. | - |
| | Entry and start/wireless | The system that operates the lock/unlock, engine switch, back door opener, warning, etc. by pressing the switch when the door control transmitter is within the vehicle detection area.<br>The system that operates the vehicle lock/unlock, panic, back door opener, etc. by remote control. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Certification ECU (Smart Key ECU)<br>3. Main Body ECU (Cowl Side Junction Block LH) | Entry and start/wireless control does not operate.<br>The door lock/unlock control and entry and start back door opener control do not operate. | - |

| | | | | | |
|---|---|---|---|---|---|
| | | | (MS Bus) | | |
| Body (BDB) | Vehicle speed linked auto lock | The system that locks the doors when the vehicle speed is 20 km/h (12 mph) or more. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter, ECM<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | When the vehicle speed linked auto lock signal is lost, operation is permitted. | - |
| | | | | The vehicle speed linked auto lock does not operate. | - |
| | Shift linked auto lock/unlock | The system that unlocks all the doors when the shift lever is moved to P, and locks all doors when the shift lever is moved from P to another position while the engine is running. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter, ECM<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | The shift linked auto lock/unlock function does not operate. | - |
| | | | | When the shift linked auto lock/unlock signal is lost, operation is permitted. | - |
| | DRL | The system that illuminates lights when driving the vehicle to improve the visibility of pedestrians and other vehicles in the daytime. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. ECM<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | DRL control does not operate.<br>**HINT:**<br>If operated once, the operation continues until the engine switch is turned off, even if the signal is lost. | - |
| | Boarding | System that controls the front (rear) dome light, door mirror foot light, center console spot light, and interior foot light. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Certification ECU (Smart Key ECU), Combination Meter, ECM, Parking Assist ECU<br>3. Outer Mirror Control ECU, No. 2 Main Body ECU, Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction | Front (rear) dome light, door mirror foot light, center console spot light, and interior foot light control does not operate. | - |
| | | | | While the interior foot light is illuminated, the center console does not turn off. | - |
| | | | | When the interior foot light is illuminated, the dimmer operates.<br>When the engine switch is on (IG), the door mirror foot light does not operate by the manual unlock. | - |
| | | | | When the side monitor is operating, the door mirror foot light can illuminate. | - |

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| | | | Block LH) (V Bus) | | |
| Body (BDB) | Back door | System that operates the hazard warning lights as an answer back when the power back door begins to operate. | 1. Power Back Door Unit (Power Back Door ECU)<br>2. Power Back Door Unit (Power Back Door ECU)<br>3. Main Body ECU (Cowl Side Junction Block LH) (MS Bus) | The hazard warning light answer back does not operate when the back door begins to operate. | - |
| | Back door opener | The system that releases the door latch (turns opener motor on) by turning on the switch built into the outside door handle. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter<br>3. Main Body ECU (Cowl Side Junction Block LH) (V Bus) | Prohibits the back door opener control. | - |
| | One motion power back door opener | System that unlocks and opens the back door in one motion when the wireless back door opening operation is performed. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Power Back Door Unit (Power Back Door ECU)<br>3. Power Back Door Unit (Power Back Door ECU) | Back door opener control does not operate. | - |
| | Display automatic dimmer control | System that controls the brightness of the interior display/indicators, etc. only during twilight and nighttime by determining the time of day and using the light sensor signal. | 1. Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>2. Combination Meter<br>3. Windshield Wiper ECU, No. 2 Main Body ECU, Combination Meter, Air Conditioning Amplifier | Operates the display automatic dimmer control when the tail cancel switch is on. When the value of the light sensor illumination intensity signal is less than the display dimmer value, the brightness of the vehicle interior display/indicator is dimmed. | - |
| | Power window | The system that operates power window control based on the request from wireless/entry and start control. | 1. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>2. Certification ECU (Smart Key ECU)<br>3. - | Power window control does not operate. Power window control stops during wireless/entry power window control operation. | - |
| | | | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. - | - | - |

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|---|---|---|---|---|---|
| Verification (IDT) | Entry function | Entry and start/lock/back door/warning, etc. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus), Main Body ECU (Cowl Side Junction Block LH) (V Bus)<br>3. - | • The entry lock/unlock does not operate.<br>• The entry back door does not operate.<br>• The entry and start warning message does not operate.<br>• The key lock-in prevention function does not operate.<br>• The entry illumination does not operate. | - |
| | | | | Package default setting. | - |
| | | | 1. -<br>2. Combination Meter<br>3. - | The vehicle speed is determined to be 0 km/h (0 mph). | - |
| | | | | - | - |
| | Wireless buzzer function | The wireless buzzer sounding control. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | Does not sound even though there is a wireless buzzer request. | - |
| | | | | Package default settings. | - |
| | | | 1. -<br>2. Suspension Control ECU<br>3. - | Does not sound even though there is an access mode warning buzzer request. | - |
| Verification (IDT) | Immobiliser function | The immobiliser control by the warning and remote engine start. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The engine switch is forcibly turned off. | - |
| | Wireless function | Wireless electric wave information transmission. | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | - | - |
| | | | 1. Certification ECU (Smart Key ECU)<br>2. -<br>3. - | - | - |

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|---|---|---|---|---|---|
| | Security function | Security alarm control. | 1. -<br>2. Main Body ECU (Cowl Side Junction Block LH) (MS Bus)<br>3. - | The alarm is not unset.<br>The alarm is not set. | - |
| | | | 1. -<br>2. ECM<br>3. - | The alarm is not unset by the engine start. | - |
| Movement Control Bus (CGW) | Movement control bus monitor function | Monitoring of communication stop. | 1. Network Gateway ECU (Movement Control Bus)<br>2. Seat Belt Control ECU<br>3. - | The reception interval counter (RAM and CAN controller initialization). | - |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Distance Control ECU<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Clearance Warning ECU<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Parking Assist ECU<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Steering Angle Sensor<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Suspension Control ECU<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Master Cylinder Solenoid (Skid Control ECU)<br>3. - | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Yaw Rate Sensor<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. Steering Control ECU<br>3. - | | |
| | | | 1. Network Gateway ECU (Movement Control Bus)<br>2. 4WD Control ECU<br>3. - | | |
| Movement Control Bus (CGW) | Movement control bus monitor function | Monitoring of communication stop. | 1. Network Gateway ECU (Movement Control Bus)<br>2. Clearance Warning ECU, Parking Assist ECU, Master Cylinder Solenoid (Skid Control ECU), 4WD Control ECU, Steering Angle Sensor, Yaw Rate Sensor, Distance Control ECU, Steering Control ECU, Seat Belt Control ECU, Suspension Control ECU<br>3. - | The reception interval counter (RAM and CAN controller initialization). | - |

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## FAIL-SAFE FUNCTION

a. When communication fails in any of the main wires (communication lines) due to a short circuit or other causes, the fail-safe function, which is specified for each system, operates to prevent the system from malfunctioning.

b. The table below shows the effects on each system when communication is impossible. For further details, refer to each system.

| System | Function | Control Description | 1. Control Master<br>2. System Related<br>3. Control Actuator | Fail-safe Function System Behavior | Indicator and Buzzer Behavior or User Notification |
|---|---|---|---|---|---|
| Airbag (ABG) | TC DTC/output service | When TC is on, DTCs (warning light turn on/ turn off request signals) are output. | 1. Center airbag sensor assembly<br>2. ECM<br>3. Combination meter assembly | If the TC signal is lost during TC service (TC=ON), the TC is determined to be OFF and TC service ends. | - |
| | Event recorder (EDR) | Records the vehicle information during a crash (the vehicle speed, accelerator pedal opening angle, shift position, etc.). | 1. Center airbag sensor assembly<br>2. ECM, Master cylinder solenoid (skid control ECU), Steering angle sensor, Yaw rate sensor assembly<br>3. - | An invalid value is stored in the EDR. | - |
| | SRS warning light control | Turns the SRS warning light on/off. | 1. Combination meter assembly<br>2. Center airbag sensor assembly<br>3. - | - | The SRS warning light turns on. |
| | Crash Detection Signal | Reports a crash in order to perform a fuel cut, trigger the EDR, etc. during a crash. | 1. ECM<br>2. Center airbag sensor assembly<br>3. - | - | - |
| | Seat Belt Warning Light Control | Sends passenger information in order to turn the seat belt warning light on and off. | 1. Main body ECU (cowl side junction block LH), Combination meter assembly<br>2. Center airbag sensor assembly<br>3. - | - | - |
| | Warning light control | BRL, ABS, VSC-OFF,<br>SLIP and CRAWL light control (turn on/off, blink, DTC output). | 1. Master cylinder solenoid (skid control ECU)<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. Master cylinder | | |

| | | | | | |
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| Brake (VSC) | ABS control | ABS control according to the G sensor signal. | solenoid (skid control ECU)<br>2. Yaw rate sensor assembly<br>3. Master cylinder solenoid (skid control ECU) | The ABS does not operate. | VSC warning light illuminates. |
| | TRC control<br>CRAWL control | Brake control and engine torque control during acceleration slip. | 1. Master cylinder solenoid (skid control ECU)<br>2. ECM, 4WD control ECU<br>3. Master cylinder solenoid (skid control ECU) | TRC does not operate. | VSC warning light illuminates |
| | VSC control | VSC control according to the yaw rate and steering angle sensor signal. | 1. Master cylinder solenoid (skid control ECU)<br>2. ECM, 4WD control ECU, Steering angle sensor, Yaw rate sensor assembly, Steering control ECU<br>3. Master cylinder solenoid (skid control ECU) | VSC does not operate. | ABS and VSC warning light illuminates. |
| | ACC control | The brake control according to the request from the distance control ECU via the ECM. | 1. Master cylinder solenoid (skid control ECU)<br>2. ECM<br>3. Master cylinder solenoid (skid control ECU) | ACC does not operate. | ABS and VSC warning light illuminates. |
| Dynamic Radar Cruise Control (ACC) | ACC | Acceleration/deceleration control when following the vehicle in front. | 1. -<br>2. ECM<br>3. ECM | ACC control is canceled. | • "Check Cruise System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | | |
| | | | 1. -<br>2. Yaw rate sensor assembly<br>3. - | | |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. Master cylinder solenoid (skid control ECU) | - | - |
| | | | 1. Distance control ECU assembly<br>2. - | - | - |

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|---|---|---|---|---|---|
| | | | 3. - | | |
| | | | 1. -<br>2. Steering control ECU<br>3. - | - | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | - | - |
| Pre-crash Safety System (PCS) | PCS | Seat belt and brake control immediately before a crash. | 1. -<br>2. ECM<br>3. - | PCS control stops. | • "Check Cruise System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | | |
| | | | 1. -<br>2. Yaw rate sensor assembly<br>3. - | | |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. Master cylinder solenoid (skid control ECU) | | |
| | | | 1. Distance control ECU assembly<br>2. -<br>3. - | | |
| | | | 1. -<br>2. Steering control ECU<br>3. - | | |
| | | | 1. -<br>2. -<br>3. Seat belt control ECU | PCS control stops. | - |
| Tilt and Telescopic (TAT) | Auto Away/ Return Control | Controls the auto away/ return operation and prohibits auto control using the IG signal, driver seat buckle switch signal, etc. | 1. Multiplex tilt and telescopic ECU<br>2. Position control ECU and switch, Accessory bus buffer, Main body ECU (cowl side junction block LH), Combination meter assembly<br>3. - | Auto away/return control does not operate. | - |
| | | | | Auto away/return control does not operate and memorization and recall control does not operate. | - |
| | Memorization/ Recall Control | Controls the steering wheel position memorization and recall for the seat position memory. | 1. Multiplex tilt and telescopic ECU<br>2. Position control ECU and switch<br>3. - | Memorization and recall control does not operate. | - |
| | | | 1. 4WD control | | |

| | | | | | |
|---|---|---|---|---|---|
| Mechanical 4WD (FWM) | Switching control between High and Low | Switching between High and Low is prohibited during the following conditions: 1) When there is a vehicle speed violation, engine speed violation, or large difference in wheel speeds, 2) when the shift lever is not in N, or 3) when the clutch is not on. | 1. ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM, Master cylinder solenoid (skid control ECU)<br>3. - | Switching between High and Low is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if switching between High and Low can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or 4LO indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | Neutral switching control | Switching to neutral is prohibited during the following conditions: 1) When there is a vehicle speed violation or engine speed violation, or 2) when the shift lever is not in N or the clutch is not on. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM, Master cylinder solenoid (skid control ECU)<br>3. - | Switching to neutral is prohibited. | 4LO indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | Center differential lock switching control (between Free and Lock) | Center differential lock switching is prohibited when there is a vehicle speed violation or large difference in wheel speeds. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Center differential lock switching is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if center differential lock switching can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| Mechanical 4WD (FWM) | Rear differential lock switching control (between Rr Free and Rr Lock) | Rear differential lock switching is prohibited when there is a vehicle speed violation. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Rear differential lock switching is prohibited.<br>**HINT:**<br>When there is a wheel speed malfunction, function No. 7 is controlled to determine if rear differential lock switching can be performed. | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| | L4F switching control | Switching to L4F is prohibited and the operation is performed with L4L when VSC is malfunctioning. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | L4F switching is prohibited and the operation is performed with L4L. | No user notification. |
| | Specialized control when temperature is low | Changes the ACT conductive current value according to the temperature (low temperature use or normal temperature use). | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Air conditioning amplifier assembly, ECM<br>3. - | Changes the temperature used for the calculation of ACT temperature adjustment control. | No user notification. |
| | | When there is a wheel speed failure, switching is permitted only when | 1. 4WD control ECU<br>2. -<br>3. - | - | - |

| | | | | | |
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| | Specialized control during wheel speed failure | specified conditions are met (the wheel speed malfunction is 1 wheel or more and 3 wheels or less, the brake is applied, the engine speed is low, and all normal wheel speeds are low). | 1. -<br>2. ECM, Master cylinder solenoid (skid control ECU)<br>3. - | If the wheel speed malfunction is 1 wheel or more and 3 wheels or less, only when the wheel speed failure specified conditions are met, switching is permitted. When 4 wheels are malfunctioning, switching is prohibited (the wheel speed failure specialized control does not operate). | Center differential lock indicator light blinks (at 0.2 sec. intervals) or center differential lock and 4LO indicator lights blink (at 0.2 sec. intervals). |
| Mechanical 4WD (FWM) | Indicator and buzzer signal output | Signal output of the indicator and buzzer condition that indicates the actuator position and switching status. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | High-Low actuator failure signal output | When the High-Low actuator limit switch is malfunctioning, a signal is output. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | C/C cancel signal output | Outputs a cruise control cancel signal when center differential switching is not completed even though 5 sec. or more have elapsed from the start of switching. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | L4 status signal condition output | A signal is output when switching between the L4F and L4L position is completed. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | C/D lock condition signal output | CDL switch condition is output. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | R/D lock condition signal output | R switch condition is output. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| | T/F N condition signal output | NP switch condition is output. | 1. 4WD control ECU<br>2. -<br>3. - | - | - |
| Gasoline Engine | Engine control system | Adjusts the fuel injection volume according to each sensor value and controls the engine. | 1. ECM<br>2. -<br>3. - | - | - |
| | ECT control system | Changes the ECT shift position based on the vehicle speed and torque. | 1. ECM<br>2. -<br>3. - | - | - |
| | Cruise control system | Maintains a constant vehicle speed and drives the vehicle. | 1. ECM<br>2. -<br>3. - | - | - |
| | Power back door operation conditions | Prohibits the power back door operation according to the vehicle state (the engine switch, shift position, vehicle speed, and lock position). | 1. Power back door unit assembly (power back door ECU)<br>2. -<br>3. Power back door unit assembly (power back door ECU) | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH), Combination meter assembly, ECM<br>3. - | The power back door system does not operate (when the start signal is received, the buzzer sounds a warning that the conditions are not met). | - |
| | | Receives the power back | 1. Power back door unit assembly (power back door ECU)<br>2. -<br>3. Power back door unit assembly | - | - |

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| Power Back Door (BKD) | Power back door operation requests | door close/open operation trigger from the operation switch or wireless switch and begins the power back door operation. | (power back door ECU) | | |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH), Certification ECU (smart key ECU assembly)<br>3. - | The power back door system does not operate. | |
| | Power back door operation status output | Sends the hazard illumination request when the power back door operation begins and back door unlock request. | 1. Power back door unit assembly (power back door ECU)<br>2. Main body ECU (cowl side junction block LH)<br>3. Power back door unit assembly (power back door ECU) | When the back door operation begins, the hazard warning lights may not illuminate. | - |
| | | | 1. -<br>2. -<br>3. Main body ECU (cowl side junction block LH) | - | - |
| | DTC transmission/reception | Performs the power back door customization, malfunction detection, Active Test, etc. | 1. Power back door unit assembly (power back door ECU)<br>2. -<br>3. Power back door unit assembly (power back door ECU) | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | DTC function does not operate. | - |
| Active Height Control | Damping force control | Detects the driving conditions, road conditions, etc. based on information from the ECM, master cylinder solenoid (skid control ECU), steering angle sensor, yaw rate sensor assembly and steering control ECU and changes the damping force of the shock absorbers. | 1. Suspension control ECU<br>2. -<br>3. Suspension control ECU | - | - |
| | | | 1. -<br>2. ECM<br>3. - | Uses the fail-safe constant and continues damping force control. Damping force control is prohibited. | A warning is displayed. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Damping force control is prohibited. | |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | | |
| | | | 1. -<br>2. Yaw rate sensor assembly<br>3. - | | |
| | | | 1. -<br>2. Steering control ECU<br>3. - | | |
| | | | 1. Suspension control ECU | | |

| | | | | | |
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| Suspension (4-WHEEL AHC) | | | 2. -<br>3. Suspension control ECU | - | - |
| | Spring switching control is prohibited | Based on the information from the master cylinder solenoid (skid control ECU), steering control ECU, yaw rate sensor assembly and steering angle sensor, detects the driving conditions, road surface conditions, etc. and changes front spring constant value (ON/ OFF). | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Spring rate switching control is prohibited. | "Check 4-WHEEL AHC System" illuminates. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • Anti-roll spring rate switching control is prohibited.<br>• Anti-dive spring rate switching control continues. | A warning is displayed. |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | | |
| | | | 1. -<br>2. Steering control ECU<br>3. - | | |
| | | | 1. -<br>2. Yaw rate sensor assembly<br>3. - | | |
| Active Height Control Suspension (4-WHEEL AHC) | Vehicle height control | Based on the information from the ECM, master cylinder solenoid (skid control ECU), steering control ECU, 4WD control ECU, main body ECU (cowl side junction block LH), yaw rate sensor assembly, steering angle sensor, detects the driving conditions, road surface conditions, etc. and restricts vehicle height changes. | 1. Suspension control ECU<br>2. -<br>3. Suspension control ECU | - | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | - | A warning is displayed. |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The vehicle returns to vehicle height "N" and vehicle height control is prohibited. | |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | | |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | | |
| | | | 1. -<br>2. Steering control ECU<br>3. - | | |
| | | | 1. -<br>2. Yaw rate sensor assembly<br>3. - | | |
| | | • Air conditioning vent temperature control according to the engine coolant temperature information.<br>• Air | | | |

| | | | | | |
|---|---|---|---|---|---|
| Air Conditioner (ACN) | Air conditioning system | conditioning vent switching control according to the engine coolant temperature information.<br>• Air conditioning vent airflow amount control according to the engine coolant temperature information.<br>• Compensation of the engine coolant temperature information according to the engine type.<br>• Compressor lock judgment value switching according to the engine type. | 1. Air conditioning amplifier assembly<br>2. ECM<br>3. - | Coolant information: Control is performed by using the default value (80°C [176°F]).<br>Engine type: The condition is maintained (when unconfirmed, control is performed by using the default [507°F]). | - |
| | | Compressor lock judgment by NE. | 1. Air conditioning amplifier assembly<br>2. ECM<br>3. - | NE: Control is performed by using the default value (0 km/h [0 mph]) | - |
| Air Conditioner (ACN) | Air conditioning system | The electric load control condition is limited according to the load control level. | 1. Air conditioning amplifier assembly<br>2. ECM<br>3. - | Load control: No load control (normal control). | - |
| | | • Activation control according to the viscous heater activation permission information.<br>• Activation control according to the PTC heater activation permission information. | 1. Air conditioning amplifier assembly<br>2. ECM<br>3. - | Permission information: Control is performed according to the operation prohibition state. | - |
| | | • Air conditioning system operation status control and panel switch IND output control according to panel switch operation information.<br>• Exhaust gas automatic air presence judgment and circulation control switching according to exhaust gas | 1. Air conditioning amplifier assembly<br>2. Multi-media module receiver assembly<br>3. - | None (Air conditioning system operation condition switching is not possible). | - |

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| | | automatic air presence information. | | | |
| | | Dimmer information output to the LIN panel according to the display dimmer information. | 1. Air conditioning amplifier assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Condition is maintained (after the reset, the dimmer condition is fixed). | - |
| | | PTC control switching based on the headlight illumination information. | 1. Air conditioning amplifier assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | PTC control (the headlight flickering countermeasure) is not performed. | - |
| | | A/C control pattern switching based on the country specific information. | 1. Air conditioning amplifier assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Condition is maintained (when unconfirmed, control is performed according to the default value). | - |
| | | Air conditioning system operation condition switching and the outside temperature display output adjustment according to the vehicle speed information. | 1. Air conditioning amplifier assembly<br>2. Combination meter assembly<br>3. - | • Decrease in reliability and consistency of the exterior temperature value of the outside temperature display.<br>• Decrease in the optimum level of A/C vent airflow amount adjustment. | - |
| Steering Sensor (STR) | Steering angle detection function | The steering angle change information is output to the CAN according to the steering wheel operation. | 1. Steering angle sensor<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • Initialization condition: Data output response request (STS=0).<br>• When the trigger frame VSC 1S01 is not received from the master cylinder solenoid (skid control ECU), the data output response of the output response request changes from STS=0 to STS=1. | - |
| | | | | • Communication is stopped after transmission is sent 4 times at 12 msec. intervals as the data output response non-request STS=0.<br>• When the above conditions are met, the sensor internal zero point memory invalid SAZS=1 and SFRZ=previous value + 1 during the next transmission. | - |
| | | | | - | Depends on the partner ECU specification. |
| | Memorization and recall function | Memorizes and recalls the seat position. | 1. Position control ECU and switch<br>2. -<br>3. Position control ECU and switch | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The memorization and recall functions do not operate | - |
| | | | 1. -<br>2. ECM<br>3. - | | |
| | | | 1. -<br>2. Main body ECU (cowl | | |

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| | | | side junction block LH)<br>3. - | do not operate. | |
| | | | 1. -<br>2. Outer mirror control ECU assembly<br>3. - | | |
| Seat (DST) | Memory Call Function | Acquires card key information from the certification ECU and performs automatic recall. | 1. Position control ECU and switch<br>2. -<br>3. Position control ECU and switch | - | - |
| | | | 1. -<br>2. Certification ECU (smart key ECU assembly)<br>3. - | The memory call function does not operate. | - |
| | Tilt and Telescopic Operation Permission Function | Receives the recall execution signal from the tilt and telescopic system and sends a recall permission signal to the tilt and telescopic system. | 1. Position control ECU and switch<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Multiplex tilt and telescopic ECU<br>3. Multiplex tilt and telescopic ECU | The tilt and telescopic system does not operate. | - |
| | Away/Return Function | Moves the seat to the proper position for entering and exiting the vehicle. | 1. Position control ECU and switch<br>2. -<br>3. Position control ECU and switch | - | - |
| | | | 1. -<br>2. ECM<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The away function does not operate. | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | The away and return functions do not operate. | - |
| | Mirror surface manual control | Function that adjusts the mirror surface with the manual switch. | 1. Outer mirror control ECU assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The mirror surface manual adjustment function does not operate (stops if there is a disruption during the operation). | - |
| | Mirror surface memory control | Function that records the mirror surface position. | 1. Outer mirror control ECU assembly<br>2. Position control ECU and switch, Main body ECU (cowl side junction block LH)<br>3. - | The mirror surface recording function does not operate | - |
| | Mirror surface recovery control | Function that moves the mirror surface to the recorded mirror surface | 1. Outer mirror control ECU assembly<br>2. Position | The mirror surface recovery function does not operate (if disrupted during the operation, the function does not | - |

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| | | position. | control ECU and switch<br>3. - | operate from the next trigger condition). | |
| Mirror (DRD) | Mirror surface reverse control | Function that tilts the mirror surface downward when the vehicle is moving in reverse. | 1. Outer mirror control ECU assembly<br>2. Main body ECU (cowl side junction block LH), ECM<br>3. - | The reverse shift-linked function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Electric retract/return control | Function that retracts/returns the mirror housing. | 1. Outer mirror control ECU assembly<br>2. Main body ECU (cowl side junction block LH), ECM<br>3. - | The mirror housing retract/return function does not operate (if disrupted during the operation, the function does not operate from the next trigger condition). | - |
| | Foot light illumination control | Function that turns on/off the foot light illumination that is on the bottom of the mirror housing. | 1. Outer mirror control ECU assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The foot light illumination turns off (if illuminated, turns off). | - |
| Wiper (FRN) | Front wiper control | System that operates the wiper HI and LO operation, vehicle speed sensing intermittent wiper function, vehicle speed switching function, washer linked function, and auto wiper. | 1. Windshield wiper ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | With the engine switch on (IG) and the wipers operating with the LO switch on, the intermittent wiper function does not operate while the vehicle is stopped due to the vehicle speed switching control not operating. | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | | |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | • With the engine switch on (IG) and the wipers operating with the LO switch on, the intermittent wiper function does not operate while the vehicle is stopped due to the vehicle speed switching control not operating.<br>• With the engine switch on (IG), the washer fluid delay timing becomes fixed.<br>• With the engine switch on (IG), the intervals do not change according to the vehicle speed while the intermittent wiper function is operating. | - |
| | LIN communication control | System that assists the outer wiper function by communication with the windshield wiper ECU. | 1. Windshield wiper ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | With the engine switch on (IG), the disruption value data is routed to the rain sensor. Otherwise, the rain sensor operation depends on the specifications. | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | | |
| | | Controls the selecting of the registers, temperature | 1. Multi-media module receiver assembly<br>2. Air | • Turns off any indicators related to the air conditioning system.<br>• If the set air temperature is displayed on an external | The "Climate control |

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| Navigation (EMVN) | Air Conditioning Control | adjustment, etc. according to the operation of the touch panel switches on the display. | conditioning amplifier assembly<br>3. Air conditioning amplifier assembly | display device, the system clears the set air temperature display.<br>• Disables the functions used to operate the air conditioning system. | system error. Please contact your dealer." screen appears. |
| | Clearance Sonar Settings/ Notification | Controls the settings for the clearance sonar screen notifications which are set by operating the touch switches of the multi-display, displays the sonar status and plays voice warnings. | 1. Multi-media module receiver assembly<br>2. ECM, Parking assist ECU<br>3. Parking assist ECU | • If communication stop occurs while clearance sonar settings screen is displayed, settings screen is cleared.<br>• If a communication stop occurs while the clearance sonar sensor screen is displayed, the sensor screen is cleared. | The "LEXUS Park Assist" icon which is displayed on the vehicle settings screen is cleared. |
| Navigation (EMVN) | Eco Navigation Display | Displays the average fuel consumption history and a graph indicating the fuel consumption in 1 minute intervals. | 1. Multi-media module receiver assembly<br>2. Combination meter assembly, ECM, Master cylinder solenoid (skid control ECU)<br>3. - | The fuel consumption per minute display update on the eco navigation screen (fuel consumption per minute screen) stops. | • The 1 minute fuel consumption graph on the eco navigation (eco drive) screen is not updated for 1 minute or more.<br>• The most recent value for the fuel consumption graph on the eco navigation (eco drive) screen is cleared.<br>• The numbers of the distance to empty displayed on the fuel consumption screen of the eco navigation (eco drive) display are cleared. |
| | | | | • Stops updating the average fuel consumption history on the eco navigation (eco drive display).<br>• If the distance to empty is displayed on the eco navigation (eco drive display), the numbers of the display indicating the distance to empty are cleared because the distance to empty data is lost. | - |
| | Rear View Monitor Control | Displays the rear view monitor based on information from the steering sensor, the vehicle speed, and the vehicle information (2WD/4WD determination | 1. Multi-media module receiver assembly<br>2. Main body ECU (cowl side junction block LH), ECM, Steering | - | • If a communication stop occurs when the expected course lines are being displayed, the expected course lines are cleared and "Guidance unavailable" is displayed on the bottom of the screen. |

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| | | information and VGRS information). | angle sensor, Steering control ECU<br>3. - | | • If a communication stop occurs when the display is in parallel parking guide mode, "Guidance unavailable" is displayed on the bottom of the screen. |
| Navigation (EMVN) | Destination Determination | Determines the destination based on the destination signal and destination package information and selects the display language, time zone, etc. | 1. Multi-media module receiver assembly<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Determines the destination by maintaining the state before the communication stop. | The time zone and language selection screens do not match the destination. |
| | Vehicle Event Recorder | Continuously records the status information from the control ECUs and sensor information to the HDD in the EMV (AVN). | 1. Multi-media module receiver assembly<br>2. Combination meter assembly, ECM, Master cylinder solenoid (skid control ECU), Steering control ECU, Suspension control ECU<br>3. - | Records the last received value to the HDD every 5000 milliseconds. | - |
| | Vehicle Customize Function | Changes the behavior and control parameters of various functions (illumination lighting time, etc.) according to the user operation via the screen. | 1. Multi-media module receiver assembly<br>2. Position control ECU and switch, Certification ECU (smart key ECU assembly), Main body ECU (cowl side junction block LH), Air conditioning amplifier assembly<br>3. - | • When a phase 4 remote communication usage application is performed (customize or remote diagnosis), the information is processed regardless of whether the BDB ECU has permitted or prohibited remote communication.<br>• 3 retries (including the first time) are performed. | The related customization items for each ECU are not displayed or the set values cannot be changed. |
| | Rear wiper control | System that performs the rear wiper LO speed operation, washer linked function, intermittent wiper function, vehicle speed switching control, and reverse linked control. | 1. No. 2 main body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | With the engine switch on (IG), the rear wiper does not stop due to the rear upper door opening during the rear wiper operation. | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | With the engine switch on (IG), the intermittent wiper function does not operate while the wipers are stopped due to the vehicle speed switching control not operating during the rear wiper operation. | - |
| | | | 1. -<br>2. ECM<br>3. - | With the engine switch on (IG), the rear wiper does not activate due to the reverse operation control not operating | - |
| | | | 1. -<br>2. Windshield | | |

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| | | | 2. Windshield wiper ECU<br>3. - | when the front wiper is operating. | |
| No. 2 main body ECU (RRJ) | Lower door closer control | System that independently controls the internal closer motors (RH, LH) of the rear lower door at the same time. | 1. No. 2 main body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Does not activate release, and does not release the lower door latch. | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | With the engine switch on (IG), does not activate release, and does not release the lower door latch. | - |
| | Illumination control | System that fades the inside handle illumination, and step illumination in and out. | 1. No. 2 main body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Does not turn on the inside handle illumination or step illumination. | - |
| No. 2 main body ECU (RRJ) | LIN communication control | System that routes the CAN data to the overhead module using LIN communication. | 1. No. 2 main body ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Routes the disrupted value data to the overhead module. | - |
| | | | 1. -<br>2. Certification ECU (smart key ECU assembly)<br>3. - | | |
| Variable Gear Ratio Steering (VGR) | VGRS system | System that changes the steering gear ratio based on the vehicle speed information and steering angle. | 1. Steering control ECU<br>2. -<br>3. Steering control ECU | - | - |
| | | | 1. -<br>2. Steering angle sensor<br>3. - | VGRS system does not operate. | Master warning light illuminates and display is shown on multi-information display (meter display). |
| | | | 1. -<br>2. ECM<br>3. - | | |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | | |
| | | | 1. Parking assist ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Air conditioning amplifier assembly<br>3. - | The sonar system functions normally. Maintains distance by maintaining the outside temperature at 25°C (77°F). | - |
| | | | 1. -<br>2. Windshield wiper ECU<br>3. - | The sonar system function normally. Operates the obstacle judgments with the wiper off (except in rain). | - |
| | | | 1. | If data received from the ECM is lost, | |

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| | | | 1. -<br>2. ECU<br>3. - | the system is inoperable as control is performed with the shift position data set to P. | - |
| Clearance Sonar (CSR) | LEXUS parking assist-sensor system | System that activates the ultrasonic sensor, measures the distance from obstacles, and notifies the user by using the display and buzzer. | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The clearance sonar main switch indicator is maintained with the brightness as the previous value. | - |
| | | | | The sonar system functions normally. Control is maintained with the country specification information as the previous value (with or without a warning sound). | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | If data received from the meter ECU is lost, the system is inoperable as the clearance sonar is controlled at 20 km/h (12.5 mph) or more. | - |
| | | | 1. -<br>2. Multi-media module receiver assembly<br>3. - | The sonar system functions normally. The clearance sonar customize information is maintained. | - |
| | | | | The sonar system functions normally. Information on the camera presence is maintained. | - |
| | | | | The sonar system functions normally. Notification on the screen that the clearance sonar is off is disabled. | - |
| AFS | Leveling | System that adjusts the beam axis direction of the headlights vertically according to the pitch angle requested by the wheel speed sensor and vehicle height sensor. | 1. Headlight swivel ECU assembly (AFS ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | AFS OFF indicator blinks. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • Leveling control continues with the vehicle speed set to 0 km/h (0 mph).<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering control ECU<br>3. - | - | - |
| AFS | Swivel | System that measures the turning diameter based on the wheel speed and steering angle, and then moves the headlights left and right according to the turning diameter. | 1. Headlight swivel ECU assembly (AFS ECU)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | AFS OFF indicator blinks. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • Leveling control continues with the vehicle speed set to 0.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering angle sensor, Steering control ECU<br>3. - | • Leveling control continues.<br>• Swivel control centers the headlights. | |
| | | | 1. -<br>2. Steering angle sensor | • Leveling control continues.<br>• Swivel control centers the headlights. | |

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| | | | 3. - | | |
| | | | 1. -<br>2. Main Body ECU (Cowl Side Junction Black LH) (V Bus).<br>3. - | • Level control continues.<br>• Swivel control centers the headlights. | |
| | AFS indicator | Monitors for AFS system malfunctions and blinks the indicator of the meter when a malfunction is detected. | 1. Headlight swivel ECU assembly (AFS ECU)<br>2. -<br>3. Headlight swivel ECU assembly (AFS ECU) | - | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | - | - |
| Back Guide Monitor | BGM (Rear View Monitor) | Automatically displays the rear view camera image and guidelines when conditions to display the rear view monitor are met, such as having the shift lever in R, etc. | 1. Parking assist ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The guidelines cannot be adjusted. | - |
| | | | 1. -<br>2. ECM<br>3. - | The screen does not change to the camera screen even when the shift lever is moved to R. | - |
| | | | 1. -<br>2. Steering angle sensor, Steering control ECU<br>3. - | - | On the bottom of the screen, "Guidance unavailable" is displayed, and the change display mode switch is not displayed. |
| | WAS (Front and Side Monitor) | Automatically or manually displays the front camera image, passenger side camera image and guidelines when conditions to display the front and side monitor are met, such as having a certain vehicle speed and shift position, and according to switch operation, etc. | 1. Parking assist ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | • The automatic display function does not operate.<br>• The screen does not change to the camera screen even when the main switch is pushed. | - |
| | | | 1. -<br>2. Steering angle sensor, Steering control ECU<br>3. - | - | On the bottom of the screen, "Guidance unavailable" is displayed, and the change display mode switch is not displayed. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • Automatic display mode does not operate.<br>• The screen does not change to the camera screen even when the main switch is pushed. | - |
| | | | 1. Parking assist ECU<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | • The automatic display function does not operate.<br>• The screen does not change to the camera screen even when the main switch is pushed. | - |
| | | Automatically or manually displays the front camera | 1. -<br>2. Steering | | On the bottom of the |

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| Back Guide Monitor | MTM (Multi-terrain Monitor) | image, passenger and driver side camera image and guidelines when conditions to display the multi-terrain monitor, such as having a certain vehicle speed and shift position, and according to switch operation, etc. | 2. Steering angle sensor, Steering control ECU<br>3. - | - | screen, "Guidance unavailable" is displayed, and the change display mode switch is not displayed. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • Automatic display mode does not operate.<br>• The screen does not change to the camera screen even when the main switch is pushed. | - |
| | | | 1. -<br>2. 4WD control ECU<br>3. - | • The front single screen cannot be displayed when the transfer is in L4.<br>• When the fail-safe is operating, the screen is fixed at the screen for H4. | - |
| Pre-crash Seat Belt (PSB) | PCS (Operation Conditions 1) | When the VSC system suddenly brakes and/or the vehicle is unable to be controlled (while spinning or drifting), the seat belt control ECU operates the pre-crash seat belts (PSB) that are fastened (receives the buckle switch information from the Center airbag sensor assembly) by tightening the seat belts to increase the occupant restraint. | 1. Seat belt control ECU<br>2. -<br>3. Seat belt control ECU | - | • "Check PCS System" is displayed on the multi-information display.<br>• The master warning light turns on and the warning buzzer sounds. |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | The PSB ECU detects a communication failure. Control stops. However, control continues until the end if the communication failure occurs during control. | |
| | | | 1. -<br>2. Center airbag sensor assembly<br>3. - | The PSB ECU detects a communication failure. Control stops. However, control continues until the end if the communication failure occurs during control. | |
| | PCS (Operation Conditions 2) | When ACC determines that a crash is unavoidable based on the information from the millimeter wave radar sensor, the seat belt control ECU operates the pre-crash seat belts (PSB) that are fastened by tightening the seat belts to increase the occupant restraint. | 1. Seat belt control ECU<br>2. -<br>3. Seat belt control ECU | - | |
| | | | 1. -<br>2. Distance control ECU assembly<br>3. - | The PCS system does not operate. However, seat belt operation during sudden braking is an exception. | |
| | | | 1. -<br>2. Center airbag sensor assembly<br>3. - | The PSB ECU detects a communication failure. Control is prohibited. | |
| Meter (MET) | Speedometer | Indicates the vehicle speed according to the vehicle speed signal. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | The speedometer indicates 0 km/h (0 mph). | - |
| | Tachometer | Indicates the engine speed according to the engine speed signal. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The tachometer indicates 0 rpm. | - |
| | | | 1. Combination meter assembly | | |

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| | | | 2. -<br>3. Combination meter assembly | - | - |
| | ODO/TRIP meter | Calculates and displays the driven distance according to the vehicle speed pulse signal calculated value. | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • The ODO/TRIP meter stops calculating and the last displayed value continues to be displayed.<br>• Optitron meter: In multi-display.<br>• Regular analog meter: Independent LCD. | - |
| | Engine coolant temperature gauge | Indicates the coolant temperature according to the engine coolant temperature signal. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The coolant temperature gauge displays less than the C mark. | - |
| Meter (MET) | Fuel gauge | Indicates the remaining fuel according to the fuel sender (direct line) input (uses the CAN communication (the vehicle speed signal) to determine if the vehicle is being driven or not). | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Control is performed with the speed input as 0 km/h (0 mph). | - |
| | Oil pressure gauge | Indicates the engine oil pressure according to the oil pressure sender (direct line) input (uses the CAN communication to determine if the engine is on or off by the engine speed signal). | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The oil pressure gauge displays less than the L mark. | - |
| | Shift lever indicator | The shift information is displayed according to the shift position signal. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The shift lever indicator and shift position in the multi-information display turns off. | - |
| | | | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | - | - |
| | | | | Conditions for the seat belt buzzer not sounding:<br>Conditions for the seat belt buzzer not sounding:<br>• When VSC1S03 is lost: Does not sound.<br>• When BDB1S01 is | |

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| Meter (MET) | Buzzer | Controls the buzzer to sound and not sound according to the various signals that are input. | 1. -<br>2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU)<br>3. - | lost: Does not sound.<br>• When ECT1S90 is lost: Control is performed with B_R=0b.<br>• When ECT1S95 is lost: Control is performed with B_CPKB=0b. | - |
| | | | | Conditions for the seat belt buzzer sounding:<br>• When VSC1S03 is lost: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>• When VSC1S95 is lost: Control is performed with B_CPKB=0b.<br>• When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | | The door ajar driving warning buzzer does not sound. | - |
| Meter (MET) | Buzzer | Controls the buzzer to sound and not sound according to the various signals that are input. | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The light reminder buzzer does not sound. | - |
| | | | | The sliding roof buzzer condition is maintained (until bus sleep). | - |
| | | | 1. -<br>2. ECM<br>3. - | The A/T reverse buzzer does not sound. | - |
| | | | | • The sports shift reject buzzer condition is maintained.<br>• The radar cruise low speed cancel buzzer does not sound.<br>• The radar cruise warning buzzer does not sound. | - |
| | | | 1. -<br>2. 4WD control ECU<br>3. - | The last state of the 4WD buzzer is maintained. | - |
| | | | 1. -<br>2. Certification ECU (smart key ECU assembly)<br>3. - | The door control transmitter buzzer (single push, continuous push, and intermittent push) does not sound. The immobiliser verification completion notification buzzer does not sound. | - |
| | | | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | ABS warning indicator turns on. | ABS warning indicator turns on. |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH), Master cylinder solenoid | Brake warning light<br>• When VSC1S95 is lost: Illuminates.<br>• When BDB1S01 is lost: Control is | - |

| | | | | | |
|---|---|---|---|---|---|
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. (skid control ECU)<br>3. - | lost. Control is performed with PKB_BDB=0b. | |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • SLIP indicator light condition is maintained.<br>• VSC OFF indicator light condition is maintained.<br>• The downhill assist control indicator condition is maintained.<br>• The slight low speed TRC indicator condition is maintained.<br>• The condition of the multi-terrain select indicator is maintained.<br>• The condition of the turn assist indicator is maintained. | - |
| | | | | 120 km/h (75 mph) speed warning turns off (for Middle East). | - |
| | | | | Control is performed with the speed condition as 0 km/h (0 mph) for the following display: FUEL FILTER clog indicator.<br>ODO calculation stops for the following display conditions: Oil maintenance display. | - |
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. Headlight swivel ECU assembly (AFS ECU)<br>3. - | • Maintains the AFS OFF indicator light condition.<br>• Maintains the Headlight beam level control system warning light condition. | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | When there is determined to be a disruption, the following indicators operate as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off.<br>• DOOR indicator light<br>• Driver side seat belt warning light | - |
| | | | | When there is determined to be a disruption, the following indicators operate as follows:<br>While the engine switch is on (IG): Condition is maintained.<br>When the engine switch is off: Turns off.<br>• FRONT FOG indicator light<br>• REAR FOG indicator light<br>• TAIL indicator light<br>• HEAD indicator light<br>• BEAM indicator light | - |
| | | | | Automatic high beam. | - |
| | | | 1. -<br>2. Parking assist ECU<br>3. - | The clearance sonar indicator turns off. | - |
| | | | 1. -<br>2. ECM<br>3. - | • The A/T P warning light condition is maintained.<br>• The ECT PW indicator light condition is maintained.<br>• The 2nd START indicator light condition is maintained.<br>• The cruise control indicator condition is maintained.<br>• The SET indicator condition is maintained.<br>• The radar cruise control indicator condition is maintained. | - |
| | | | 1. -<br>2. ECM, 4WD control ECU<br>3. - | The A/T P warning light conditions are maintained. | - |

| | | | | | |
|---|---|---|---|---|---|
| Meter (MET) | Telltale | Turns on/blinks/turns off indicators based on the various signals. | 1. -<br>2. ECM, Master cylinder solenoid (skid control ECU)<br>3. - | The eco drive indicator light is turned off. | - |
| | | | 1. -<br>2. 4WD control ECU<br>3. - | • The center differential lock indicator light turns off.<br>• The 4LO indicator light turns off. | - |
| | | | 1. -<br>2. Seat belt control ECU<br>3. - | The PCS indicator light condition is maintained. | - |
| | | | 1. -<br>2. Suspension control ECU<br>3. - | ACCESS MODE indicator light<br>• When the engine switch is on (IG): The condition is maintained.<br>• When the engine switch is off: Turns off. | - |
| | | | 1. -<br>2. Center airbag sensor assembly<br>3. - | The SRS warning light turns on. | The SRS warning light turns on. |
| Meter (MET) | Multi-display | Displays information about the drive monitor, tire pressure, warning, radar cruise, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. ECM, Master cylinder solenoid (skid control ECU)<br>3. - | • Drive monitor calculations stop and the display is blank.<br>• The current fuel consumption, average fuel consumption after refilling, distance to empty and average vehicle speed. | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | The digital speedometer displays 0 km/h (0 mph). | - |
| | | | 1. -<br>2. ECM, Master cylinder solenoid (skid control ECU)<br>3. - | The eco drive indicator zone display is turned off. | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Parking brake drag warning display conditions:<br>• When VSC1S03 is lost: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>• When VSC1S95 is lost: Control is performed with B_CPKB=0b.<br>• When BDB1S01 is lost: Control is performed with PKB_BDB=0b. | - |
| | | | 1. -<br>2. Main body ECU (cowl | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | side junction block LH), Master cylinder solenoid (skid control ECU)<br>3. - | • The CRAWL system display is maintained.<br>• The VSC display is maintained. | - |
| | | | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | • The condition of the multi-terrain select indicator is maintained.<br>• The condition of the turn assist indicator is maintained. | - |
| Meter (MET) | Multi-display | Displays information about the drive monitor, tire pressure, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | Control is performed with the speed condition as 0 km/h (0 mph) for the following displays: Door open while driving display, FUEL FILTER clog display.<br>ODO calculation stops for the following display conditions: Oil maintenance display, T-BELT display. | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH), Master cylinder solenoid (skid control ECU)<br>3. - | Conditions for the door open display and door open while driving display:<br>• VSC1S03: Control is performed with the vehicle speed as 0 km/h (0 mph).<br>• BSB1S01: Display state is maintained.<br>• BDB1S08: No display. | - |
| | | | 1. -<br>2. Air conditioning amplifier assembly<br>3. - | The outside temperature display is "E". | The outside temperature display is "E" (in the meter). |
| Meter (MET) | Multi-display | Displays information about the drive monitor, tire pressure, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The shift position display turns off. | - |
| | | | | The door control transmitter display condition is as follows:<br>• While the engine switch is on (IG): Condition is maintained.<br>• The door control transmitter display condition is as follows: | - |
| | | | | The sliding roof open display condition is as follows:<br>• While the engine switch is on (IG): Condition is maintained.<br>• When the engine switch is off: Turns off | |
| | | | | The condition of the automatic high beam display is maintained. | - |
| | | | 1. -<br>2. Parking assist ECU<br>3. - | The clearance warning sonar display condition is maintained. | - |
| | | | | The A/T shift position display turns off. | - |
| | | | | The A/T OIL TEMP display state is maintained.<br>• When | |

| | | | | | |
|---|---|---|---|---|---|
| Meter (MET) | Multi-display | Displays information about the drive monitor, tire pressure, warning, clearance sonar, door, A/T shift position, odometer, etc. based on the various signals. | 1. -<br>2. ECM<br>3. - | ECT1S92 is lost: Condition is maintained.<br>• When ENG1S03 is lost: Controlled as ENG-OFF. | - |
| | | | 1. -<br>2. Seat belt control ECU<br>3. - | The PCS display condition is maintained. | - |
| | | | 1. -<br>2. Certification ECU (smart key ECU assembly)<br>3. - | • The door control transmitter display condition is maintained.<br>• The security display condition is maintained.<br>• The door control transmitter unlock mode display condition is maintained. | - |
| | | | 1. -<br>2. Suspension control ECU<br>3. - | 4-WHEEL AHC vehicle height display turns off.<br>"Check 4-WHEEL AHC System" is displayed. | 4-WHEEL AHC vehicle height display turns off.<br>"Check 4-WHEEL AHC System" is displayed. |
| | | | 1. -<br>2. Multi-media module receiver assembly<br>3. - | Arrow navigation is displayed. | - |
| | | | 1. -<br>2. Steering angle sensor, Steering control ECU<br>3. - | The steering angle display is turned off. | - |
| | | | 1. -<br>2. Steering control ECU<br>3. - | "Check VGRS System" is displayed. | "Check VGRS System" is displayed. |
| Meter (MET) | Illumination function | Controls dimming and meter illumination on/off according to the CAN signals. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | Daytime brightness. | - |
| | | | 1. -<br>2. ECM<br>3. - | - | - |
| | Passenger seat belt warning indicator | Blinks the passenger seat belt warning indicator according to the CAN signals. | 1. Combination meter assembly<br>2. -<br>3. Combination meter assembly | - | - |
| | | | 1. -<br>2. Center airbag sensor assembly<br>3. - | The passenger seat belt warning indicator condition is maintained. | - |
| | | | 1. -<br>2. -<br>3. Multi-media module receiver assembly | - | - |
| | | | 1. Main body ECU (cowl | The forced engine switch off function does not operate. | - |

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|---|---|---|---|---|---|
| Body (BDB) | Power supply switching control | The system that switches the power supply between +B, ACC, and IG. | side junction block LH)<br>2. Combination meter assembly, ECM<br>3. - | When the power supply switching conditions are met, power supply switching control is permitted.<br>When the power supply condition IG2 start/stop switch turns from off to on, the power supply condition is changed to IG1, and the IG relay output stops. | - |
| Body (BDB) | Security | The system that operates the warning when a theft is detected. | 1. Main body ECU (cowl side junction block LH)<br>2. Certification ECU (smart key ECU assembly)<br>3. Main body ECU (cowl side junction block LH) | The security control does not operate (The headlight/taillight warning light output, horn warning output, and hazard warning light output do not operate).<br>The forced door lock function lock output does not operate.<br>The dome light warning control does not operate.<br>The lighting system answer back control does not operate.<br>(The taillight warning output and hazard warning light output do not operate). | - |
| | | | | When the security warning is operating, warning output stops during hazard warning light output. | - |
| | | | | When the security warning is operating, the dome light turns off during dome light illumination. | - |
| | Entry and Start/Wireless | The system that operates the lock/unlock, engine switch, back door opener, warning, etc. by pressing the switch when the door control transmitter is within the vehicle detection area.<br>The system that operates the vehicle lock/unlock, panic, back door opener, etc. by remote control. | 1. Main body ECU (cowl side junction block LH)<br>2. Certification ECU (smart key ECU assembly)<br>3. Main body ECU (cowl side junction block LH) | Entry and start/wireless control does not operate.<br>The door lock/unlock control and entry back door opener control do not operate. | - |
| Body (BDB) | Vehicle speed linked auto lock | The system that locks the doors when the vehicle speed is 26 km/h (16 mph) or more. | 1. Main body ECU (cowl side junction block LH)<br>2. Combination meter assembly, ECM<br>3. Main body ECU (cowl side junction block LH) | When the vehicle speed linked auto lock signal is lost, operation is permitted. | - |
| | | | | The vehicle speed linked auto lock does not operate. | - |
| | Shift linked auto lock/unlock | The system that unlocks all the doors when the shift lever is moved to P, and locks all doors when the shift lever is moved from P to another position while the engine is running. | 1. Main body ECU (cowl side junction block LH)<br>2. Combination meter assembly, ECM<br>3. Main body ECU (cowl side junction block LH) | The shift linked auto lock/unlock function does not operate. | - |
| | | | | When the shift linked auto lock/unlock signal is lost, operation is permitted. | - |
| | DRL | The system that illuminates lights when driving the vehicle to improve the visibility of pedestrians and other vehicles in the daytime. | 1. Main body ECU (cowl side junction block LH)<br>2. ECM<br>3. Main body ECU (cowl side junction block LH) | DRL control does not operate.<br>**HINT:**<br>If operated once, the operation continues until the engine switch is turned off, even if the signal is lost. | - |
| | | | 1. Main body ECU (cowl side junction block LH)<br>2. Certification ECU (smart key ECU assembly), Combination | Front (rear) dome light, door mirror foot light, center console spot light, and interior foot light control does not operate. | - |
| | | | | While the interior foot light is illuminated, the center console does not turn off. | - |
| | | | | When the interior foot light is | |

| | | | | | |
|---|---|---|---|---|---|
| | Boarding | System that controls the front (rear) dome light, door mirror foot light, center console spot light, and interior foot light. | meter assembly, ECM, Parking assist ECU<br>3. Outer mirror control ECU assembly, No. 2 main body ECU, Main body ECU (cowl side junction block LH) | illuminated, the dimmer operates.<br>When the engine switch is on (IG), the door mirror foot light does not operate by the manual unlock. | - |
| | | | | When the side monitor is operating, the door mirror foot light can illuminate. | - |
| Body (BDB) | Back door | System that operates the hazard warning lights as an answer back when the power back door begins to operate. | 1. Power back door unit assembly (power back door ECU)<br>2. Power back door unit assembly (power back door ECU)<br>3. Main body ECU (cowl side junction block LH) | The hazard warning light answer back does not operate when the back door begins to operate. | .- |
| | Back door opener | The system that releases the door latch (turns opener motor on) by turning on the switch built into the outside door handle. | 1. Main body ECU (cowl side junction block LH)<br>2. Combination meter assembly<br>3. Main body ECU (cowl side junction block LH) | Prohibits the back door opener control. | - |
| | One motion power back door opener | System that unlocks and opens the back door in one motion when the wireless back door opening operation is performed. | 1. Main body ECU (cowl side junction block LH)<br>2. Power back door unit assembly (power back door ECU)<br>3. Power back door unit assembly (power back door ECU) | Back door opener control does not operate. | - |
| | Display automatic dimmer control | System that controls the brightness of the interior display/indicators, etc. only during twilight and nighttime by determining the time of day and using the light sensor signal. | 1. Main body ECU (cowl side junction block LH)<br>2. Combination meter assembly<br>3. Windshield wiper ECU, No. 2 main body ECU, Combination meter assembly, Multi-media module receiver assembly, Air conditioning amplifier assembly, Parking assist ECU | Operates the display automatic dimmer control when the tail cancel switch is on.<br>When the value of the light sensor illumination intensity signal is less than the display dimmer value, the brightness of the vehicle interior display/indicator is dimmed. | - |
| | Power window | The system that operates power window control based on the request from wireless/smart access | 1. Main body ECU (cowl side junction block LH)<br>2. Certification ECU (smart | Power window control does not operate.<br>Power window control stops during wireless/smart power window control | - |

| | | | | | |
|---|---|---|---|---|---|
| | | wireless/smart access control. | ECU (smart key ECU assembly)<br>3. - | wireless/smart power window control operation. | |
| Verification (IDT) | Entry function | Entry and start/lock/back door/warning, etc. | 1. Certification ECU (smart key ECU assembly)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | • The entry lock/ unlock does not operate.<br>• The entry back door does not operate.<br>• The entry and start warning message does not operate.<br>• The key lock-in prevention function does not operate.<br>• The entry illumination does not operate. | - |
| | | | | Package default setting. | - |
| | | | 1. -<br>2. Combination meter assembly<br>3. - | The vehicle speed is determined to be 0 km/h (0 mph). | - |
| | | | | - | - |
| | Wireless buzzer function | The wireless buzzer sounding control. | 1. Certification ECU (smart key ECU assembly)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. Main body ECU (cowl side junction block LH) | Does not sound even though there is a wireless buzzer request. | - |
| | | | | Package default settings. | - |
| | | | 1. -<br>2. Suspension control ECU<br>3. - | Does not sound even though there is an access mode warning buzzer request. | - |
| | Immobiliser function | The immobiliser control by the warning and remote engine start. | 1. Certification ECU (smart key ECU assembly)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. ECM<br>3. - | The engine switch is forcibly turned off. | - |
| Verification (IDT) | Wireless function | Wireless electric wave information transmission. | 1. Certification ECU (smart key ECU assembly)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | - | - |
| | Security function | Security alarm control. | 1. Certification ECU (smart key ECU assembly)<br>2. -<br>3. - | - | - |
| | | | 1. -<br>2. Main body ECU (cowl side junction block LH)<br>3. - | The alarm is not unset.<br>The alarm is not set. | - |
| | | | 1. | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | 1. -<br>2. ECM<br>3. - | The alarm is not unset by the engine start. | - |
| Gateway (CGW) | Gateway function | Transmits frames between the V bus and motion control system bus. | 1. Network gateway ECU<br>2. Seat belt control ECU<br>3. - | • Transmission interval counter (the selected RAM and CAN controller initialization).<br>• Extremely late frame rejection function (the RAM of the gateway application and the selected RAM initialization).<br>• Reception interval counter (the selected RAM and CAN controller initialization). | - |
| | | | 1. Network gateway ECU<br>2. Distance control ECU assembly<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. Parking assist ECU<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. Steering angle sensor<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. Suspension control ECU<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. Master cylinder solenoid (skid control ECU)<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. Yaw rate sensor assembly<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. Steering control ECU<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. 4WD control ECU<br>3. - | | |
| | | | 1. Network gateway ECU<br>2. -<br>3. - | | |

**for Preparation** Click here

**HINT:**

If a trouble code is displayed during the DTC check, inspect the trouble areas listed for that code. For details of the code, refer to the "See page" below.

| DTC Code | Detection Item | Trouble Area | See page |
|---|---|---|---|
| U0114/38 | Lost Communication with 4WD Control ECU | - Power source circuit of 4WD control ECU<br>- 4WD control ECU<br>- 4WD control ECU branch wire or connector | Click here |
| U0122 | Lost Communication with Vehicle Dynamics Control Module | - Power source circuit of skid control ECU<br>- One side of CAN branch wire of other systems<br>- Skid control ECU<br>- Skid control ECU branch wire or connector | Click here |
| U0123 | Lost Communication with Yaw Rate Sensor Module | - Power source circuit of yaw rate sensor<br>- Yaw rate sensor<br>- Yaw rate sensor branch wire or connector | Click here |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module | - Power source circuit of yaw rate sensor<br>- Yaw rate sensor<br>- Yaw rate sensor branch wire or connector | Click here |
| U0126 | Lost Communication with Steering Angle Sensor Module | - Power source circuit of steering angle sensor<br>- One side of CAN branch wire of other systems<br>- Steering angle sensor<br>- Steering angle sensor branch wire or connector | Click here |
| U0129 | Lost Communication with Brake System Control Module | - Power source circuit of skid control ECU<br>- One side of CAN branch wire of other systems<br>- Skid control ECU<br>- Skid control ECU branch wire or connector | Click here |
| U0130 | Lost Communication with Steering Effort Control Module | - Power source circuit of steering control ECU<br>- Steering control ECU<br>- Steering control ECU branch wire or connector | Click here |
| U0132 | Lost Communication with Ride Level Control Module | - Power source circuit of suspension control ECU<br>- One side of CAN branch wire of other systems<br>- Suspension control ECU<br>- Suspension control ECU branch wire or connector | Click here |
| U0141 | Lost Communication with Body Control Module "A" | - Power source circuit of No. 2 main body ECU<br>- No. 2 main body ECU<br>- No. 2 main body ECU branch wire or connector | Click here |
| U0199 | Lost Communication with "Door Control Module A" | - Power source circuit of outer mirror control ECU<br>- Outer mirror control ECU<br>- Outer mirror control ECU branch wire or connector | Click here |
| U0208 | Lost Communication with "Seat Control Module A" | - Power source circuit of position control ECU and switch<br>- Position control ECU and switch<br>- Position control ECU and switch branch wire or connector | Click here |
| U0230 | Lost Communication with Rear Gate Module | - Power source circuit of power back door unit assembly (power back door ECU)<br>- Power back door unit assembly (power back door ECU)<br>- Power back door unit assembly (power back door ECU) branch wire or connector | Click here |
| U0327 | Software Incompatibility with Vehicle Security Control Module | - Power source circuit of certification ECU (smart key ECU assembly)<br>- Certification ECU (smart key ECU assembly)<br>- Certification ECU (smart key ECU assembly) branch wire or connector | Click here |
| | | - MS bus circuit<br>- Main body ECU main wire or connector<br>- Windshield wiper ECU branch wire or connector<br>- Position control ECU and switch branch wire or connector<br>- Certification ECU (smart key ECU assembly) branch wire or connector<br>- Multiplex tilt and telescopic ECU branch wire or connector<br>- Outer mirror control ECU branch wire or connector | |

| | | | |
|---|---|---|---|
| U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main body ECU) | - Combination meter main wire or connector<br>- No. 2 main body ECU power back door ECU<br>- Main body ECU<br>- Windshield wiper ECU<br>- Position control ECU and switch<br>- Certification ECU (smart key ECU assembly)<br>- Multiplex tilt and telescopic ECU<br>- Outer mirror control ECU<br>- Combination meter<br>- No. 2 main body ECU power back door ECU<br>- No. 8 junction connector<br>- No. 9 junction connector<br>- No. 10 junction connector<br>- No. 2 CAN junction connector | Click here |
| U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module (Network Gateway ECU) | - Movement control bus circuit<br>- 4WD control ECU branch wire or connector<br>- Yaw rate sensor branch wire or connector<br>- Seat belt control ECU branch wire or connector<br>- Clearance warning ECU branch wire or connector<br>- Parking assist ECU branch wire or connector<br>- Skid control ECU branch wire or connector<br>- Steering angle sensor branch wire or connector<br>- Network gateway ECU main wire or connector<br>- Suspension control ECU branch wire or connector<br>- Steering control ECU branch wire or connector<br>- Distance Control ECU<br>- 4WD control ECU<br>- Yaw rate sensor<br>- Seat belt control ECU<br>- Clearance warning ECU<br>- Parking assist ECU<br>- Skid control ECU<br>- Steering angle sensor<br>- Suspension control ECU<br>- Steering control ECU<br>- Network gateway ECU<br>- Distance Control ECU<br>- No. 4 junction connector<br>- No. 5 junction connector<br>- No. 6 junction connector<br>- No. 7 junction connector<br>- No. 1 CAN junction connector | Click here |
| U1100 | Lost Communication with Seat Belt Control ECU | - Power source circuit of seat belt control ECU<br>- Seat belt control ECU<br>- Seat belt control ECU branch wire or connector | Click here |
| U1101 | Lost Communication with Distance Control ECU | - Power source circuit of distance control ECU assembly<br>- Distance control ECU assembly<br>- Distance control ECU assembly branch wire or connector | Click here |
| U1110 | Lost Communication with Clearance Sonar Module | - Power source circuit of clearance warning ECU<br>- Clearance warning ECU<br>- Clearance warning ECU branch wire or connector | Click here |
| U1111 | Lost Communication with Body No. 5 Module | - Power source circuit of windshield wiper ECU<br>- Windshield wiper ECU<br>- Windshield wiper ECU main wire or connector | Click here |
| U1115 | Lost Communication with Tilt and Telescopic Module | - Power source circuit of multiplex tilt and telescopic ECU<br>- Multiplex tilt and telescopic ECU<br>- Multiplex tilt and telescopic ECU branch wire or connector | Click here |
| U1126 | Lost Communication with Parking Assist ECU | - Power source circuit of parking assist ECU<br>- Parking assist ECU<br>- Parking assist ECU branch wire or connector | Click here |

**for Preparation** Click here

**HINT:**

If a trouble code is displayed during the DTC check, inspect the trouble areas listed for that code. For details of the code, refer to the "See page" below.

**CAN Communication System**

| DTC Code | Detection Item | DTC Output from | See page |
|---|---|---|---|
| U0104 | Lost Communication with Driving Support ECU | Network gateway ECU | Click here |
| U0114/38 | Lost Communication with 4WD Control ECU | Network gateway ECU | Click here |
| U0124 | Lost Communication with Lateral Acceleration Sensor Module | Network gateway ECU | Click here |
| U0125 | Lost Communication with Yaw Rate Sensor Module | Network gateway ECU | Click here |
| U0126 | Lost Communication with Steering Angle Sensor Module | Network gateway ECU | Click here |
| U0129 | Lost Communication with Brake System Control Module | Network gateway ECU | Click here |
| U0130 | Lost Communication with Steering Effort Control Module | Network gateway ECU | Click here |
| U0132 | Lost Communication with Suspension Control ECU | Network gateway ECU | Click here |
| U0141 | Lost Communication with Body Control Module "A" | Main body ECU (cowl side junction block LH) | Click here |
| U0199 | Lost Communication with "Door Control Module A" | Main body ECU (cowl side junction block LH) | Click here |
| U0208 | Lost Communication with "Seat Control Module A" | Main body ECU (cowl side junction block LH) | Click here |
| U0230 | Lost Communication with Rear Gate Module | Main body ECU (cowl side junction block LH) | Click here |
| U0327 | Software Incompatibility with Vehicle Security Control Module | Main body ECU (cowl side junction block LH) | Click here |
| U1002 (CAN MS BUS) | Lost Communication with Gateway Module (Main body ECU) | Main body ECU (cowl side junction block LH) | Click here |
| U1002 (CAN No. 2 BUS) | Lost Communication with Gateway Module (Network Gateway ECU) | Network gateway ECU | Click here |
| U1100 | Lost Communication with Seat Belt Control ECU | Network gateway ECU | Click here |
| U110B | Lost Communication with Parking Assist Control Module "B" | Network gateway ECU | Click here |
| U1111 | Lost Communication with Body No. 5 Module | Main body ECU (cowl side junction block LH) | Click here |
| U1115 | Lost Communication with Tilt and Telescopic Module | Main body ECU (cowl side junction block LH) | Click here |

## DTC U0104 Lost Communication with Driving Support ECU

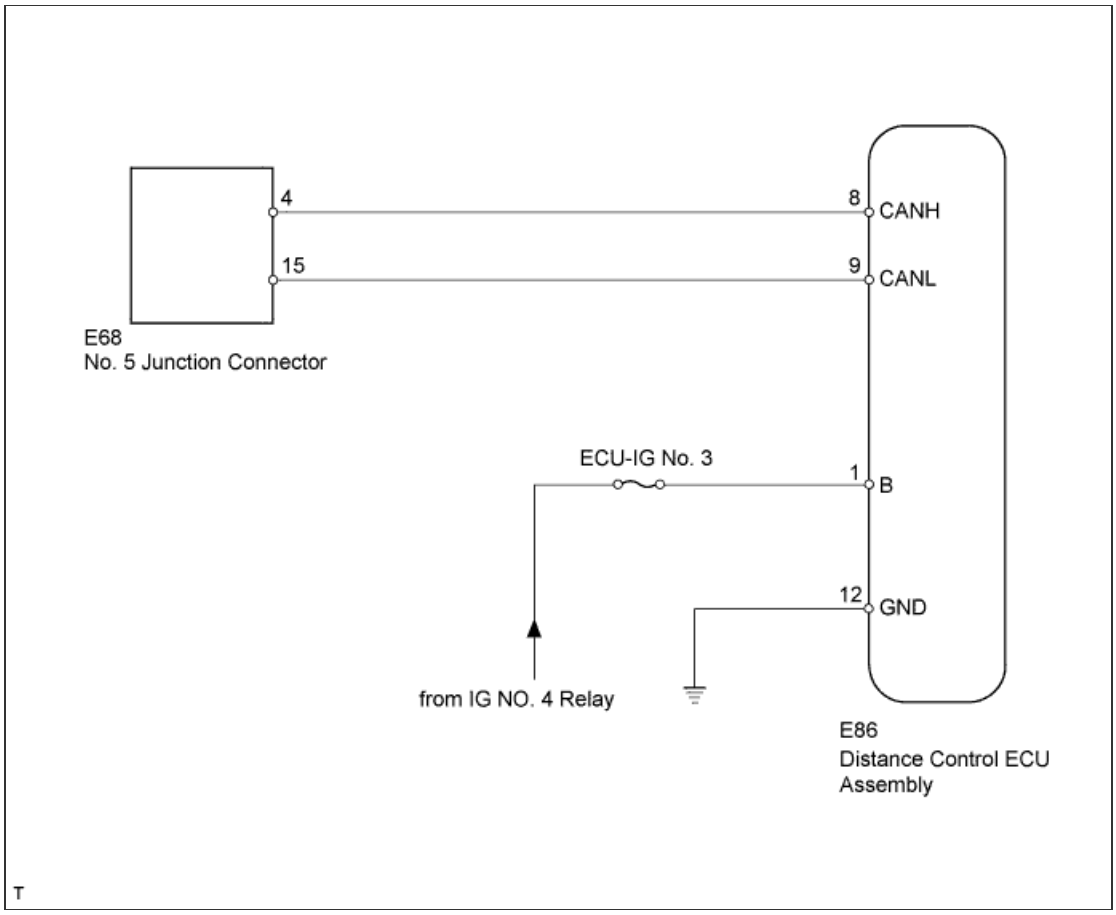
**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0104 | There is no communication from the distance control ECU assembly. | • Power source circuit of distance control ECU assembly<br>• Distance control ECU assembly CAN branch wire or connector<br>• Distance control ECU assembly |

For vehicles with an dynamic radar cruise control system.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (DISTANCE CONTROL ECU ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the E86 distance control ECU assembly connector.

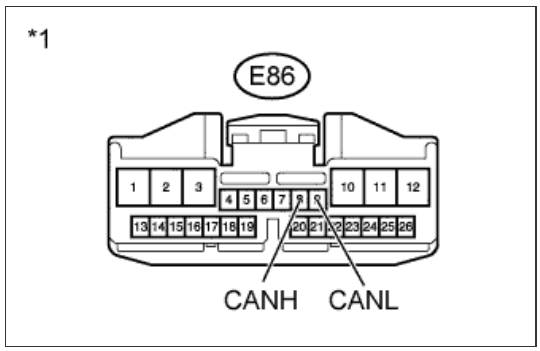
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Distance Control ECU Assembly) |




NG → REPAIR OR REPLACE DISTANCE CONTROL ECU ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (DISTANCE CONTROL ECU ASSEMBLY - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

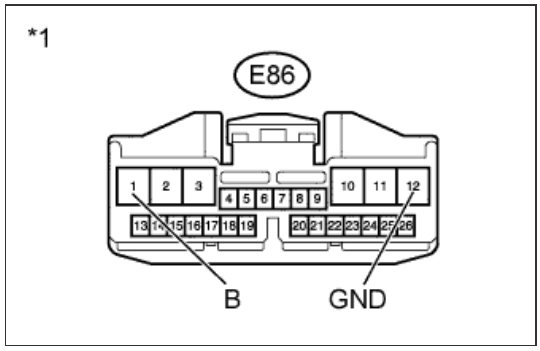
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E86-1 (B) - 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 |
|---|---|---|
| E86-12 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Distance Control ECU Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

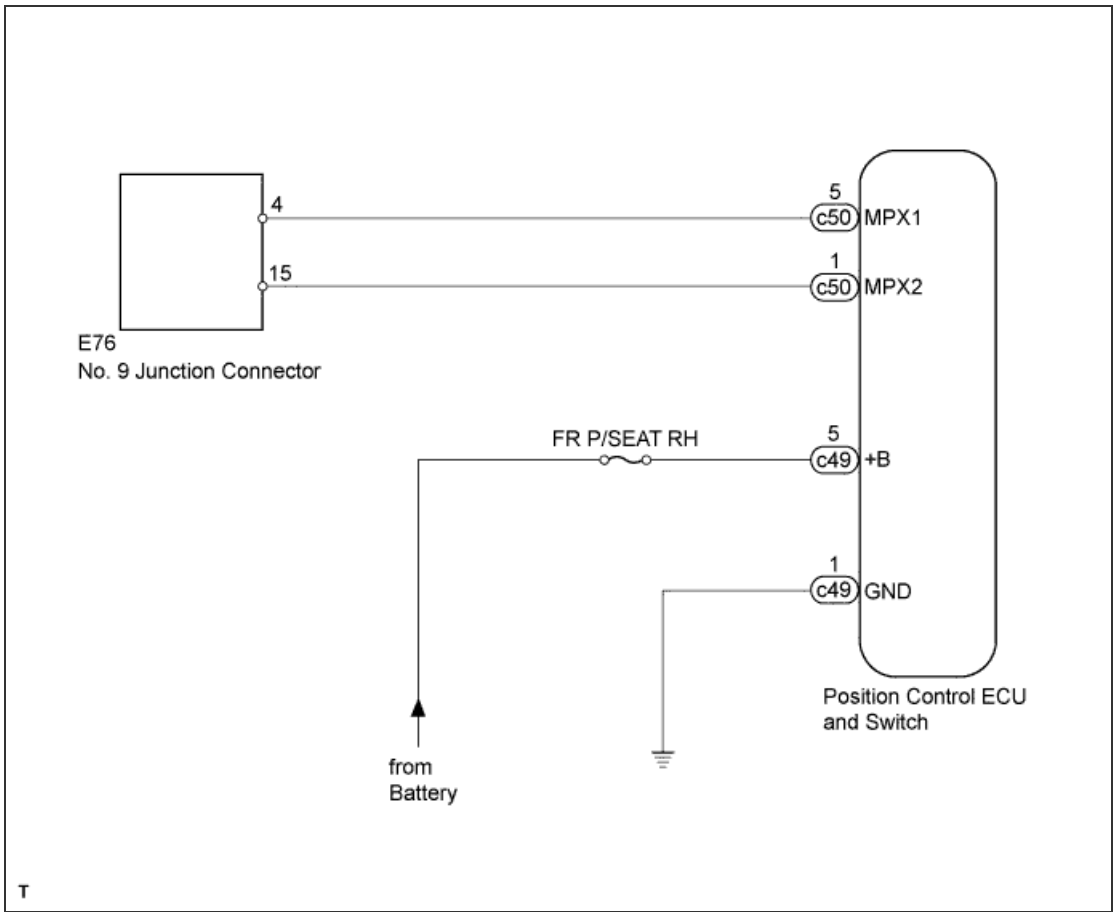
## DTC U0208 Lost Communication with "Seat Control Module A"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0208 | There is no communication from the position control ECU and switch. | • Power source circuit of position control ECU and switch<br>• Position control ECU and switch<br>• Position control ECU and switch branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

**2.CHECK FOR OPEN IN CAN BUS WIRE (POSITION CONTROL ECU AND SWITCH BRANCH WIRE)**

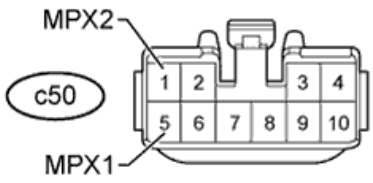
a. Disconnect the c50 position control ECU and switch connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| c50-5 (MPX1) - c50-1 (MPX2) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Position Control ECU and Switch)




NG → REPAIR OR REPLACE POSITION CONTROL ECU AND SWITCH BRANCH WIRE OR CONNECTOR (MPX1, MPX2)

OK

## 3.CHECK HARNESS AND CONNECTOR (POSITION CONTROL ECU AND SWITCH - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the c49 position control ECU and switch connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

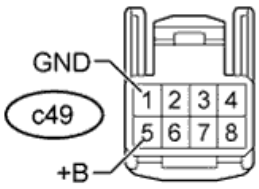
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c49-1 (GND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c49-5 (+B) - Body ground | Always | 11 to 14 V |

Front view of wire harness connector:
(to Position Control ECU and Switch)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POSITION CONTROL ECU AND SWITCH ASSEMBLY (Click here)

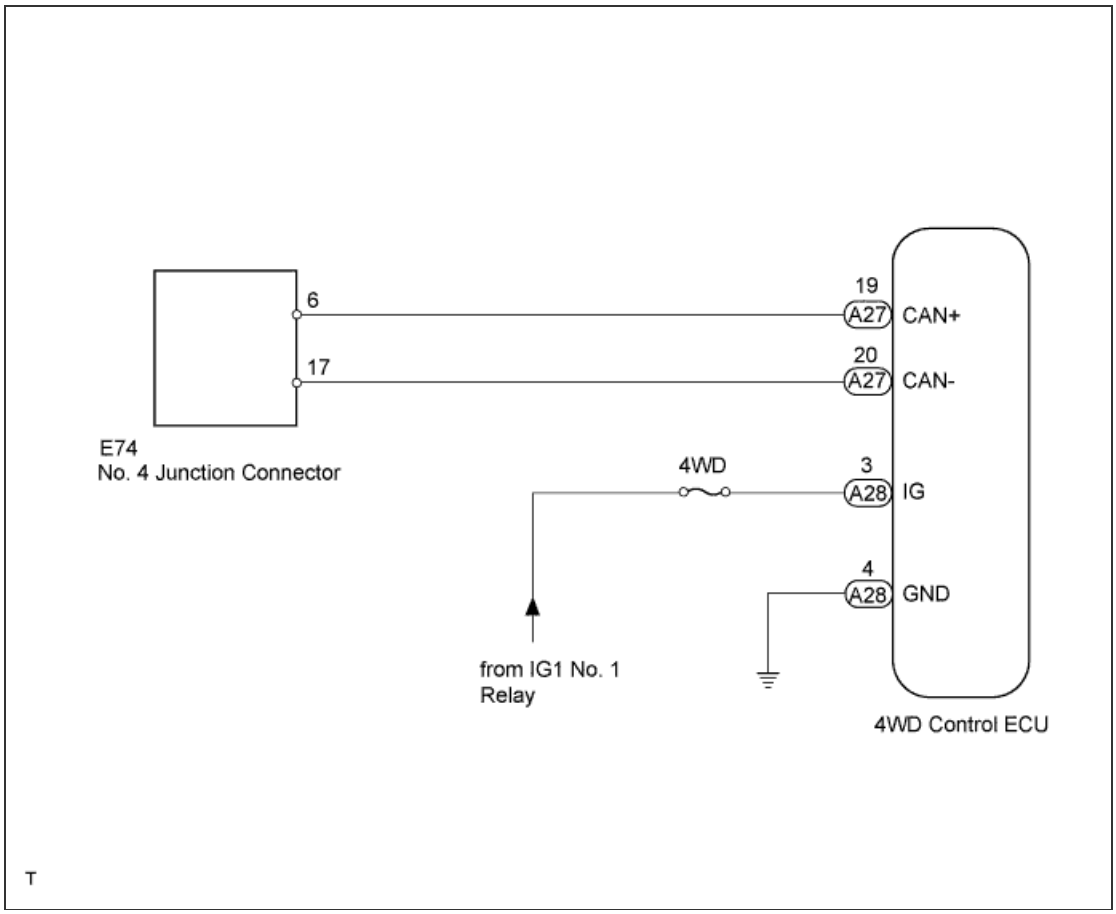
## DTC U0114/38 Lost Communication with 4WD Control ECU

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0114/38 | There is no communication from the 4WD control ECU. | • Power source circuit of 4WD control ECU<br>• 4WD control ECU<br>• 4WD control ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

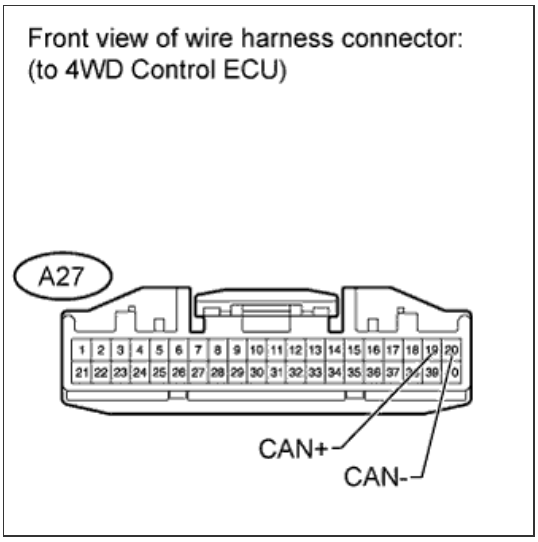
**2.CHECK FOR OPEN IN CAN BUS WIRE (4WD CONTROL ECU BRANCH WIRE)**

a. Disconnect the A27 4WD control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A27-19 (CAN+) - A27-20 (CAN-) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE 4WD CONTROL ECU BRANCH WIRE OR CONNECTOR (CAN+, CAN-)

OK

## 3.CHECK HARNESS AND CONNECTOR (4WD CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the A28 4WD control ECU connector.

c. Measure the resistance according to the value(s) in the table below.

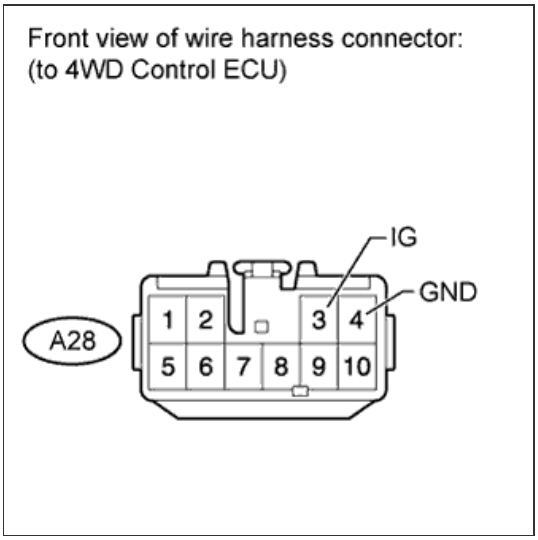
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A28-4 (GND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A28-3 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE 4WD CONTROL ECU (Click here)

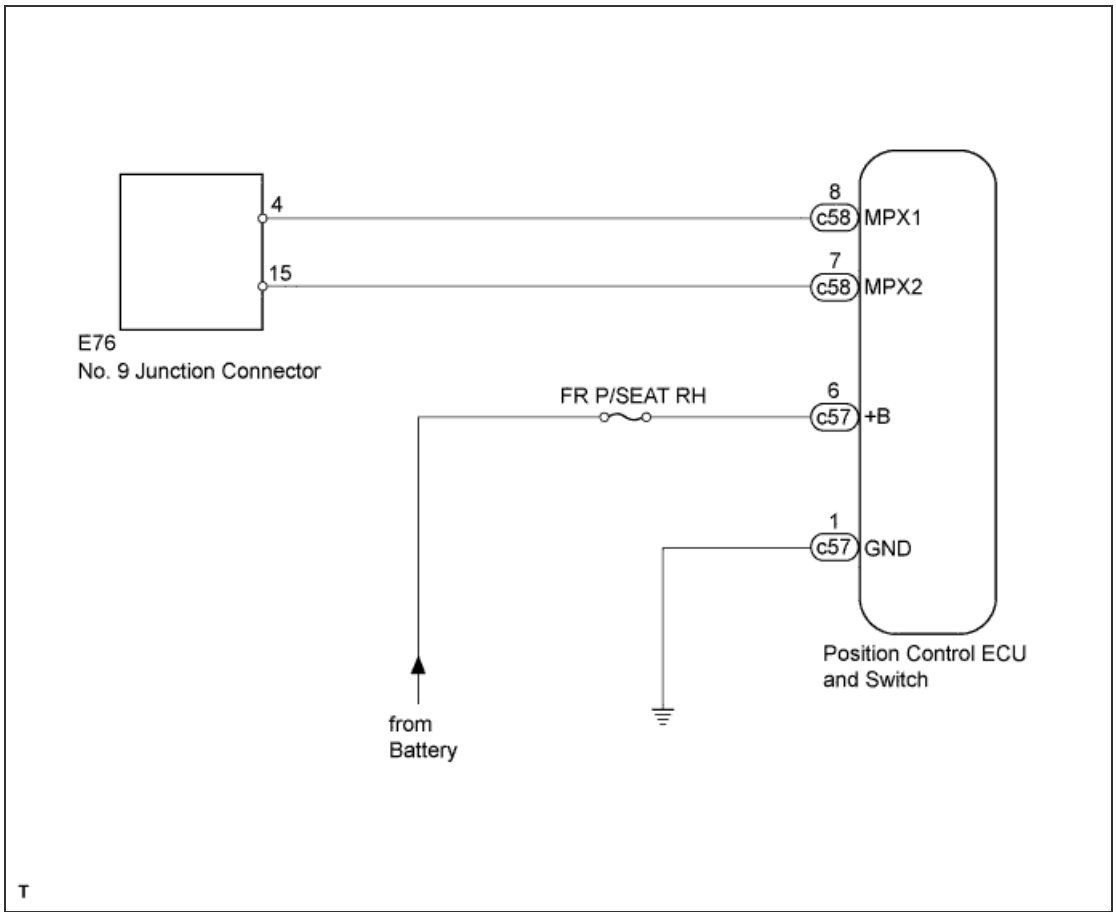
## DTC U0208 Lost Communication with "Seat Control Module A"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0208 | There is no communication from the position control ECU and switch. | • Power source circuit of position control ECU and switch<br>• Position control ECU and switch<br>• Position control ECU and switch CAN branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (POSITION CONTROL ECU AND SWITCH CAN BRANCH WIRE)

a. Disconnect the c58 position control ECU and switch connector.

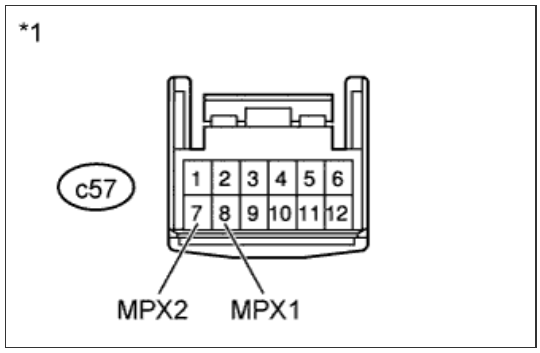
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| c58-8 (MPX1) - c58-7 (MPX2) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Position Control ECU and Switch) |




NG → REPAIR OR REPLACE POSITION CONTROL ECU AND SWITCH CAN BRANCH WIRE OR CONNECTOR (MPX1, MPX2)

OK

## 4.CHECK HARNESS AND CONNECTOR (POSITION CONTROL ECU AND SWITCH - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the c57 position control ECU and switch connector.

c. Measure the voltage according to the value(s) in the table below.

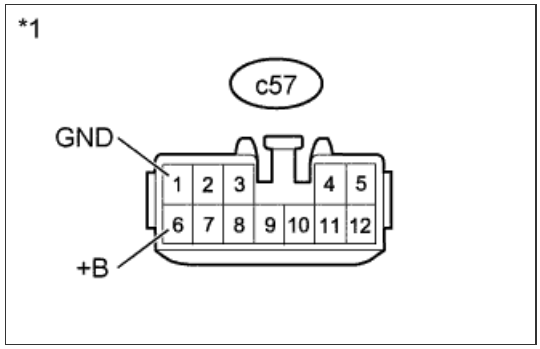
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| c57-6 (+B) - 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 |
|---|---|---|
| c57-1 (GND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Position Control ECU and Switch) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

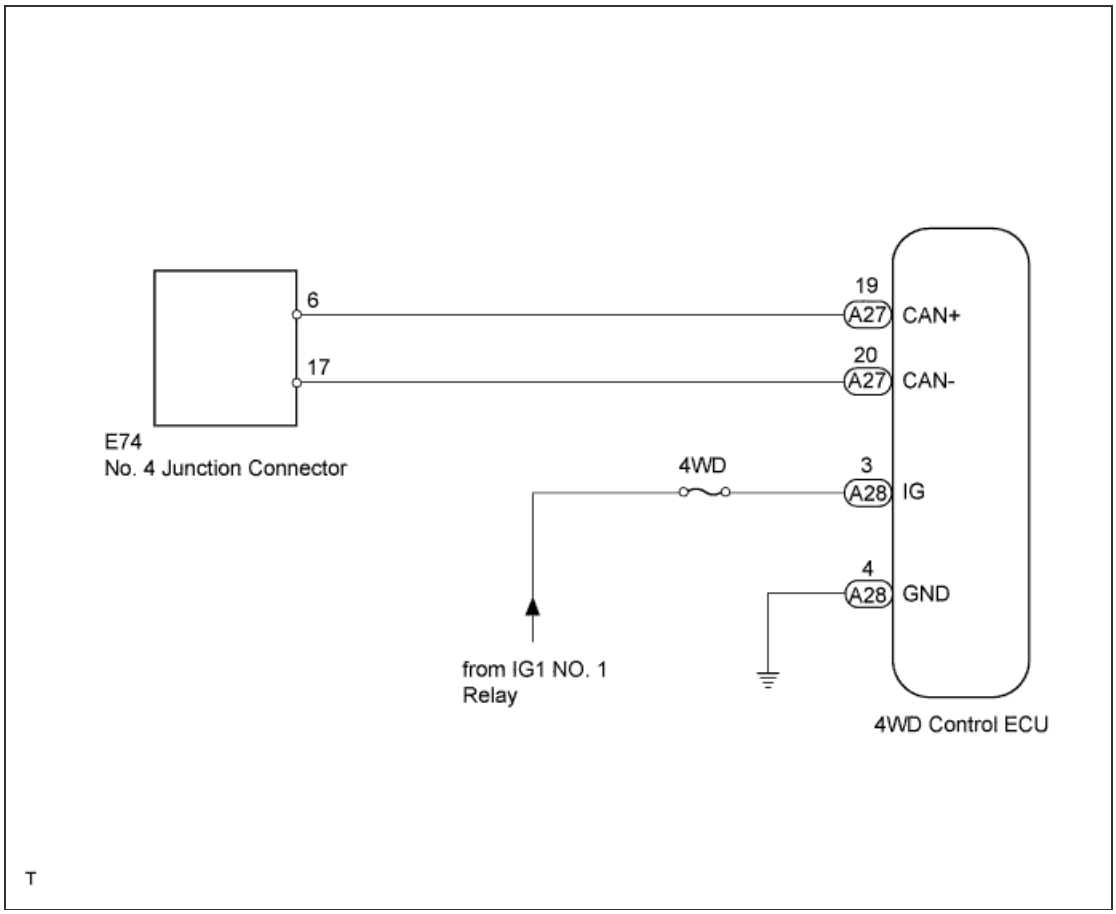
## DTC U0114/38 Lost Communication with 4WD Control ECU

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0114/38 | There is no communication from the 4WD control ECU. | • Power source circuit of 4WD control ECU<br>• 4WD control ECU<br>• 4WD control ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (4WD CONTROL ECU CAN BRANCH WIRE)

a. Disconnect the A27 4WD control ECU connector.

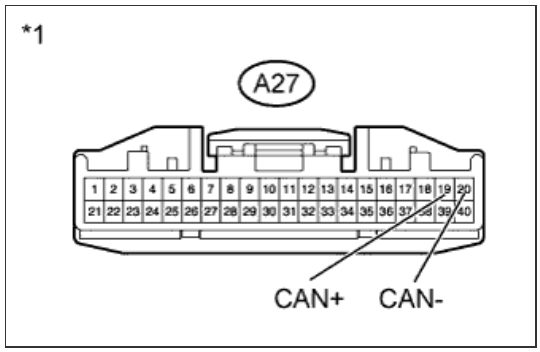
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A27-19 (CAN+) - A27-20 (CAN-) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to 4WD Control ECU) |




NG → REPAIR OR REPLACE 4WD CONTROL ECU CAN BRANCH WIRE OR CONNECTOR (CAN+, CAN-)

**OK**

## 4.CHECK HARNESS AND CONNECTOR (4WD CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the A28 4WD control ECU connector.

c. Measure the voltage according to the value(s) in the table below.

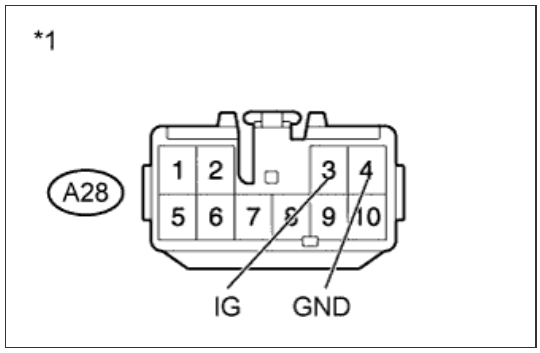
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A28-3 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A28-4 (GND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to 4WD Control ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE 4WD CONTROL ECU (Click here)

## DTC U0230 Lost Communication with Rear Gate Module

**for Preparation** Click here

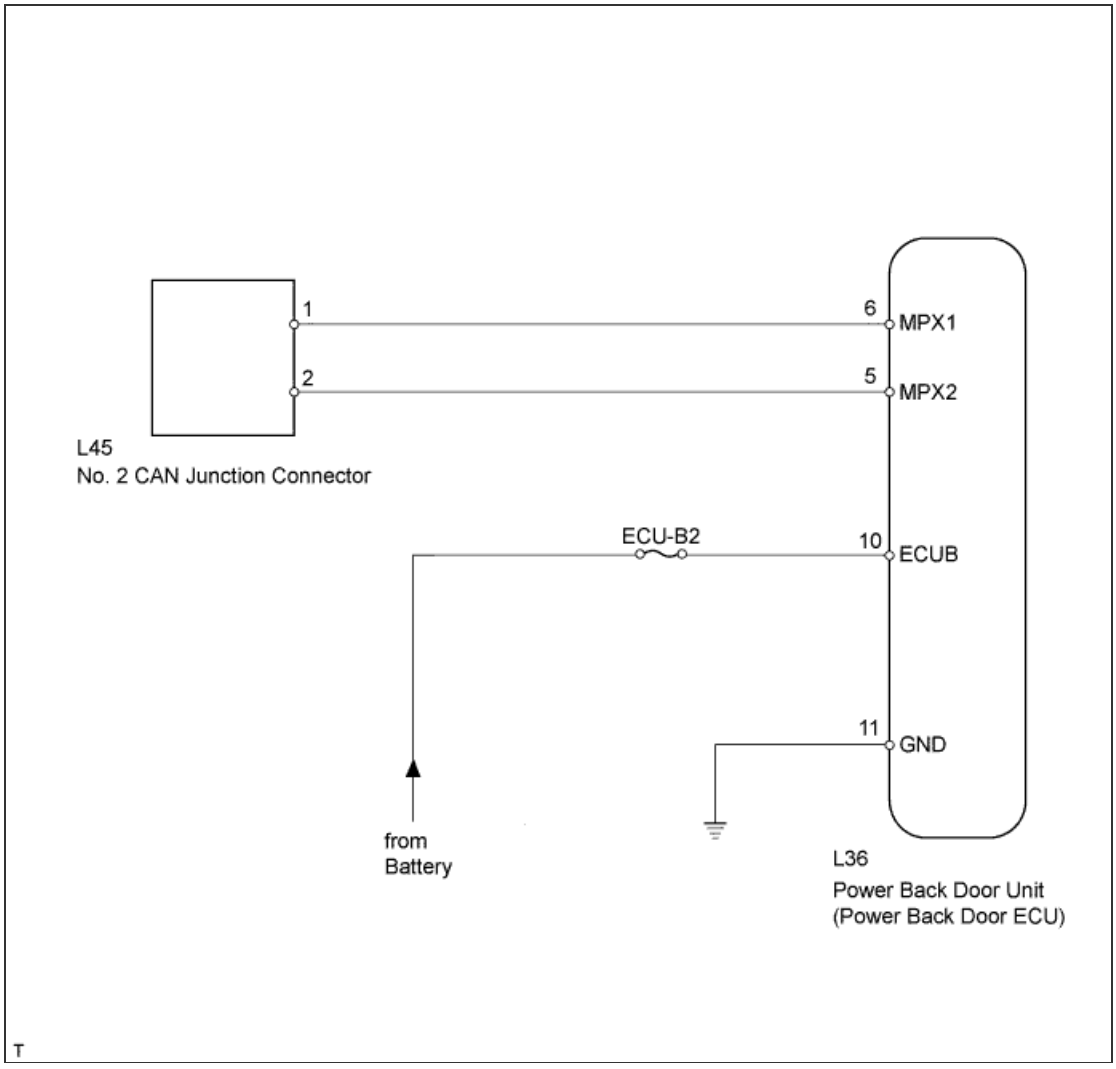
### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0230 | There is no communication from the power back door unit assembly (power back door ECU). | • Power source circuit of power back door unit assembly (power back door ECU)<br>• Power back door unit assembly (power back door ECU)<br>• Power back door unit assembly (power back door ECU) branch wire or connector |

**HINT:**

For vehicles with the power back door system only.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

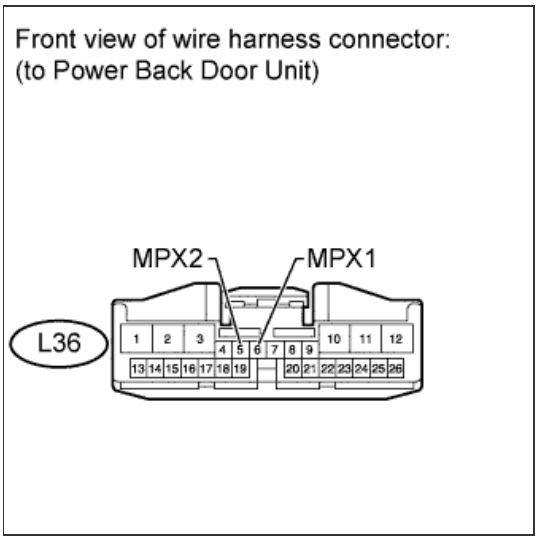
**2.CHECK FOR OPEN IN CAN BUS WIRE (POWER BACK DOOR UNIT BRANCH WIRE)**

a. Disconnect the L36 power back door unit (power back door ECU) connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | Engine switch off | 54 to 69 Ω |




**NG** → REPAIR OR REPLACE POWER BACK DOOR UNIT (POWER BACK DOOR ECU) BRANCH WIRE OR CONNECTOR (MPX1, MPX2)

**OK**

**3.CHECK HARNESS AND CONNECTOR (POWER BACK DOOR UNIT - BATTERY AND BODY GROUND)**

a. 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).

b. Disconnect the L36 power back door unit (power back door ECU) connector.

c. Measure the resistance according to the value(s) in the table below.

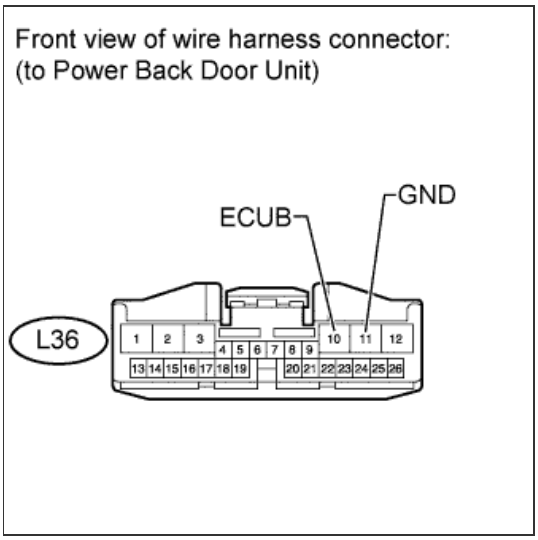
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L36-11 (GND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L36-10 (ECUB) - Body ground | Always | 11 to 14 V |




**NG** → REPAIR OR REPLACE HARNESS OR CONNECTOR

**OK**

REPLACE POWER BACK DOOR UNIT ASSEMBLY (POWER BACK DOOR ECU) ( Click here)

## DTC U0122 Lost Communication with Vehicle Dynamics Control Module

## DTC U0129 Lost Communication with Brake System Control Module

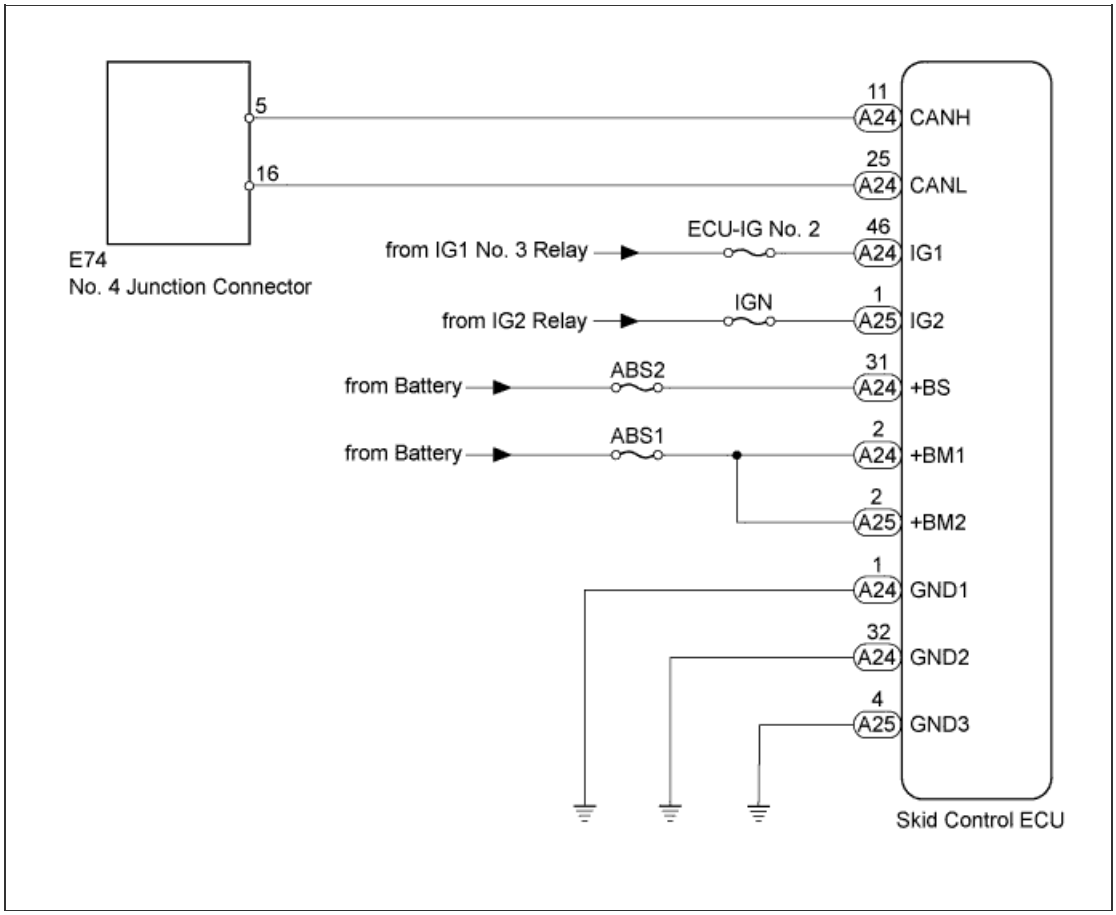
**for Preparation** Click here

### DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0122 | There is no communication from the skid control ECU. | • Power source circuit of skid control ECU<br>• One side of CAN branch wire of other systems<br>• Skid control ECU<br>• Skid control ECU branch wire or connector |
| U0129 | There is no communication from the skid control ECU. | • Power source circuit of skid control ECU<br>• One side of CAN branch wire of other systems<br>• Skid control ECU<br>• Skid control ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

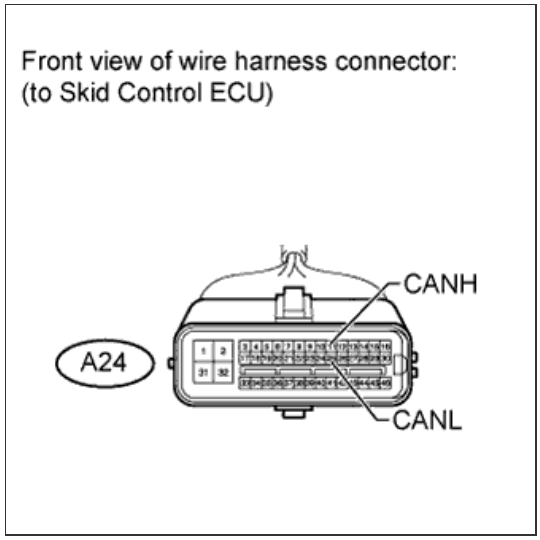
## 2.CHECK FOR OPEN IN CAN BUS WIRE (SKID CONTROL ECU BRANCH WIRE)

a. Disconnect the A24 skid control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE SKID CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (SKID CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the A24 and A25 skid control ECU connectors.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A24-1 (GND1) - Body ground | Always | Below 1 Ω |
| A24-32 (GND2) - Body ground | | |
| A25-4 (GND3) - Body ground | | |

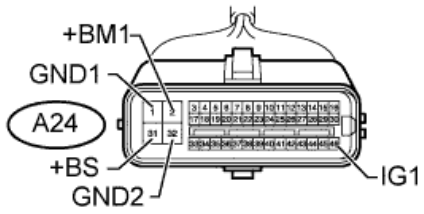
d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

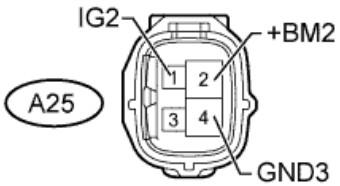
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A24-2 (+BM1) - Body ground | | |
| A24-31 (+BS) - | | |

| | | |
|---|---|---|
| Body ground | Always | 11 to 14 V |
| A25-2 (+BM2) - Body ground | | |
| A24-46 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |
| A25-1 (IG2) - Body ground | | |

Front view of wire harness connector:
(to Skid Control ECU)




Front view of wire harness connector:
(to Skid Control ECU)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MASTER CYLINDER SOLENOID (SKID CONTROL ECU) ( Click here )

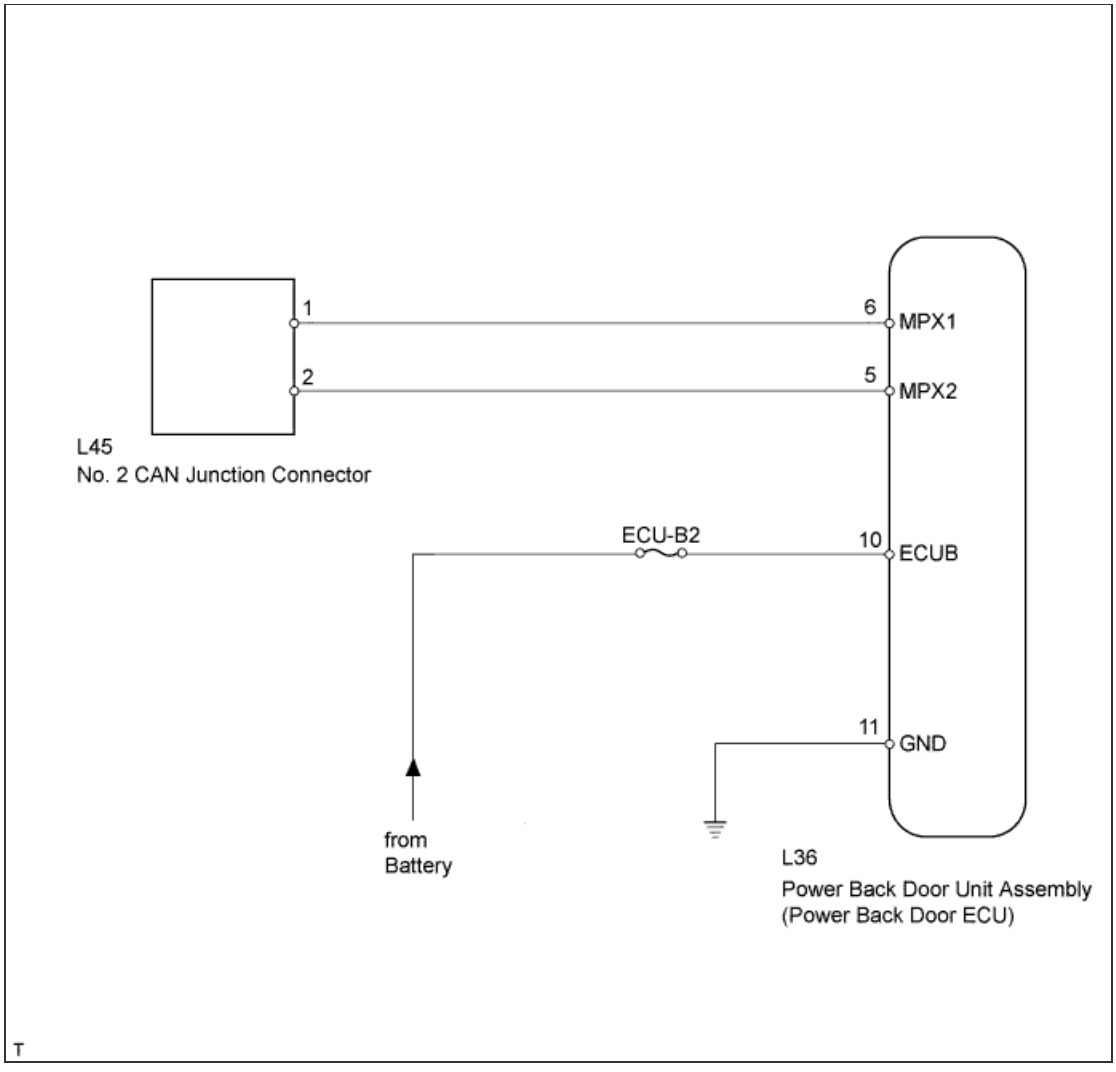
## DTC U0230 Lost Communication with Rear Gate Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0230 | There is no communication from the power back door unit assembly (power back door ECU). | • Power source circuit of power back door assembly (power back door ECU)<br>• Power back door unit assembly (power back door ECU) CAN branch wire or connector<br>• Power back door unit assembly (power back door ECU) |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

**NEXT**

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (POWER BACK DOOR ECU CAN BRANCH WIRE)

a. Disconnect the L36 power back door unit assembly (power back door ECU) connector.

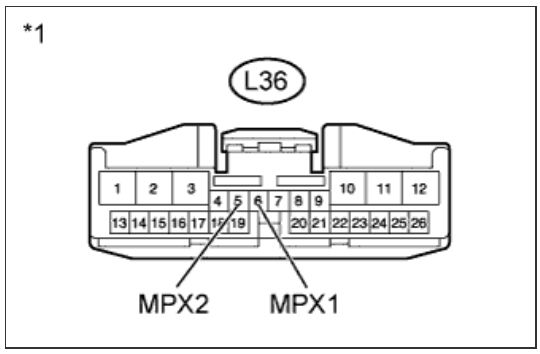
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Power Back Door Unit Assembly [Power Back Door ECU]) |




**NG** → **REPAIR OR REPLACE POWER BACK DOOR ECU CAN BRANCH WIRE OR CONNECTOR (MPX1, MPX2)**

**OK**

## 4.CHECK HARNESS AND CONNECTOR (POWER BACK DOOR ECU - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

**NOTICE:**

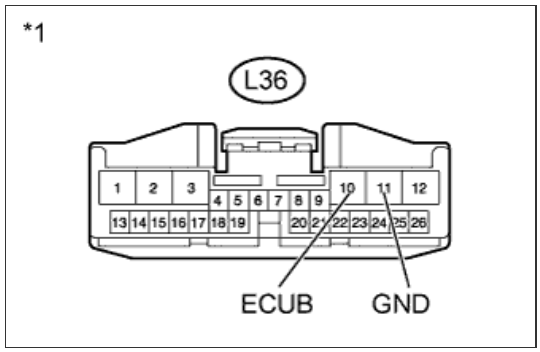
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

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 |

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 |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Power Back Door Unit Assembly [Power Back Door ECU]) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE POWER BACK DOOR UNIT ASSEMBLY (POWER BACK DOOR ECU) ( Click here)

## DTC U0122 Lost Communication with Vehicle Dynamics Control Module

## DTC U0129 Lost Communication with Brake System Control Module

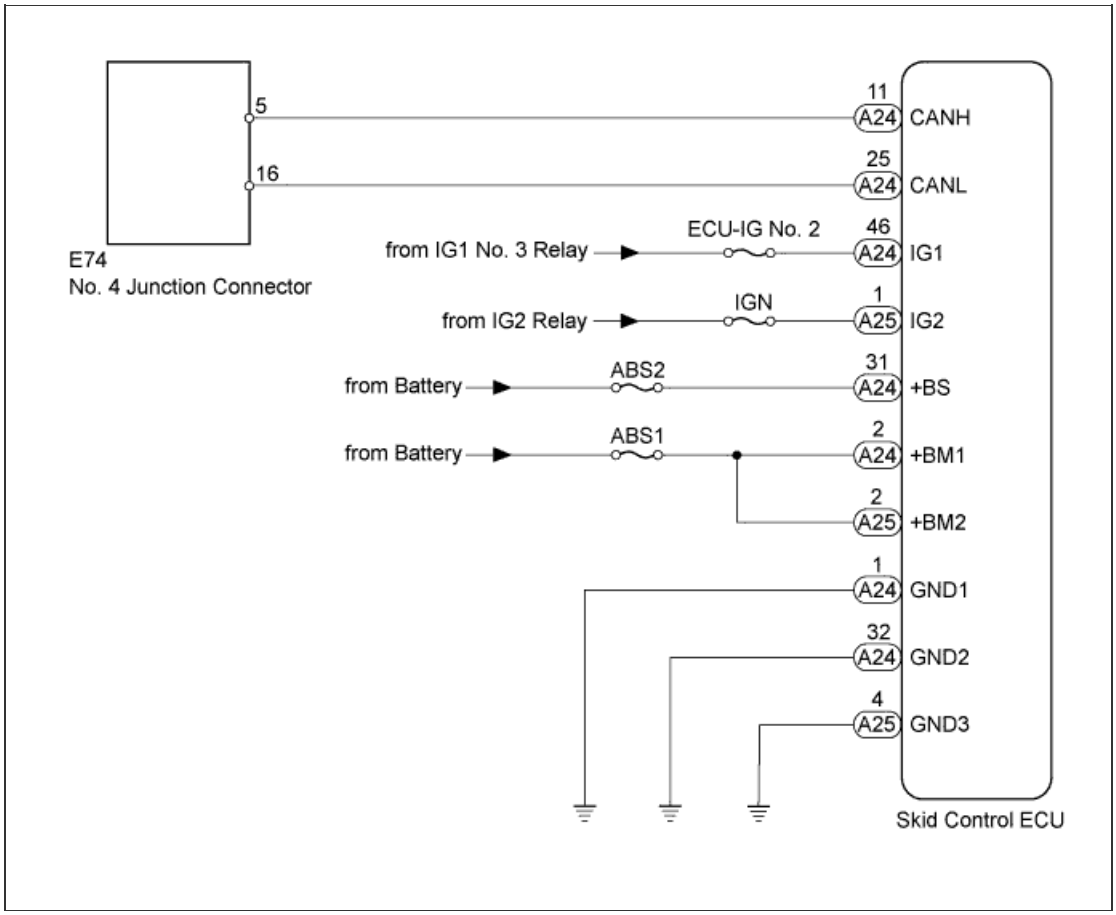
**for Preparation** Click here

### DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0122 | There is no communication from the skid control ECU. | • Power source circuit of skid control ECU<br>• One side of CAN branch wire of other systems<br>• Skid control ECU<br>• Skid control ECU branch wire or connector |
| U0129 | There is no communication from the skid control ECU. | • Power source circuit of skid control ECU<br>• One side of CAN branch wire of other systems<br>• Skid control ECU<br>• Skid control ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

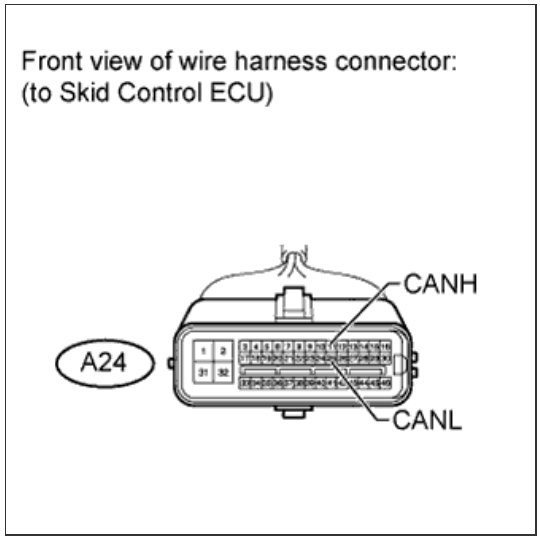
## 2.CHECK FOR OPEN IN CAN BUS WIRE (SKID CONTROL ECU BRANCH WIRE)

a. Disconnect the A24 skid control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE SKID CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (SKID CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the A24 and A25 skid control ECU connectors.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A24-1 (GND1) - Body ground | Always | Below 1 Ω |
| A24-32 (GND2) - Body ground | | |
| A25-4 (GND3) - Body ground | | |

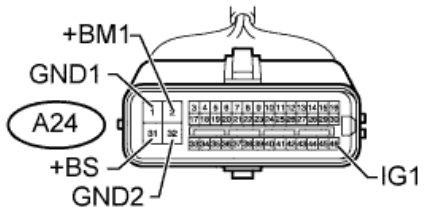
d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

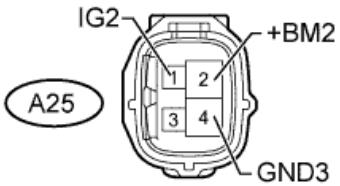
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A24-2 (+BM1) - Body ground | | |
| A24-31 (+BS) - | | |

| | | |
|---|---|---|
| Body ground | Always | 11 to 14 V |
| A25-2 (+BM2) - Body ground | | |
| A24-46 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |
| A25-1 (IG2) - Body ground | | |

Front view of wire harness connector:
(to Skid Control ECU)




Front view of wire harness connector:
(to Skid Control ECU)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MASTER CYLINDER SOLENOID (SKID CONTROL ECU) ( Click here )

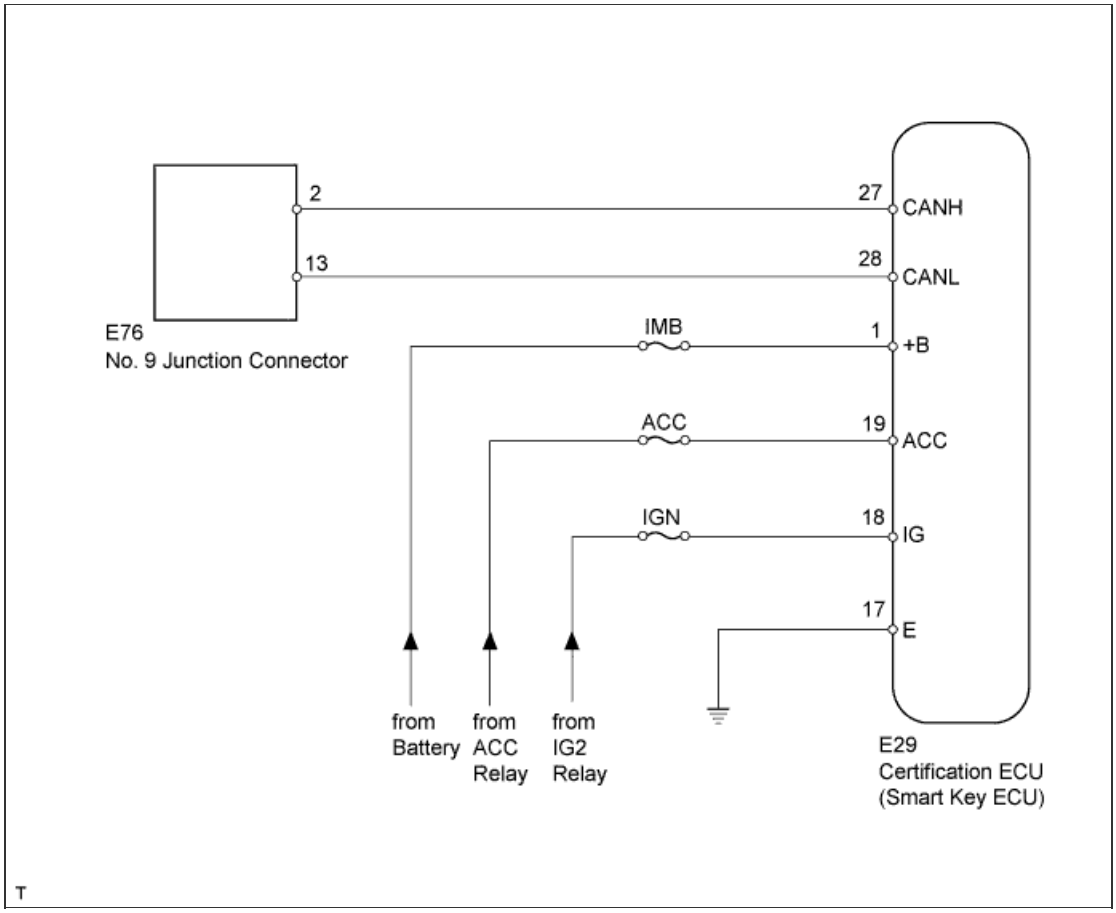
## DTC U0327 Software Incompatibility with Vehicle Security Control Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0327 | There is no communication from the certification ECU (smart key ECU). | • Power source circuit of certification ECU (smart key ECU assembly)<br>• Certification ECU (smart key ECU assembly)<br>• Certification ECU (smart key ECU assembly) branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

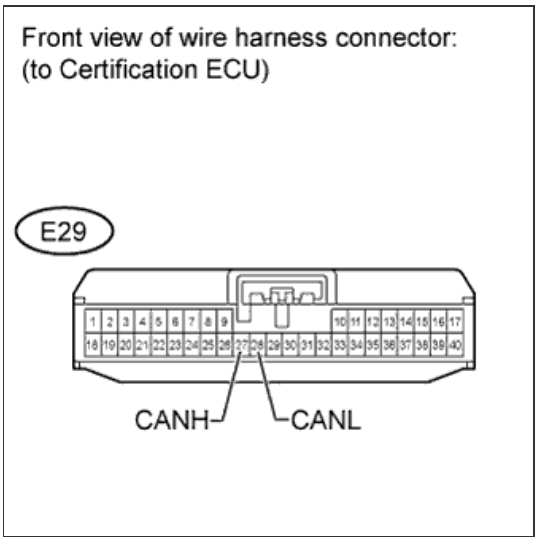
#### 2.CHECK FOR OPEN IN CAN BUS WIRE (CERTIFICATION ECU BRANCH WIRE)

a. Disconnect the E29 certification ECU (smart key ECU) connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY) BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E29 certification ECU (smart key ECU) connector.

c. Measure the resistance according to the value(s) in the table below.

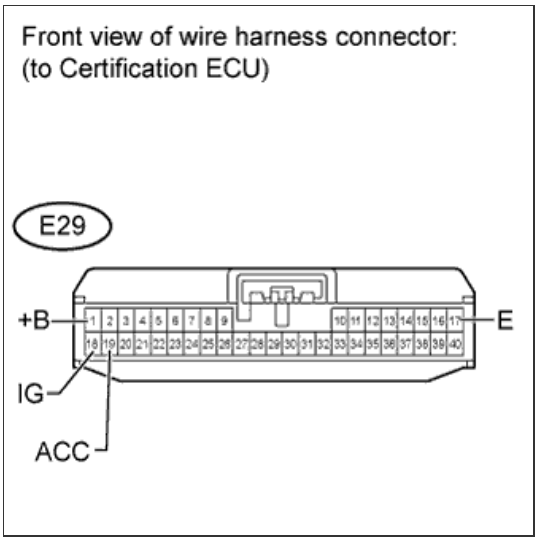
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-17 (E) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E29-1 (+B) - Body ground | Always | 11 to 14 V |
| E29-18 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |
| E29-19 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

## DTC U0123 Lost Communication with Yaw Rate Sensor Module

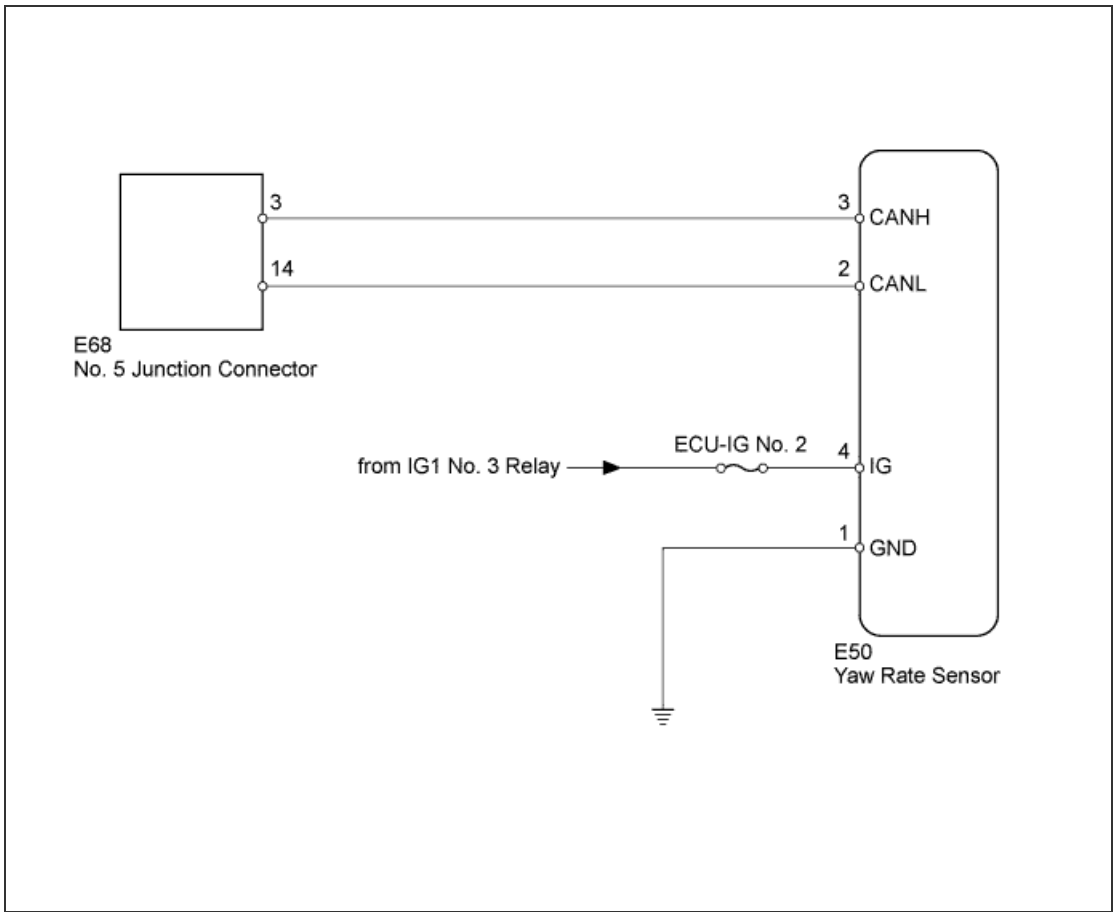
## DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0123 | There is no communication from the yaw rate sensor. | • Power source circuit of yaw rate sensor<br>• Yaw rate sensor<br>• Yaw rate sensor branch wire or connector |
| U0124 | There is no communication from the yaw rate sensor (lateral acceleration sensor). | • Power source circuit of yaw rate sensor<br>• Yaw rate sensor<br>• Yaw rate sensor branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

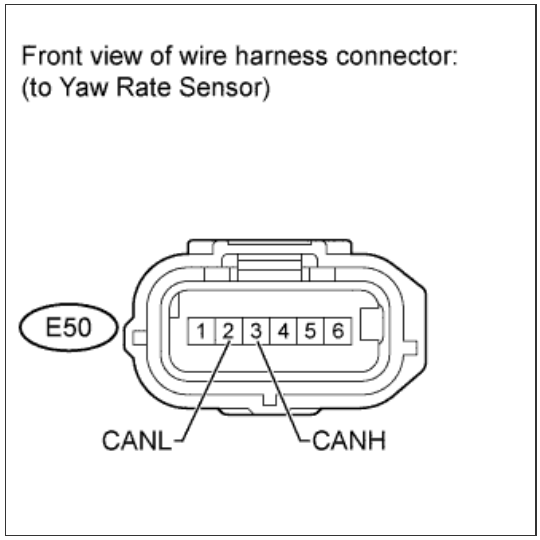
## 2.CHECK FOR OPEN IN CAN BUS WIRE (YAW RATE SENSOR BRANCH WIRE)

a. Disconnect the E50 yaw rate sensor connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE YAW RATE SENSOR BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (YAW RATE SENSOR - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E50 yaw rate sensor connector.

c. Measure the resistance according to the value(s) in the table below.

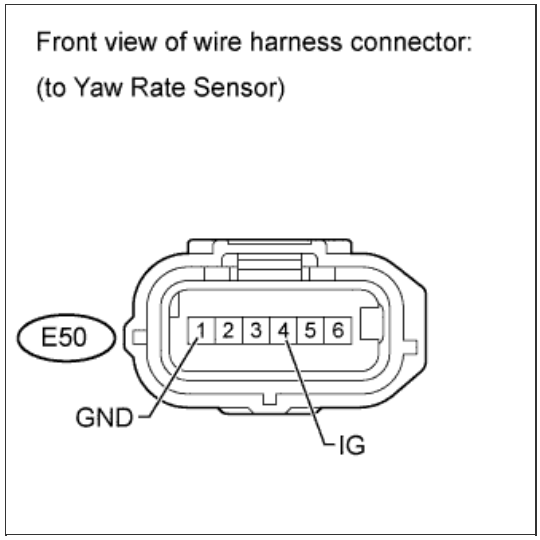
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E50-1 (GND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-4 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE YAW RATE SENSOR ASSEMBLY (Click here)

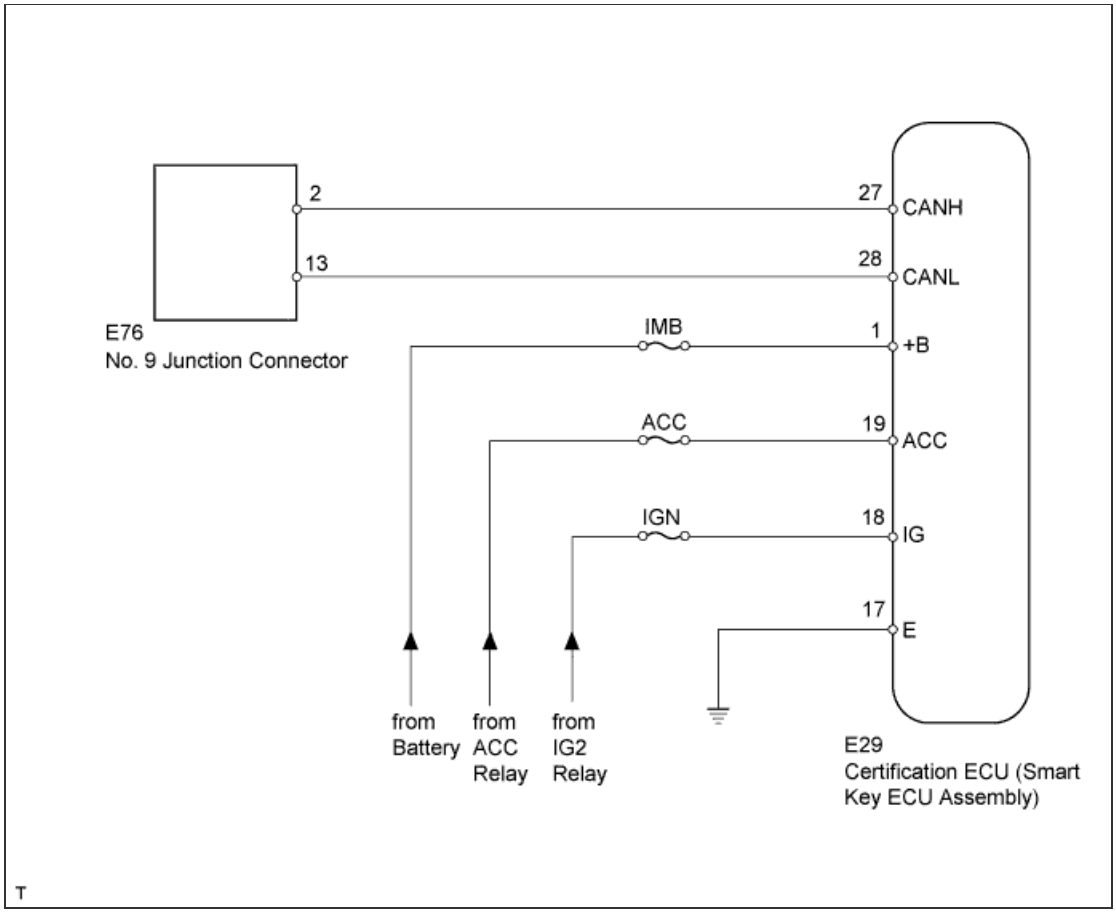
## DTC U0327 Software Incompatibility with Vehicle Security Control Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0327 | There is no communication from the certification ECU (smart key ECU assembly). | • Power source circuit of certification ECU (smart key ECU assembly)<br>• Certification ECU (smart key ECU assembly) CAN branch wire or connector<br>• Certification ECU (smart key ECU assembly) |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

- **Before replacing the certification ECU (smart key ECU assembly), refer to the entry and start system (for Entry Function) ( Click here).**
- **Inspect the fuses for circuits related to this system before performing the following inspection procedure.**

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (CERTIFICATION ECU CAN BRANCH WIRE)

a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

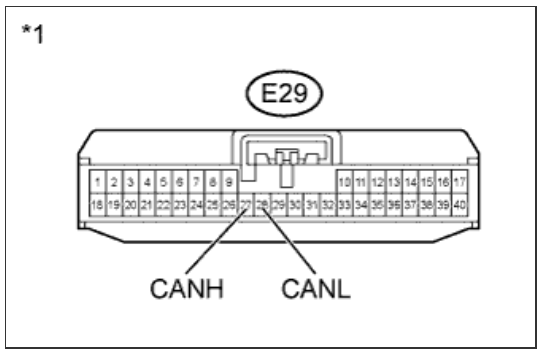
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Certification ECU [Smart Key ECU Assembly]) |




NG → REPAIR OR REPLACE CERTIFICATION ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (CERTIFICATION ECU - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

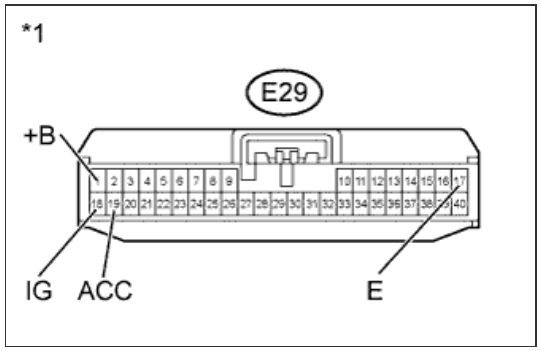
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E29-1 (+B) - Body ground | Always | 11 to 14 V |
| E29-19 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| E29-18 (IG) - 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 |
|---|---|---|
| E29-17 (E) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Certification ECU [Smart Key ECU Assembly]) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CERTIFICATION ECU ASSEMBLY (SMART KEY ECU)

## DTC U0123 Lost Communication with Yaw Rate Sensor Module

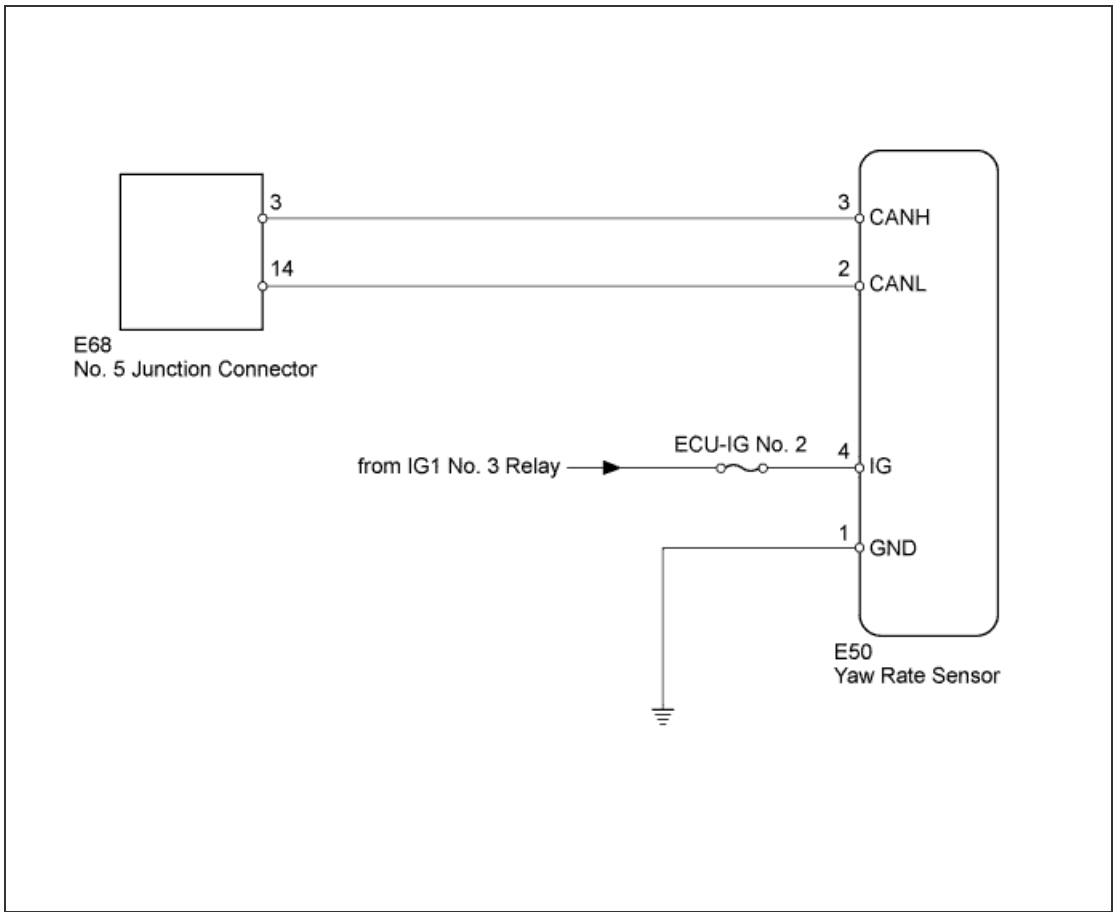
## DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0123 | There is no communication from the yaw rate sensor. | • Power source circuit of yaw rate sensor<br>• Yaw rate sensor<br>• Yaw rate sensor branch wire or connector |
| U0124 | There is no communication from the yaw rate sensor (lateral acceleration sensor). | • Power source circuit of yaw rate sensor<br>• Yaw rate sensor<br>• Yaw rate sensor branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

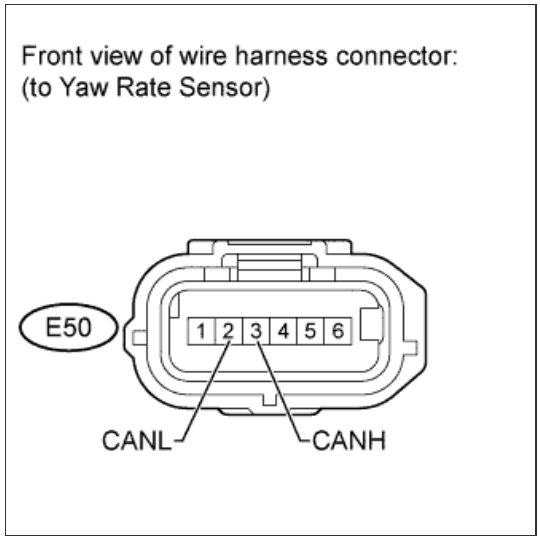
## 2.CHECK FOR OPEN IN CAN BUS WIRE (YAW RATE SENSOR BRANCH WIRE)

a. Disconnect the E50 yaw rate sensor connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE YAW RATE SENSOR BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (YAW RATE SENSOR - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E50 yaw rate sensor connector.

c. Measure the resistance according to the value(s) in the table below.

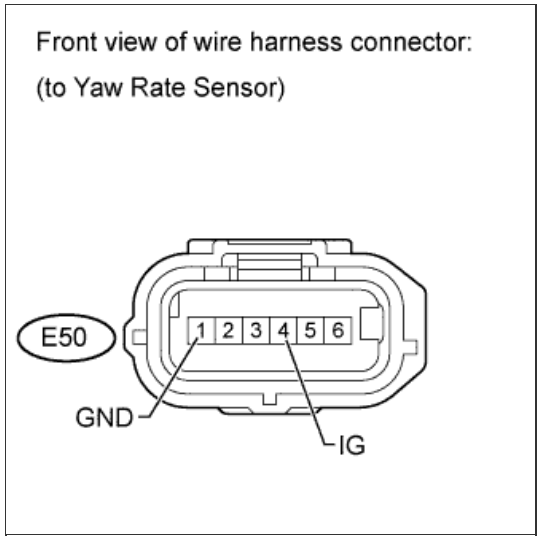
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E50-1 (GND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-4 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE YAW RATE SENSOR ASSEMBLY (Click here)

## DTC U1002 (CAN MS BUS) Lost Communication with Gateway Module (Main body ECU)

**for Preparation** Click here

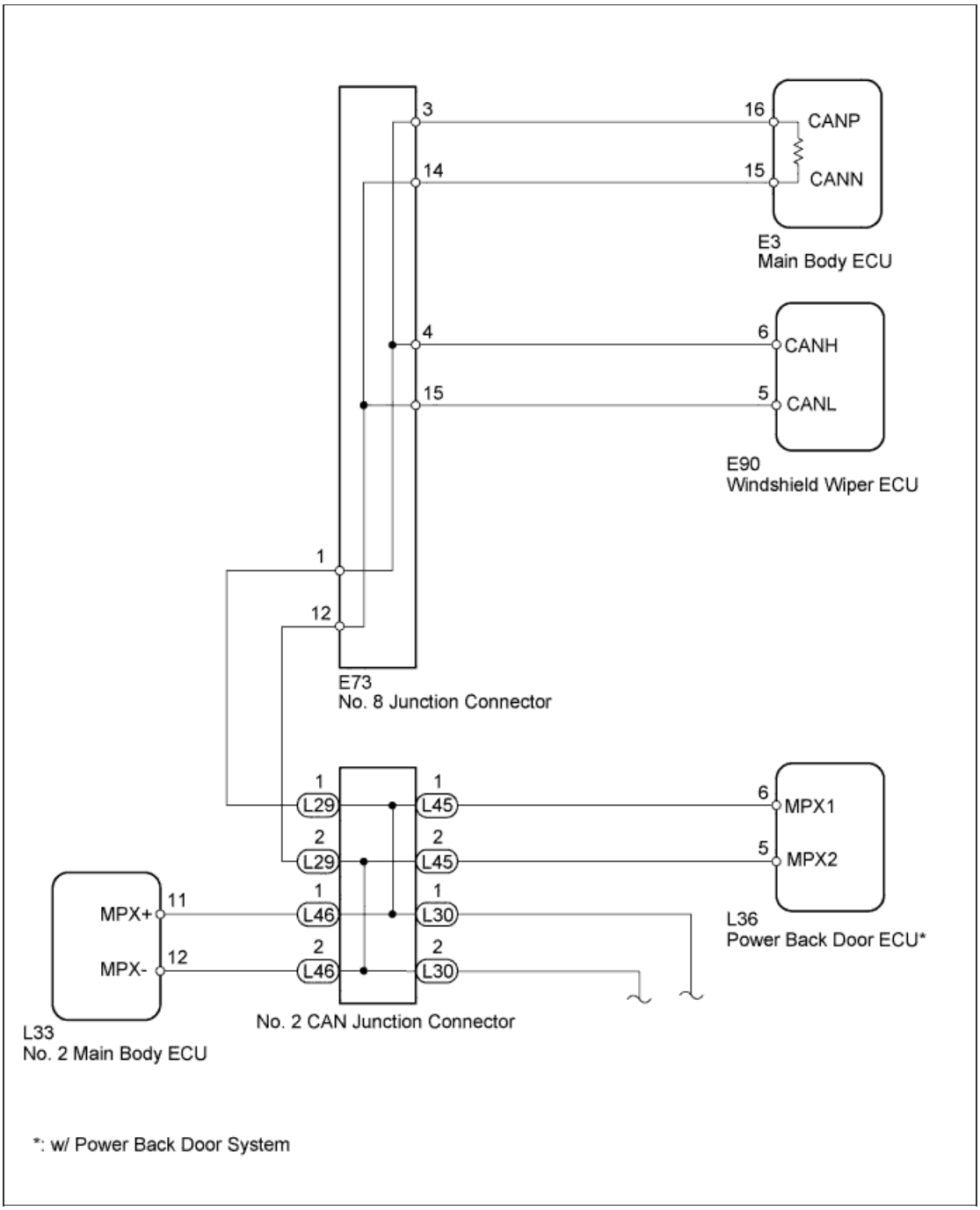
### DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (one side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

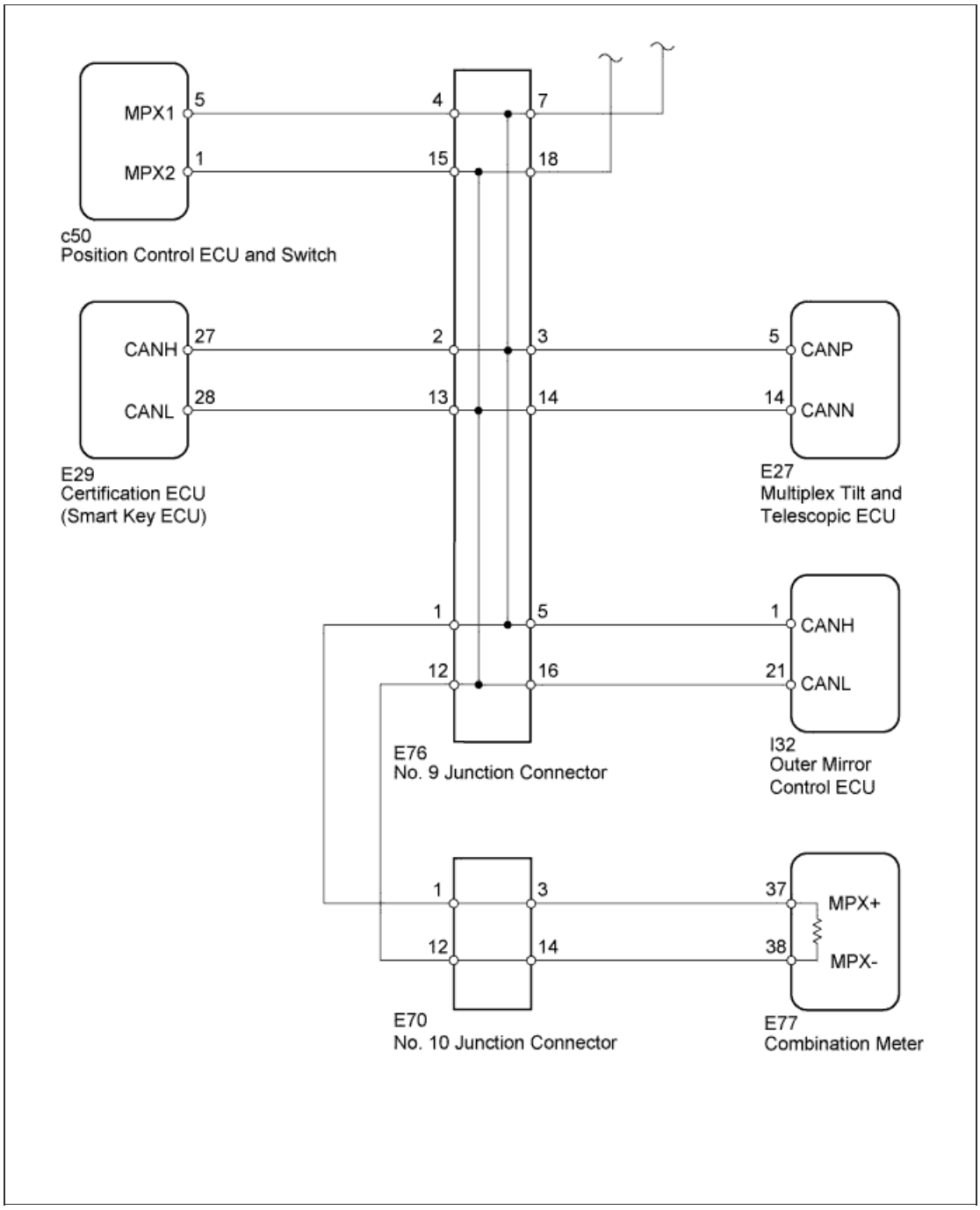
| DTC Code | Symptom | Trouble Area |
|---|---|---|
| U1002 (CAN MS BUS) | Lost communication with the gateway module (main body ECU). | • MS bus circuit<br>• Main body ECU main wire or connector<br>• Windshield wiper ECU branch wire or connector<br>• Position control ECU and switch branch wire or connector<br>• Certification ECU (smart key ECU assembly) branch wire or connector<br>• Multiplex tilt and telescopic ECU branch wire or connector<br>• Outer mirror control ECU branch wire or connector<br>• Combination meter main wire or connector<br>• No. 2 main body ECU branch wire or connector<br>• Power back door ECU branch wire or connector*<br>• Main body ECU<br>• Windshield wiper ECU<br>• Position control ECU and switch<br>• Certification ECU (smart key ECU assembly)<br>• Multiplex tilt and telescopic ECU<br>• Outer mirror control ECU<br>• Combination meter<br>• No. 2 main body ECU<br>• Power back door ECU*<br>• No. 8 junction connector<br>• No. 9 junction connector<br>• No. 10 junction connector<br>• No. 2 CAN junction connector |

*: w/ Power Back Door System

### WIRING DIAGRAM




*: w/ Power Back Door System




## INSPECTION PROCEDURE

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

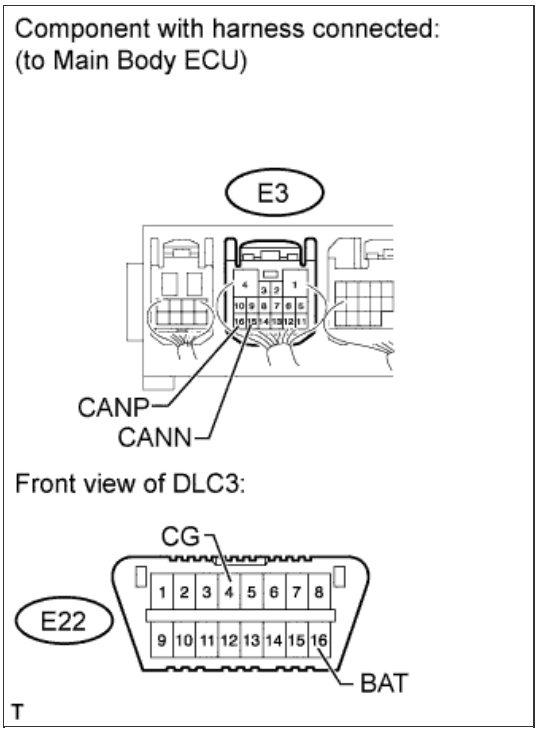
NEXT

### 2.CHECK CAN BUS WIRE (MAIN WIRE FOR DISCONNECTION, BUS LINE FOR SHORT CIRCUIT)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Resistance Malfunction |
|---|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 54 to 69 Ω | Below 53 Ω: Short in line |
| | Engine switch off | | 70 Ω or higher: Open in CAN main bus line |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |




**Result**

| Result | Proceed to |
|---|---|
| NG<br>- Open in CAN main bus line | A |
| NG<br>- Short in line<br>- +B short<br>- Ground short | B |
| OK | C |

**B** → Go to step 18

**C** → Go to step 54

**A**

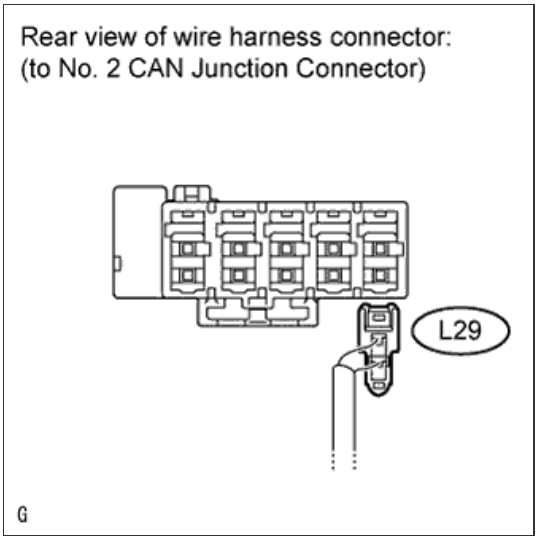
### 3.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 CAN JUNCTION CONNECTOR - MAIN BODY ECU)

a. Disconnect the L29 No. 2 CAN junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L29-1 (CANH) - L29-2 (CANL) | Engine switch off | 108 to 132 Ω |




**NG** → Go to step 5

**OK**

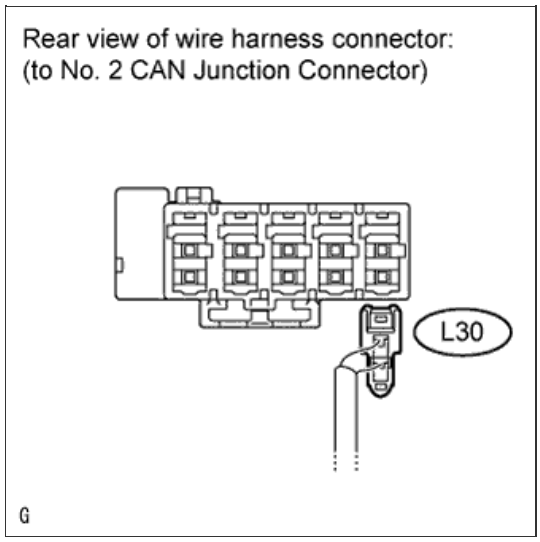
## 4.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 CAN JUNCTION CONNECTOR - COMBINATION METER)

a. Disconnect the L30 No. 2 CAN junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L30-1 (CANH) - L30-2 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 10

OK

## REPLACE NO. 2 CAN JUNCTION CONNECTOR

## 5.CONNECT CONNECTOR

a. Reconnect the L29 No. 2 CAN junction connector connector.

NEXT

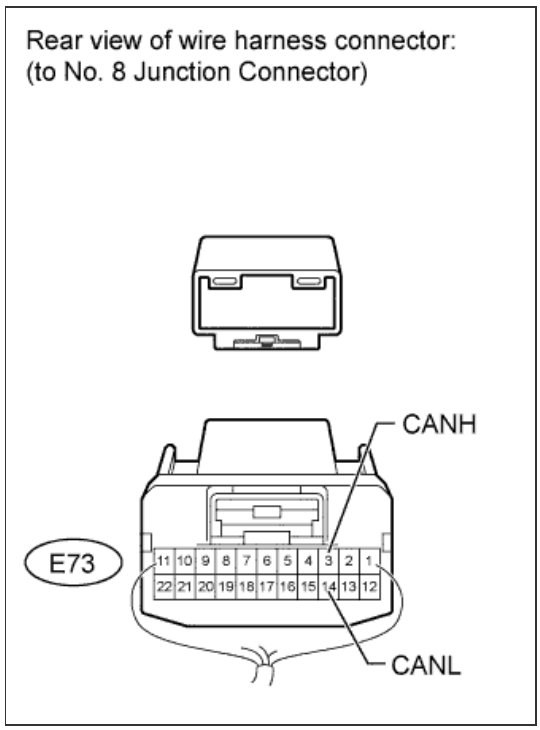
## 6.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 8 JUNCTION CONNECTOR - MAIN BODY ECU)

a. Disconnect the E73 No. 8 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-3 (CANH) - E73-14 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 8

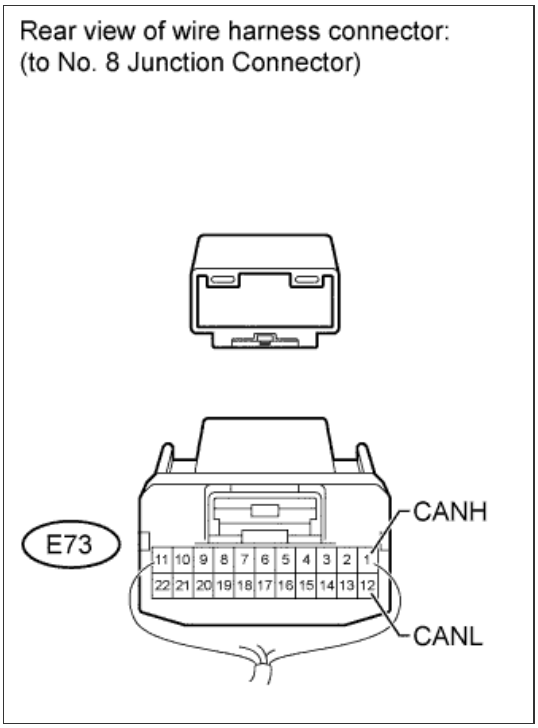
OK

7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-1 (CANH) - E73-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

OK

REPAIR OR REPLACE NO. 8 JUNCTION CONNECTOR

8.CONNECT CONNECTOR

a. Reconnect the E73 No. 8 junction connector connector.

NEXT

9.CHECK FOR OPEN IN CAN BUS MAIN WIRE (MAIN BODY ECU - NO. 8 JUNCTION CONNECTOR)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |

Rear view of wire harness connector:
(to Main Body ECU)




H

NG

REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (MAIN BODY ECU - NO. 8 JUNCTION CONNECTOR)

OK

REPLACE MAIN BODY ECU

10.CONNECT CONNECTOR

a. Reconnect the L29 and L30 No. 2 CAN junction connector connectors.

NEXT

11.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

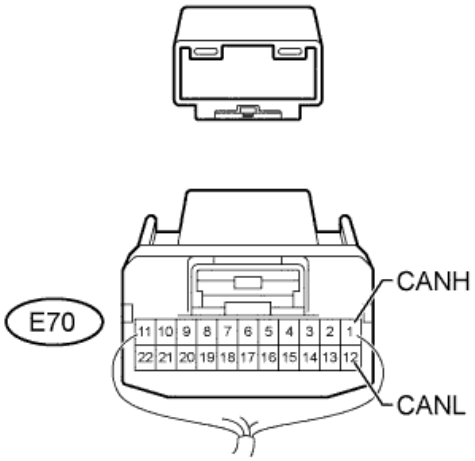
a. Disconnect the E70 No. 10 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E70-1 (CANH) - E70-12 (CANL) | Engine switch off | 108 to 132 Ω |

Rear view of wire harness connector:
(to No. 10 Junction Connector)




NG

Go to step 15

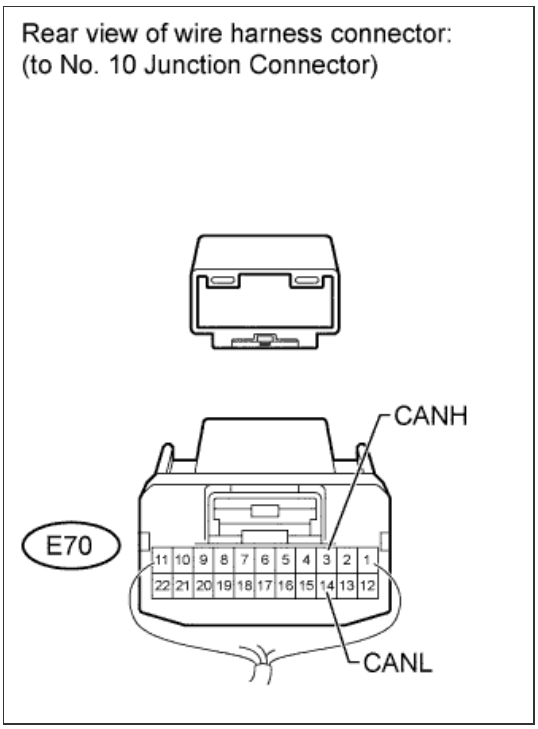
OK

## 12.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 10 JUNCTION CONNECTOR - COMBINATION METER)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E70-3 (CANH) - E70-14 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 13

OK →

REPAIR OR REPLACE NO. 10 CAN JUNCTION CONNECTOR

## 13.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector connector.

NEXT →

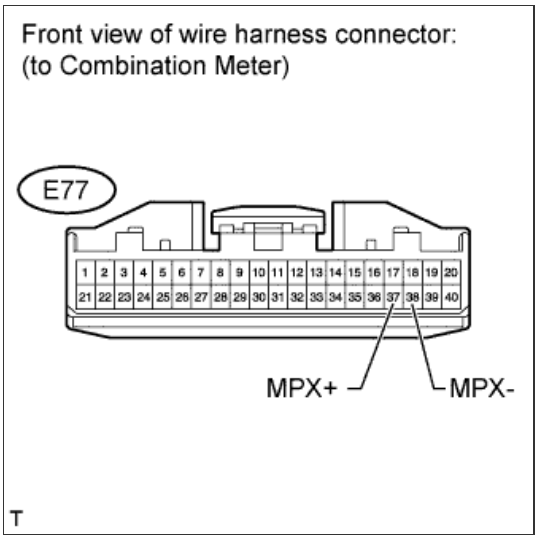
## 14.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER - NO. 10 JUNCTION CONNECTOR)

a. Disconnect the E77 combination meter connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-37 (MPX+) - E77-38 (MPX-) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (COMBINATION METER - NO. 10 JUNCTION BLOCK)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

15.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector connector.

NEXT

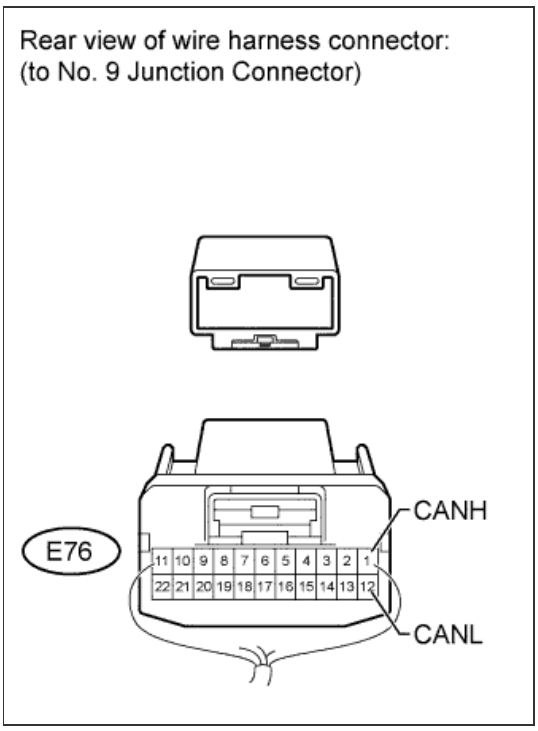
16.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

a. Disconnect the E76 No. 9 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-1 (CANH) - E76-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG

REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

OK

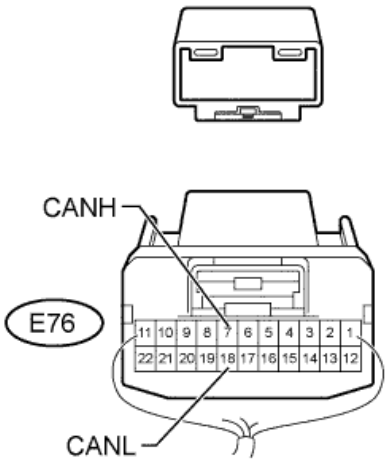
17.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-7 (CANH) - E76-18 (CANL) | Engine switch off | 108 to 132 Ω |

Rear view of wire harness connector:
(to No. 9 Junction Connector)




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

OK

REPAIR OR REPLACE NO. 9 JUNCTION CONNECTOR

## 18.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR SIDE)

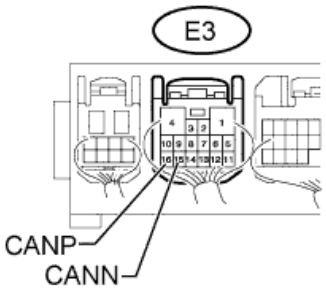
a. Disconnect the E70 No. 10 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

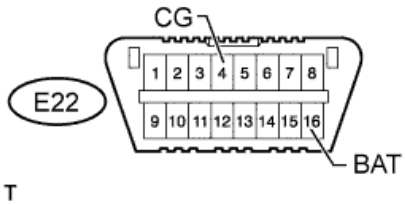
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Component with harness connected:
(Main Body ECU)




Front view of DLC3:




T

NG → Go to step 20

OK

## 19.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR - COMBINATION METER)

a. Measure the resistance according to the value(s) in the table below.

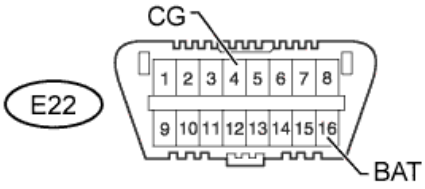
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E70-3 (CANH) - E70-14 (CANN) | Engine switch off | 1 Ω or higher | OK |
| E70-3 (CANH) - E70-14 (CANL) | Engine switch off | Below 1 Ω | NG |
| E70-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E70-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E70-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E70-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E70-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E70-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E70-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E70-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 10 Junction Connector)




Front view of DLC3:




NG → Go to step 36

OK

**REPAIR OR REPLACE NO. 10 JUNCTION CONNECTOR**

**20.CONNECT CONNECTOR**

a. Reconnect the E70 No. 10 junction connector connector.

NEXT

**21.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)**

a. Disconnect the E76 No. 9 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

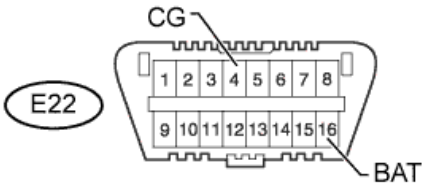
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-1 (CANH) - E76-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E76-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Rear view of wire harness connector:
(to No. 9 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 10 JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

OK

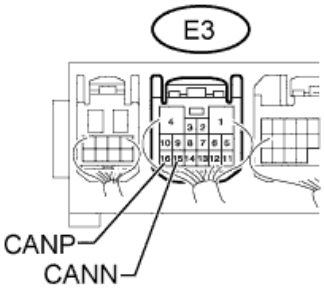
## 22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR SIDE)

a. Measure the resistance according to the value(s) in the table below.

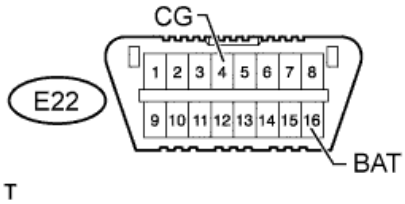
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Component with harness connected:
(Main Body ECU)




Front view of DLC3:




T

NG → Go to step 27

OK

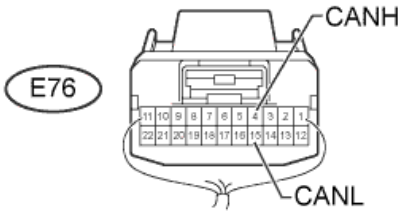
## 23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - POSITION CONTROL AND SWITCH)

a. Measure the resistance according to the value(s) in the table below.

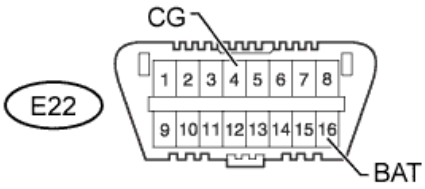
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E76-4 (CANH) - E76-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E76-4 (CANH) - E76-15 (CANL) | Engine switch off | Below 1 Ω | NG |
| E76-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E76-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 9 Junction Connector)




Front view of DLC3:




NG → Go to step 38

OK

## 24.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - MULTIPLEX TILT AND TELESCOPIC ECU)

a. Measure the resistance according to the value(s) in the table below.

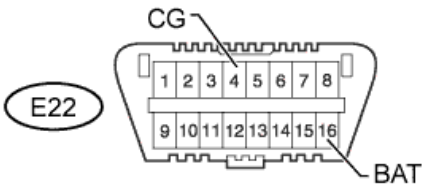
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E76-3 (CANH) - E76-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E76-3 (CANH) - E76-14 (CANL) | Engine switch off | Below 1 Ω | NG |
| E76-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E76-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 9 Junction Connector)




Front view of DLC3:




NG → Go to step 40

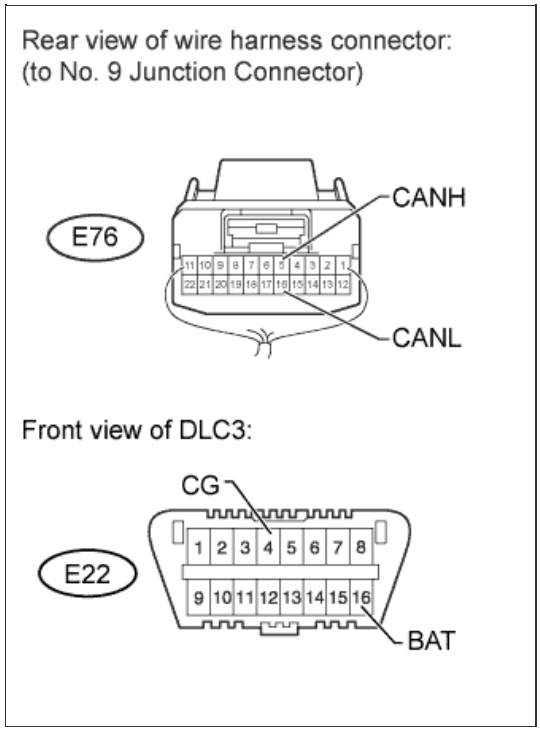
OK

## 25.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - OUTER MIRROR CONTROL ECU)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E76-5 (CANH) - E76-16 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E76-5 (CANH) - E76-16 (CANL) | Engine switch off | Below 1 Ω | NG |
| E76-5 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-16 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-5 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-16 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-5 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-16 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-5 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E76-16 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 42

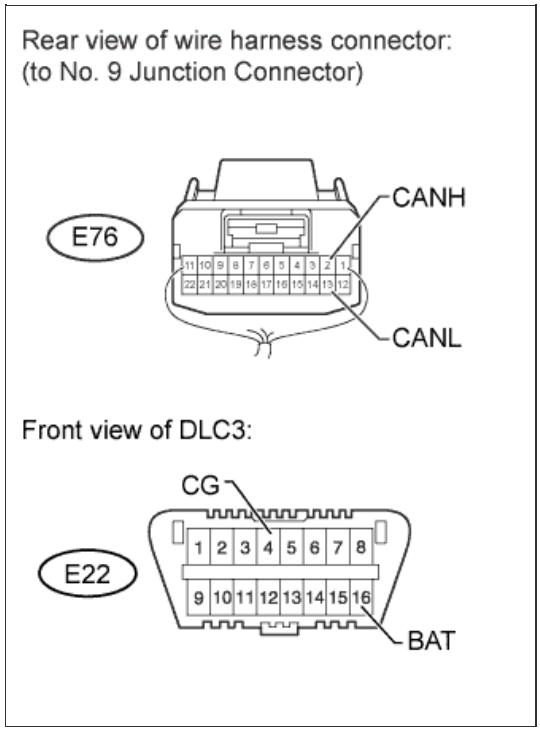
OK

## 26.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - CERTIFICATION ECU)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E76-2 (CANH) - E76-13 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E76-2 (CANH) - E76-13 (CANL) | Engine switch off | Below 1 Ω | NG |
| E76-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E76-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E76-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E76-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E76-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |



NG → Go to step 44

OK

REPAIR OR REPLACE NO. 9 JUNCTION CONNECTOR

27.CONNECT CONNECTOR

a. Reconnect the E76 No. 9 junction connector connector.

NEXT

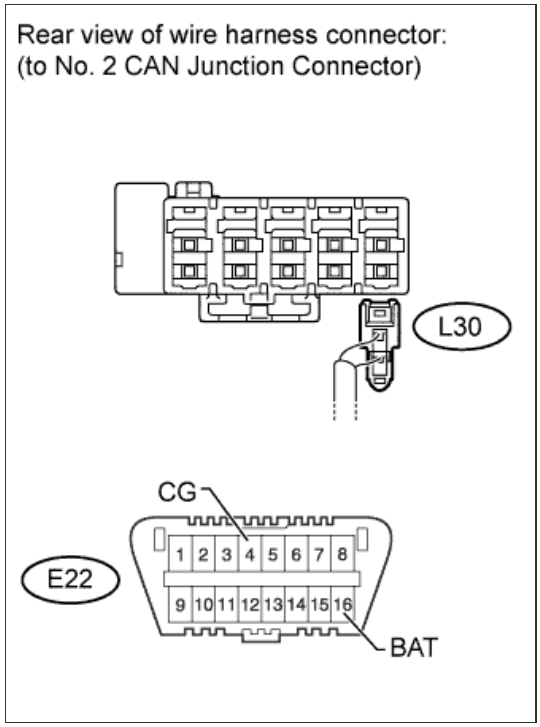
28.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

a. Disconnect the L30 No. 2 CAN junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L30-1 (CANH) - L30-2 (CANL) | Engine switch off | 108 to 132 Ω |
| L30-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L30-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L30-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| L30-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

OK

29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR SIDE)

a. Disconnect the L29 No. 2 CAN junction connector connector.

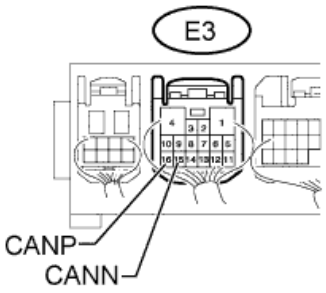
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

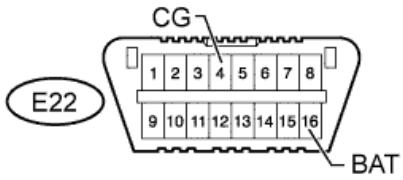
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Component with harness connected:
(Main Body ECU)




Front view of DLC3:




T

NG → Go to step 32

OK

## 30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - POWER BACK DOOR UNIT)

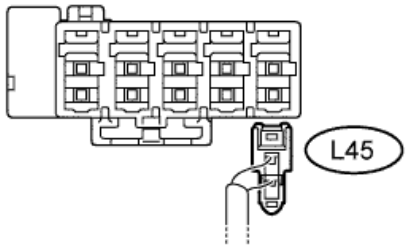
**NOTICE:**

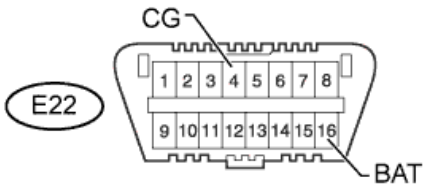
For vehicles without the power back door system, go to "Check for Short in CAN Bus Wires (No. 2 CAN Junction Connector - No. 2 Main Body ECU)".

a. Disconnect the L45 No. 2 CAN junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

Rear view of wire harness connector:
(to No. 2 CAN Junction Connector)




**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| L45-1 (CANH) - L45-2 (CANL) | Engine switch off | 1 Ω or higher | OK |
| L45-1 (CANH) - L45-2 (CANL) | Engine switch off | Below 1 Ω | NG |
| L45-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L45-2 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L45-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L45-2 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L45-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L45-2 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L45-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| L45-2 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

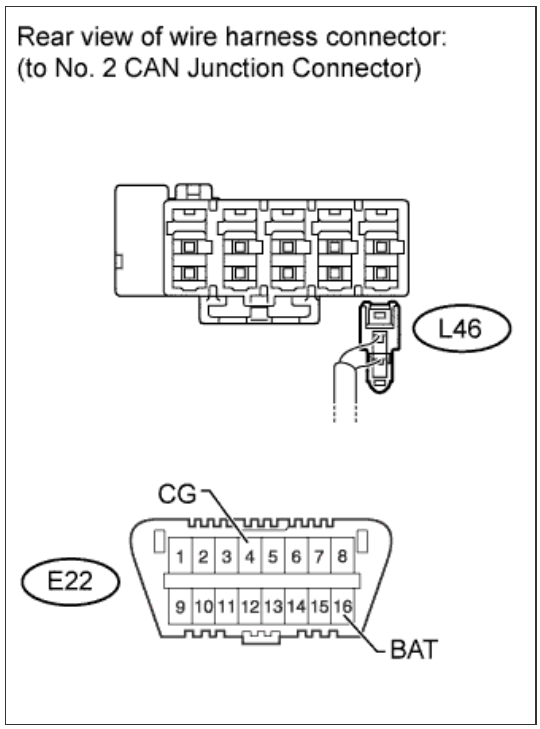
NG → Go to step 46

OK

## 31.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 2 MAIN BODY ECU)

a. Disconnect the L46 No. 2 CAN junction connector connector.

b. Measure the resistance according to the value(s) in the table below.




**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| L46-1 (CANH) - L46-2 (CANL) | Engine switch off | 1 Ω or higher | OK |
| L46-1 (CANH) - L46-2 (CANL) | Engine switch off | Below 1 Ω | NG |
| L46-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L46-2 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L46-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L46-2 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L46-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L46-2 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L46-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| L46-2 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

NG → Go to step 48

OK

**REPLACE NO. 2 CAN JUNCTION CONNECTOR**

## 32.CONNECT CONNECTOR

a. Reconnect the L29, L45, L46 and L30 No. 2 CAN junction connector connectors.

NEXT

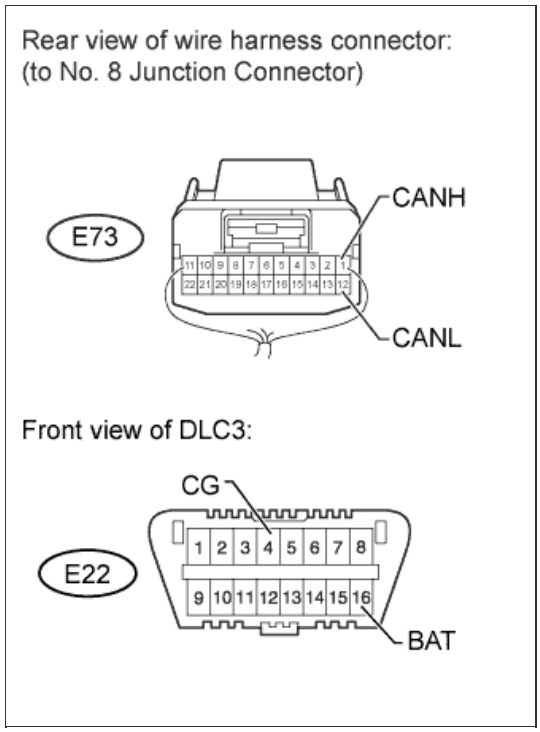
## 33.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

a. Disconnect the E73 No. 8 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-1 (CANH) - E73-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E73-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E73-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

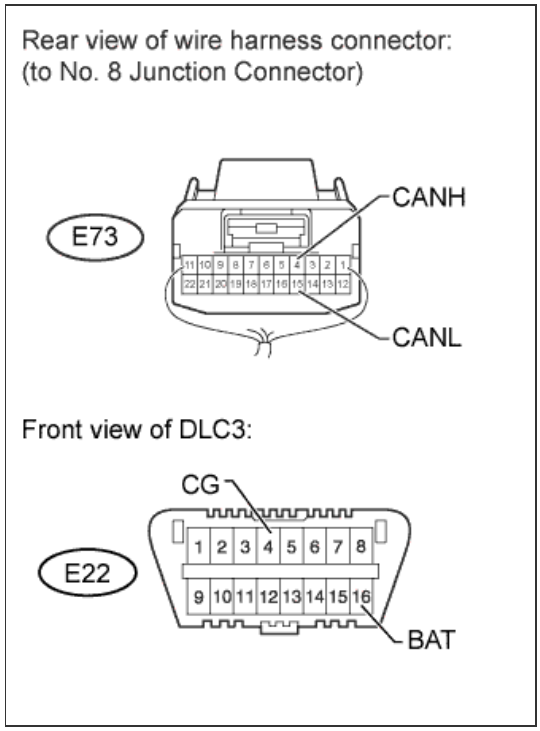
OK

**34.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - WINDSHIELD WIPER ECU)**

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E73-4 (CANH) - E73-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E73-4 (CANH) - E73-15 (CANL) | Engine switch off | Below 1 Ω | NG |
| E73-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E73-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E73-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E73-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E73-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E73-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E73-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E73-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 50

OK

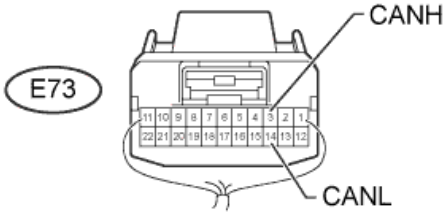
## 35.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - MAIN BODY ECU)

a. Measure the resistance according to the value(s) in the table below.

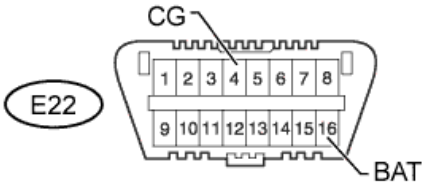
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E73-3 (CANH) - E73-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E73-3 (CANH) - E73-14 (CANL) | Engine switch off | Below 1 Ω | NG |
| E73-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E73-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E73-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E73-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E73-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E73-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E73-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E73-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 8 Junction Connector)




Front view of DLC3:




NG → Go to step 52

OK

REPAIR OR REPLACE NO. 8 JUNCTION CONNECTOR

## 36.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector connector.

NEXT

## 37.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER)

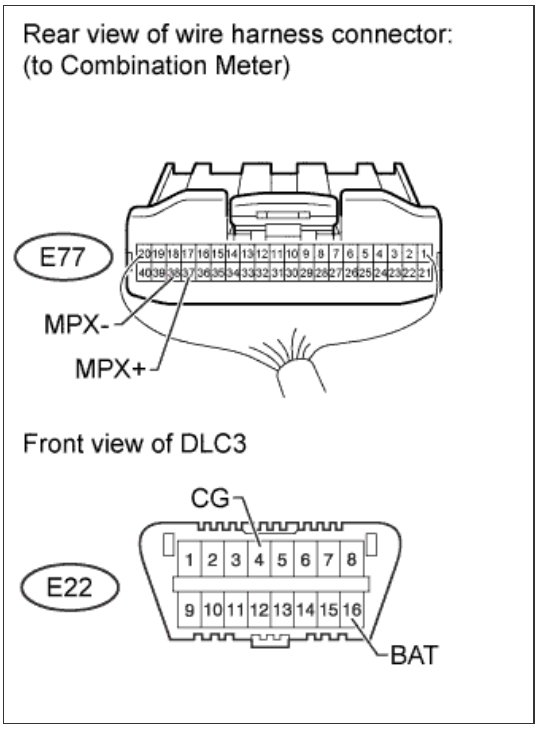
a. Disconnect the E77 meter ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E77-37 (MPX+) - E77-38 (MPX-) | Engine switch off | 1 Ω or higher | OK |
| E77-37 (MPX+) - E77-38 (MPX-) | Engine switch off | Below 1 Ω | NG |
| E77-37 (MPX+) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E77-38 (MPX-) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E77-37 (MPX+) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E77-38 (MPX-) - E22-4 | Engine | Below 1 Ω | NG |

| | | | |
|---|---|---|---|
| (CG) | switch off | | |
| E77-37 (MPX+) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E77-38 (MPX-) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E77-37 (MPX+) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E77-38 (MPX-) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (NO. 10 JUNCTION CONNECTOR - COMBINATION METER)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

### 38.CONNECT CONNECTOR

a. Reconnect the E76 No. 9 junction connector connector.

NEXT

### 39.CHECK FOR SHORT IN CAN BUS WIRES (POSITION CONTROL ECU AND SWITCH)

a. Disconnect the c50 position control ECU and switch connector.

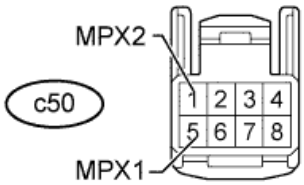
b. Measure the resistance according to the value(s) in the table below.

**Result**

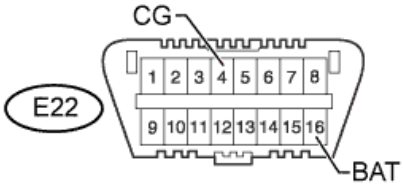
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| c50-5 (MPX1) - c50-1 (MPX2) | Engine switch off | 1 Ω or higher | OK |
| c50-5 (MPX1) - c50-1 (MPX2) | Engine switch off | Below 1 Ω | NG |
| c50-5 (MPX1) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| c50-1 (MPX2) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| c50-5 (MPX1) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| c50-1 (MPX2) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| c50-5 (MPX1) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| c50-1 (MPX2) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| c50-5 (MPX1) - E22- | Engine | | |

| | | | |
|---|---|---|---|
| 16 (BAT) | switch off | Below 1 Ω | NG |
| c50-1 (MPX2) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Position Control ECU and Switch)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO POSITION CONTROL ECU AND SWITCH (MPX1, MPX2)

OK → REPLACE POSITION CONTROL ECU AND SWITCH ASSEMBLY (Click here)

### 40.CONNECT CONNECTOR

a. Reconnect the E76 No. 9 junction connector connector.

NEXT

### 41.CHECK FOR SHORT IN CAN BUS WIRES (MULTIPLEX TILT AND TELESCOPIC ECU)

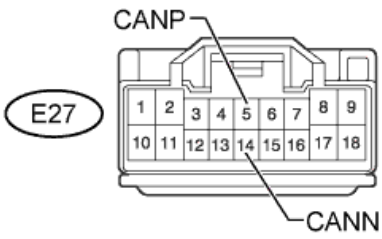
a. Disconnect the E27 power tilt and telescopic ECU connector.

b. Measure the resistance according to the value(s) in the table below.

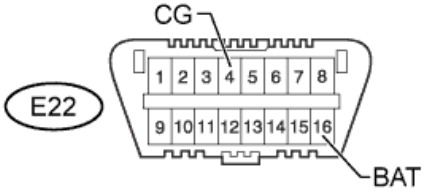
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | Engine switch off | 1 Ω or higher | OK |
| E27-5 (CANP) - E27-14 (CANN) | Engine switch off | Below 1 Ω | NG |
| E27-5 (CANP) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E27-14 (CANN) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E27-5 (CANP) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E27-14 (CANN) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E27-5 (CANP) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E27-14 (CANN) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E27-5 (CANP) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Multiplex Tilt and Telescopic ECU)




Front view of DLC3:



| | | | |
|---|---|---|---|
| E27-14 (CANN) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO POWER TILT AND TELESCOPIC ECU (CANP, CANN)

OK

REPLACE MULTIPLEX TILT AND TELESCOPIC ECU (Click here)

## 42.CONNECT CONNECTOR

a. Reconnect the E76 No. 9 junction connector connector.

NEXT

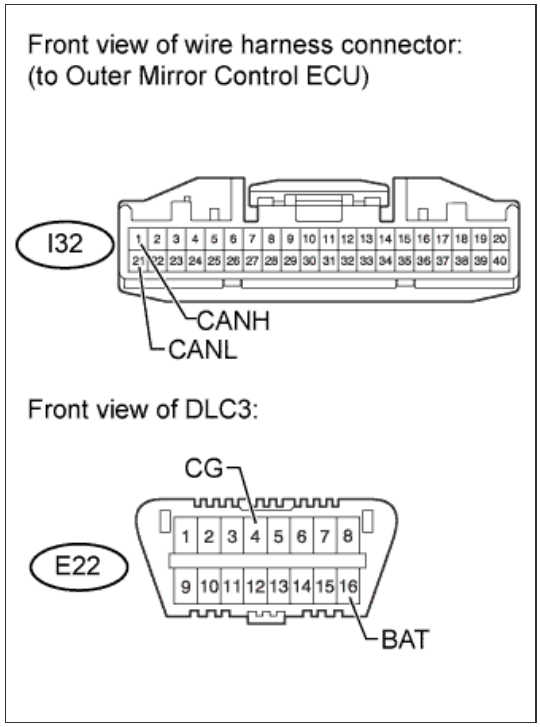
## 43.CHECK FOR SHORT IN CAN BUS WIRES (OUTER MIRROR CONTROL ECU)

a. Disconnect the I32 outer mirror control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| I32-1 (CANH) - I32-21 (CANL) | Engine switch off | 1 Ω or higher | OK |
| I32-1 (CANH) - I32-21 (CANL) | Engine switch off | Below 1 Ω | NG |
| I32-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| I32-21 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| I32-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| I32-21 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| I32-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| I32-21 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| I32-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| I32-21 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO OUTER MIRROR CONTROL ECU (CANH, CANL)

OK

REPLACE OUTER MIRROR CONTROL ECU ASSEMBLY (Click here)

## 44.CONNECT CONNECTOR

a. Reconnect the E76 No. 9 junction connector connector.

NEXT

## 45.CHECK FOR SHORT IN CAN BUS WIRES (CERTIFICATION ECU)

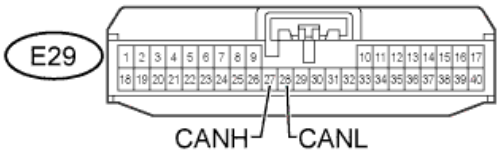
a. Disconnect the E29 certification ECU (smart key ECU) connector.

b. Measure the resistance according to the value(s) in the table below.

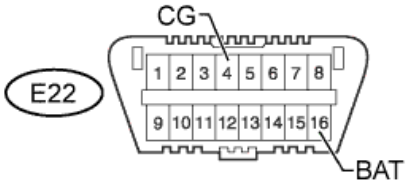
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E29-27 (CANH) - E29-28 (CANL) | Engine switch off | Below 1 Ω | NG |
| E29-27 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E29-28 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E29-27 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E29-28 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E29-27 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E29-28 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E29-27 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E29-28 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Certification ECU)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CERTIFICATION ECU (SMART KEY ECU ASSEMBLY) (CANH, CANL)

OK → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

## 46.CONNECT CONNECTOR

a. Reconnect the E76 No. 9 junction connector connector.

NEXT

## 47.CHECK FOR SHORT IN CAN BUS WIRES (POWER BACK DOOR UNIT)

a. Disconnect the L36 power back door unit (power back door ECU) connector.

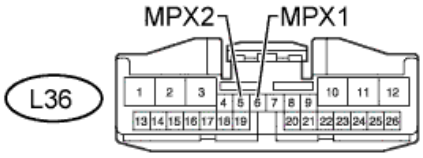
b. Measure the resistance according to the value(s) in the table below.

**Result**

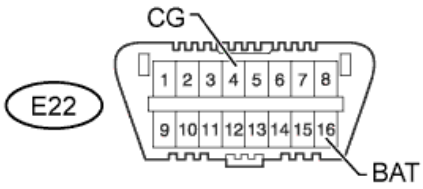
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | Engine switch off | 1 Ω or higher | OK |
| L36-6 (MPX1) - L36-5 (MPX2) | Engine switch off | Below 1 Ω | NG |
| L36-6 (MPX1) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L36-5 (MPX2) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L36-6 (MPX1) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

| | | | |
|---|---|---|---|
| L36-5 (MPX2) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L36-6 (MPX1) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L36-5 (MPX2) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L36-6 (MPX1) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| L36-5 (MPX2) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Power Back Door Unit)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO POWER BACK DOOR UNIT (POWER BACK DOOR ECU) (MPX1, MPX2)

OK → REPLACE POWER BACK DOOR UNIT ASSEMBLY (POWER BACK DOOR ECU) ( Click here)

### 48.CONNECT CONNECTOR

a. Reconnect the E76 No. 9 junction connector connector.

NEXT

### 49.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 MAIN BODY ECU)

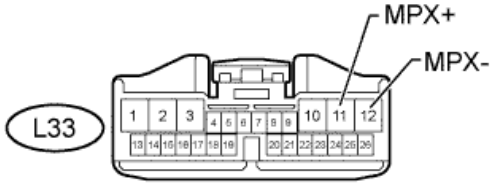
a. Disconnect the L33 No. 2 main body ECU connector.

b. Measure the resistance according to the value(s) in the table below.

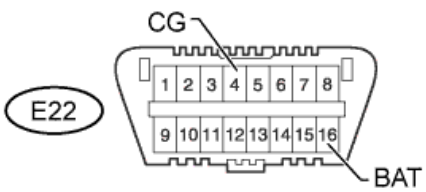
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | Engine switch off | 1 Ω or higher | OK |
| L33-11 (MPX+) - L33-12 (MPX-) | Engine switch off | Below 1 Ω | NG |
| L33-11 (MPX+) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L33-12 (MPX-) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| L33-11 (MPX+) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L33-12 (MPX-) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| L33-11 (MPX+) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L33-12 (MPX-) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| L33-11 (MPX+) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| L33-12 (MPX-) - E22- | Engine | Below 1 Ω | NG |

Front view of wire harness connector:
(to No. 2 Main Body ECU)




Front view of DLC3:



| | | | |
|---|---|---|---|
| 16 (BAT) | switch off | | |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NO. 2 MAIN BODY ECU (MPX+, MPX-)

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

50.CONNECT CONNECTOR

a. Reconnect the E73 No. 8 junction connector connector.

NEXT

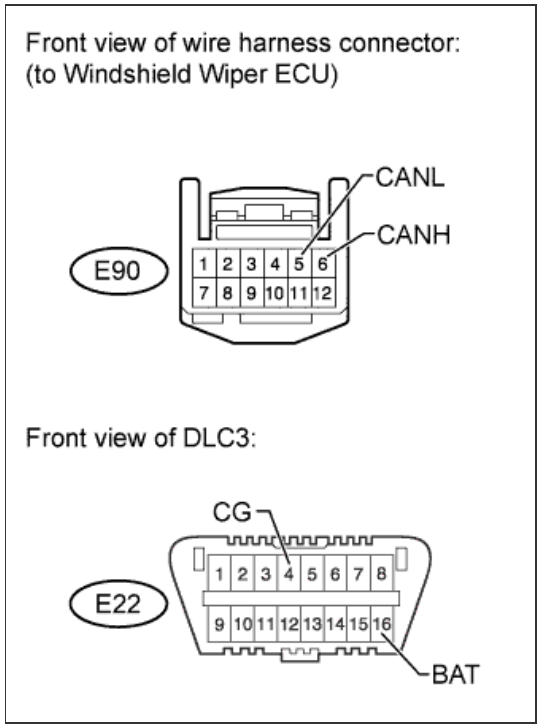
51.CHECK FOR SHORT IN CAN BUS WIRES (WINDSHIELD WIPER ECU)

a. Disconnect the E90 windshield wiper ECU connector.

b. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E90-6 (CANH) - E90-5 (CANL) | Engine switch off | Below 1 Ω | NG |
| E90-6 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E90-5 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E90-6 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E90-5 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E90-6 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E90-5 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E90-6 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E90-5 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO WINDSHIELD WIPER ECU (CANH, CANL)

OK

REPLACE WINDSHIELD WIPER ECU (Click here)

52.CONNECT CONNECTOR

a. Reconnect the E73 No. 8 junction connector connector.

NEXT

53.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

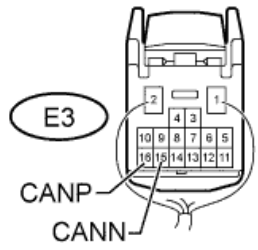
a. Disconnect the E3 main body ECU connector.

b. Measure the resistance according to the value(s) in the table below.

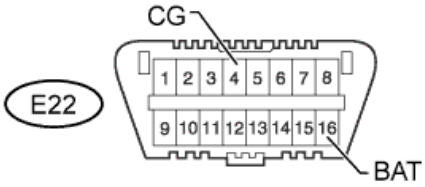
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 1 Ω or higher | OK |
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | Below 1 Ω | NG |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to Main Body ECU)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO MAIN BODY ECU (NO. 8 JUNCTION CONNECTOR - MAIN BODY ECU)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

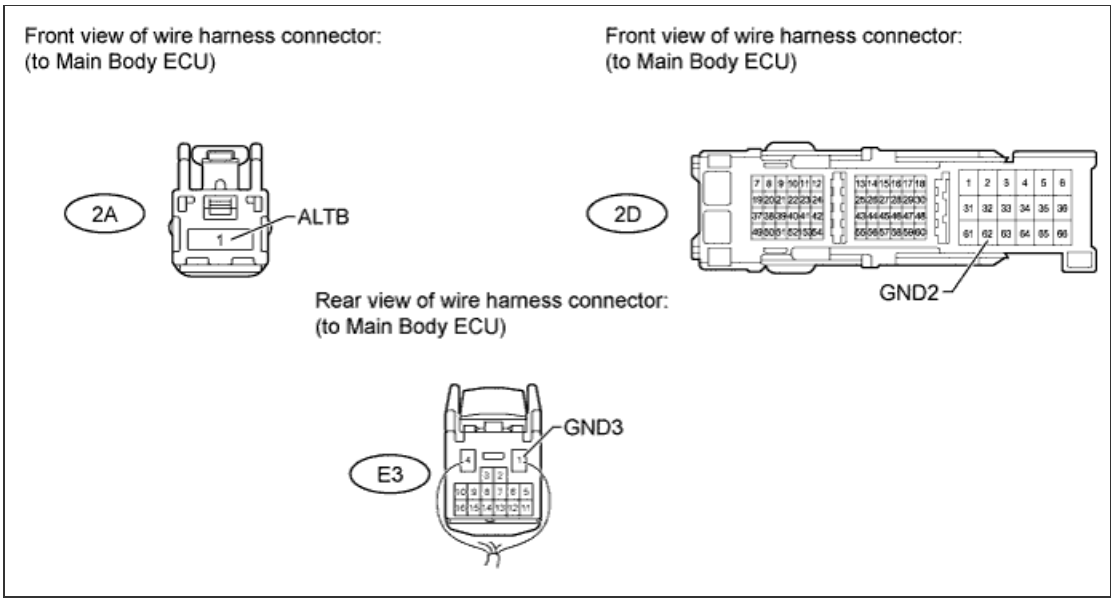
## 54.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the 2A, 2D and E3 main body ECU (cowl side junction block LH) connectors.




c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |
| E3-1 (GND3) - Body ground | | |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2A-1 (ALTB) - Body ground | Always | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## DTC U0125 Lost Communication with Yaw Rate Sensor Module

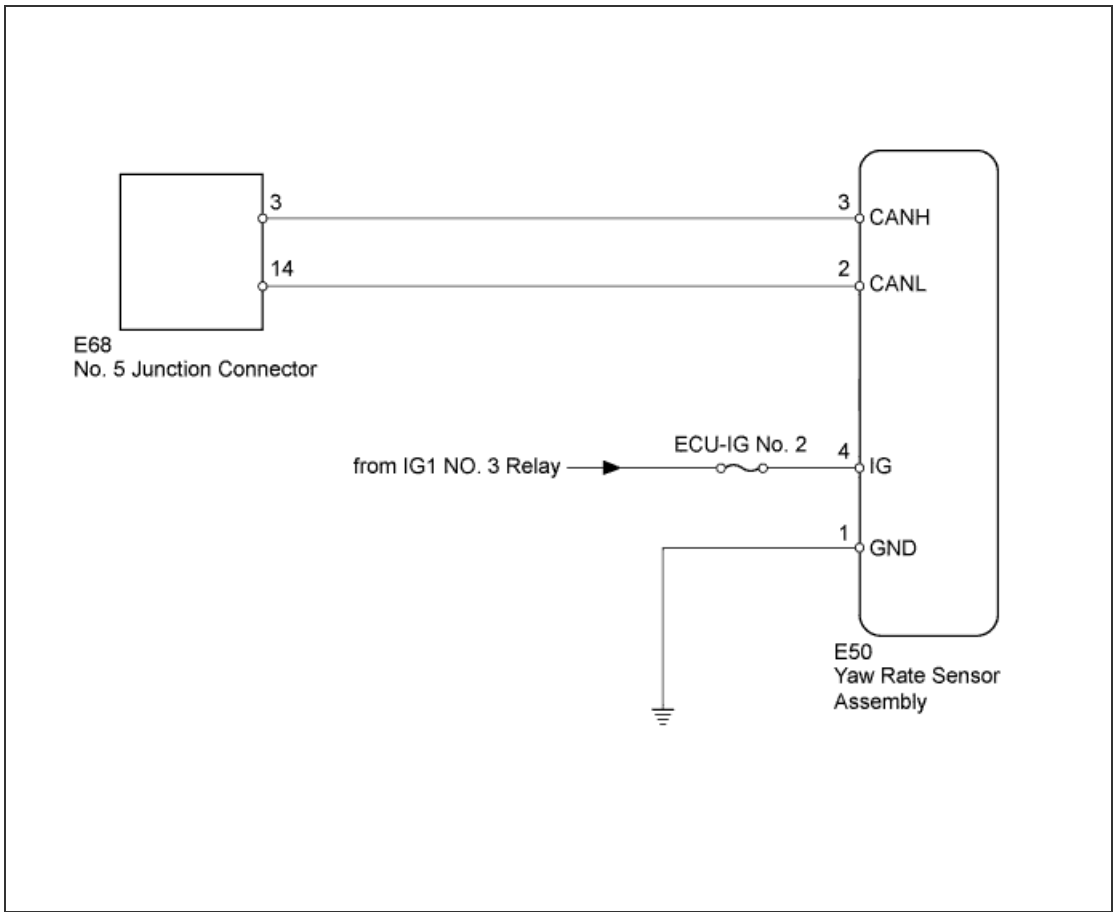
## DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0125 | There is no communication from the yaw rate sensor assembly. | • Power source circuit of yaw rate sensor assembly<br>• Yaw rate sensor CAN branch wire or connector<br>• Yaw rate sensor assembly |
| U0124 | There is no communication from the yaw rate sensor assembly (lateral acceleration sensor). | • Power source circuit of yaw rate sensor assembly<br>• Yaw rate sensor CAN branch wire or connector<br>• Yaw rate sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

**NEXT**

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (YAW RATE SENSOR ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the E50 yaw rate sensor assembly connector.

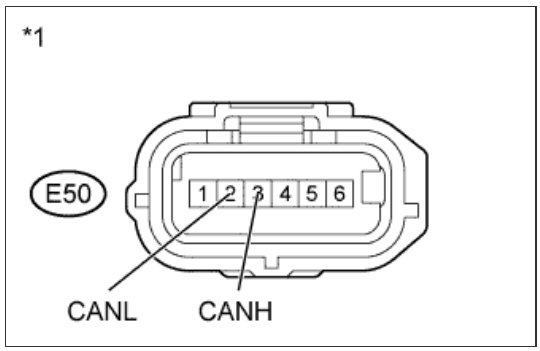
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Yaw Rate Sensor Assembly) |




**NG** → **REPAIR OR REPLACE YAW RATE SENSOR ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)**

**OK**

## 4.CHECK HARNESS AND CONNECTOR (YAW RATE SENSOR ASSEMBLY - BATTERY AND BODY GROUND)

a. 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).

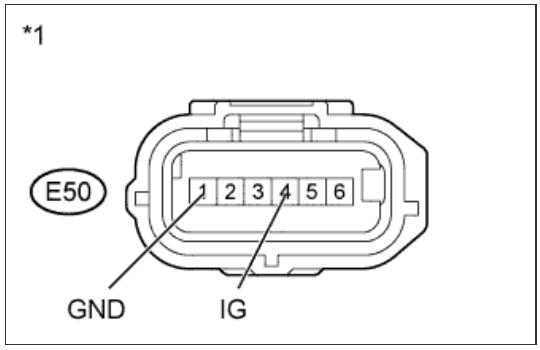
b. Measure the voltage according to the value(s) in table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-4 (IG) - 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 |
|---|---|---|
| E50-1 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Yaw Rate Sensor Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE YAW RATE SENSOR ASSEMBLY (Click here)

## DTC U1002 (CAN MS BUS) Lost Communication with Gateway Module (Main body ECU)

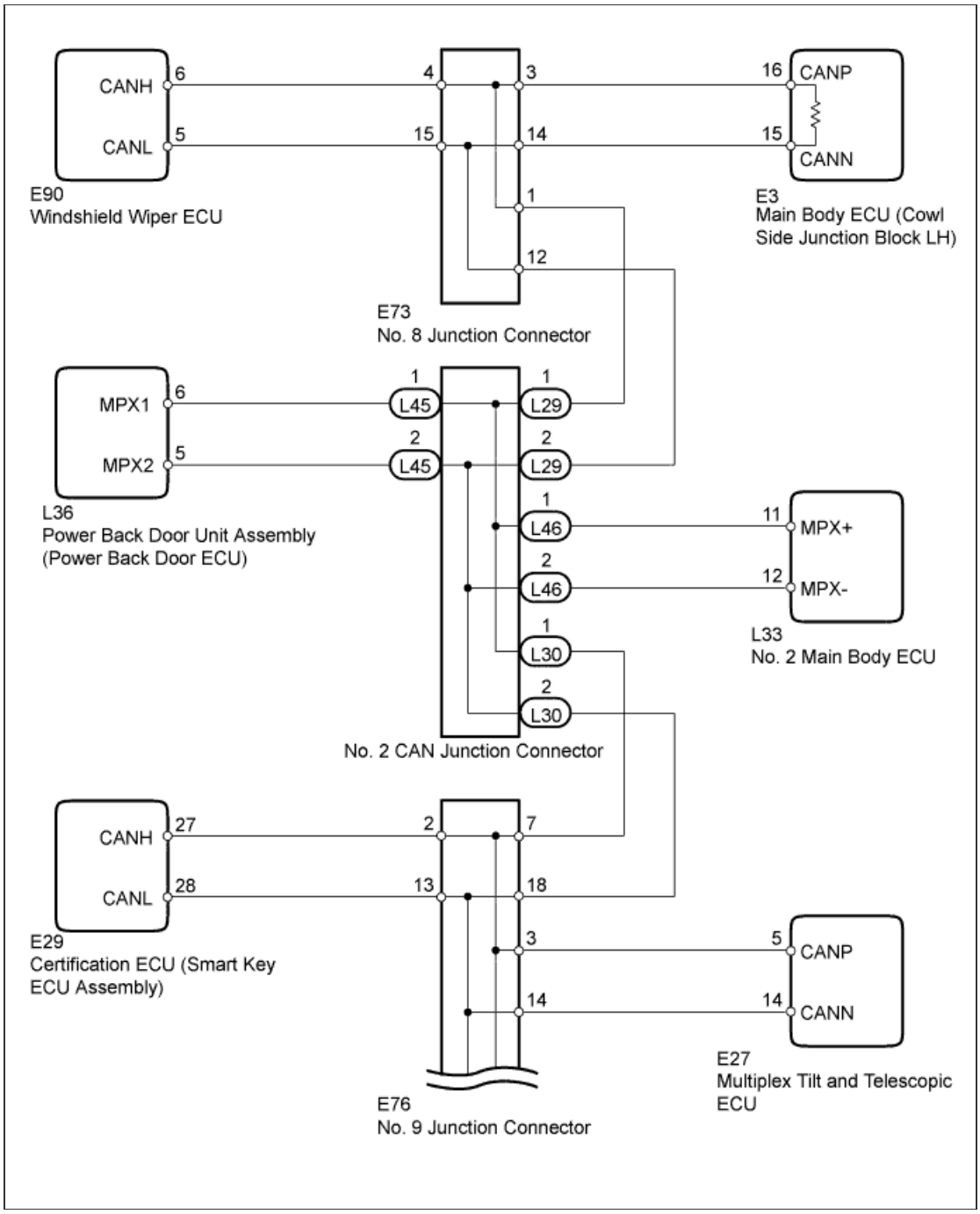
**for Preparation** Click here

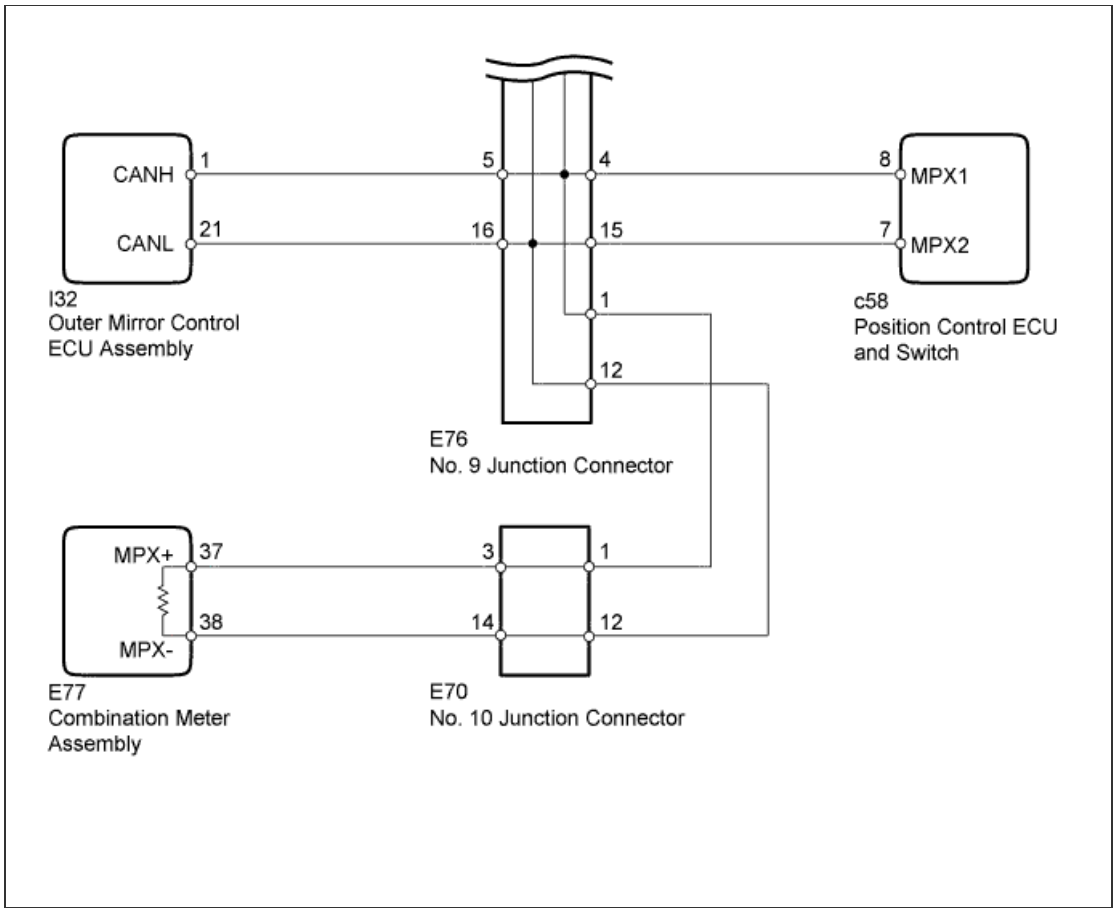
### DESCRIPTION

- The main body ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN MS bus.
- When the main body ECU receives a response signal from the ECUs connected to the CAN MS bus, the main body ECU recognizes and memorizes that the ECU is connected to the CAN MS bus. Based on this memorized data, the main body ECU monitors for malfunctions in the ECUs connected to the CAN MS bus when communicating with those ECUs. If the main body ECU cannot receive response signals from the ECUs that have been memorized as those connected to the CAN MS bus, the main body ECU determines that a malfunction exists.
- If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (one side of the CANH [CAN branch wire]/CANL [CAN branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1002 (CAN MS BUS) | Lost communication with the gateway module (main body ECU). | • MS bus circuit<br>• Windshield wiper ECU CAN branch wire or connector<br>• Position control ECU and switch CAN branch wire or connector<br>• Outer mirror control ECU assembly CAN branch wire or connector<br>• Multiplex tilt and telescopic ECU branch wire or connector<br>• Certification ECU (smart key ECU assembly) CAN branch wire or connector<br>• Power back door unit assembly (power back door ECU) CAN branch wire or connector<br>• No. 2 main body ECU CAN branch wire or connector<br>• Main body ECU (cowl side junction block LH) CAN main wire or connector<br>• Combination meter assembly CAN main wire or connector<br>• Windshield wiper ECU<br>• Position control ECU and switch<br>• Outer mirror control ECU assembly<br>• Multiplex tilt and telescopic ECU<br>• Certification ECU (smart key ECU assembly)<br>• Power back door unit assembly (power back door ECU)<br>• No. 2 main body ECU<br>• Main body ECU (cowl side junction block LH)<br>• Combination meter assembly<br>• No. 8 junction connector<br>• No. 9 junction connector<br>• No. 10 junction connector<br>• No. 2 CAN junction connector |

### WIRING DIAGRAM


CANH
6
CANL
5
E90
Windshield Wiper ECU
4
15
3
14
1
12
E73
No. 8 Junction Connector
16
CANP
15
CANN
E3
Main Body ECU (Cowl Side Junction Block LH)
MPX1
6
MPX2
5
L36
Power Back Door Unit Assembly
(Power Back Door ECU)
1
L45
2
L45
1
L29
2
L29
1
L46
2
L46
1
L30
2
L30
No. 2 CAN Junction Connector
11
MPX+
12
MPX-
L33
No. 2 Main Body ECU
CANH
27
CANL
28
E29
Certification ECU (Smart Key ECU Assembly)
2
13
7
18
3
14
5
CANP
14
CANN
E27
Multiplex Tilt and Telescopic ECU
E76
No. 9 Junction Connector




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

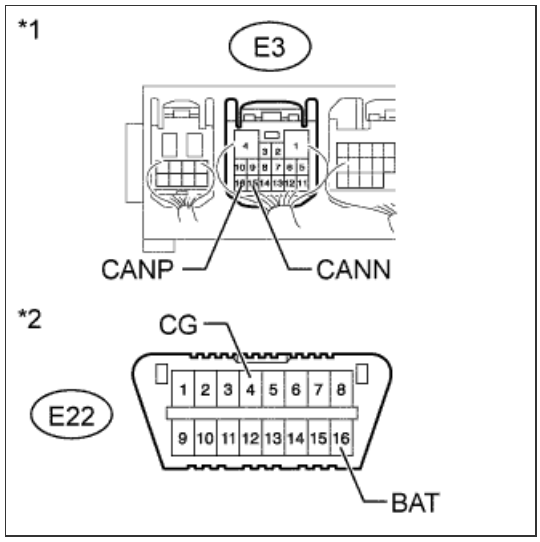
NEXT

### 3.CHECK CAN BUS WIRE (CAN MAIN WIRE FOR DISCONNECTION, CHECK BUS LINE FOR SHORT CIRCUIT)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Resistance Malfunction |
|---|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 54 to 69 Ω | Below 53 Ω: Short in line |
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 54 to 69 Ω | 70 Ω or higher: Open in CAN main bus line |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |




**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Main Body ECU [Cowl Side Junction Block LH]) |
| *2 | DLC3 |

**Result**

| Result | Proceed to |
|---|---|
| NG<br>• Open in CAN main wire | A |
| NG<br>• Short in line<br>• +B short<br>• Ground short | B |
| OK | C |

**B** → Go to step 19

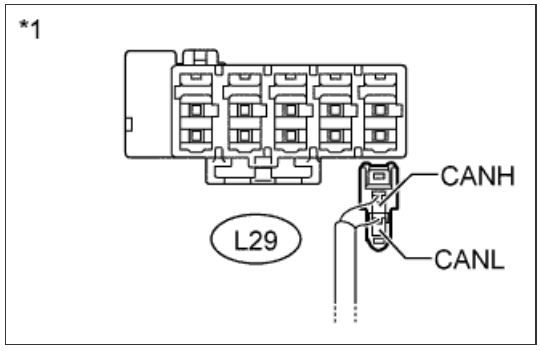
**C** → Go to step 55

**A**

## 4.CHECK FOR OPEN IN MAIN BUS WIRE (NO. 2 CAN JUNCTION CONNECTOR - MAIN BODY ECU)

a. Disconnect the L29 No. 2 CAN junction connector.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L29-1 (CANH) - L29-2 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 CAN Junction Connector) |

**NG** → Go to step 6

**OK**

## 5.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 CAN JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)

a. Disconnect the L30 No. 2 CAN junction connector.

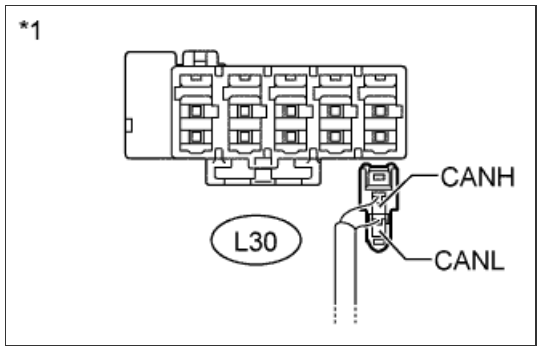
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L30-1 (CANH) - L30-2 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 CAN Junction Connector) |




NG → Go to step 11

OK

## REPLACE NO. 2 CAN JUNCTION CONNECTOR

## 6.CONNECT CONNECTOR

a. Reconnect the L29 No. 2 CAN junction connector.

NEXT

## 7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 8 JUNCTION CONNECTOR - MAIN BODY ECU)

a. Disconnect the E73 No. 8 junction connector.

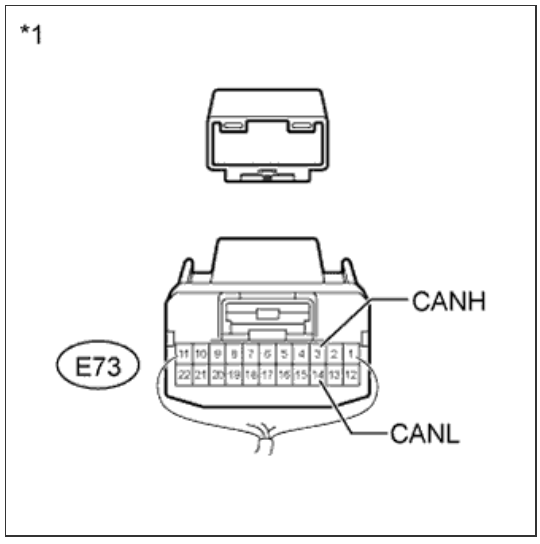
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-3 (CANH) - E73-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |




NG → Go to step 9

OK

## 8.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

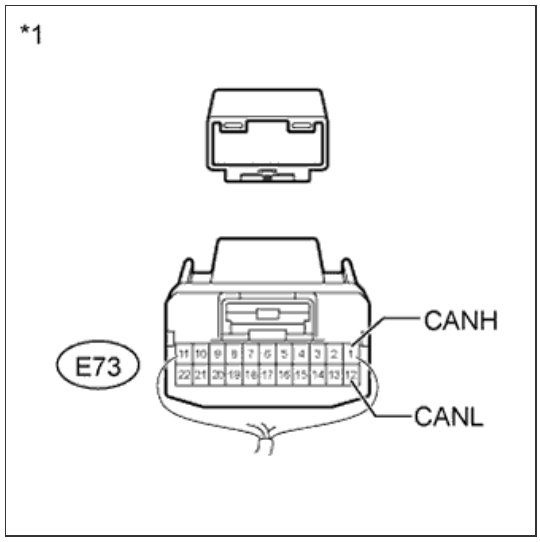
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-1 (CANH) - E73-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

OK

REPLACE NO. 8 JUNCTION CONNECTOR

9.CONNECT CONNECTOR

a. Reconnect the E73 No. 8 junction connector.

NEXT

10.CHECK FOR OPEN IN CAN BUS MAIN WIRE (MAIN BODY ECU - NO. 8 JUNCTION CONNECTOR)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

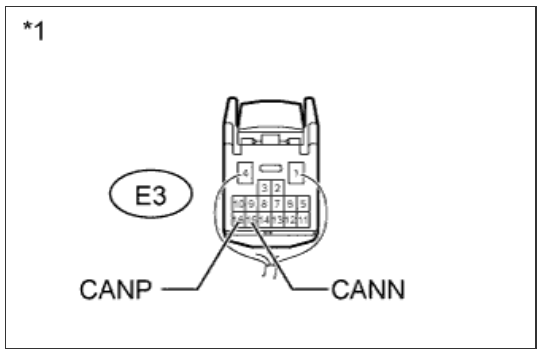
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO MAIN BODY ECU (MAIN BODY ECU - NO. 8 JUNCTION CONNECTOR)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

11.CONNECT CONNECTOR

a. Reconnect the L29 and L30 No. 2 CAN junction connectors.

NEXT

## 12.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 10 JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

a. Disconnect the E70 No. 10 junction connector.

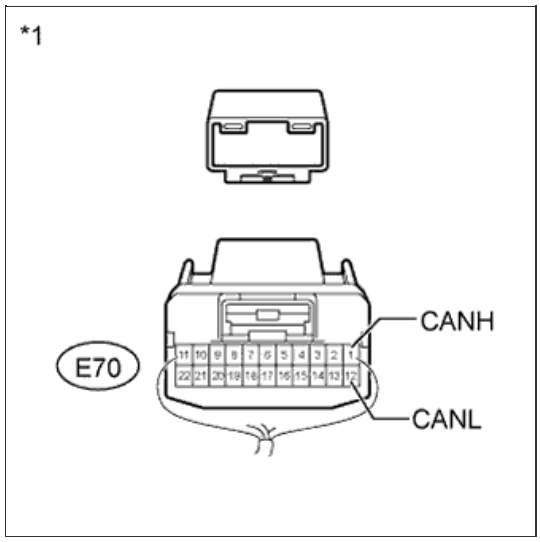
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E70-1 (CANH) - E70-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 10 Junction Connector) |




NG → Go to step 16

OK

## 13.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 10 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)

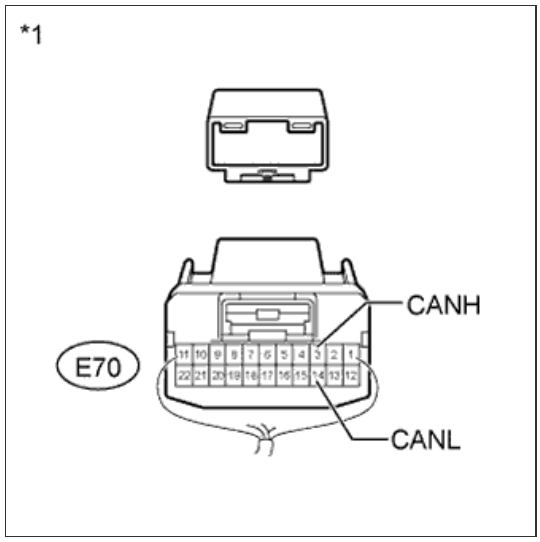
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E70-3 (CANH) - E70-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 10 Junction Connector) |




NG → Go to step 14

OK

## REPLACE NO. 10 JUNCTION CONNECTOR

## 14.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

## 15.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER ASSEMBLY - NO. 10 JUNCTION CONNECTOR)

a. Disconnect the E77 combination meter assembly connector.

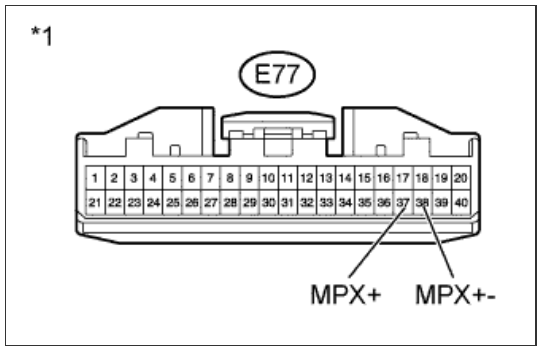
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-37 (MPX+) - E77-38 (MPX-) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Combination Meter Assembly) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER ASSEMBLY (COMBINATION METER ASSEMBLY - NO. 10 JUNCTION CONNECTOR)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

## 16.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

## 17.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

a. Disconnect the E76 No. 9 junction connector.

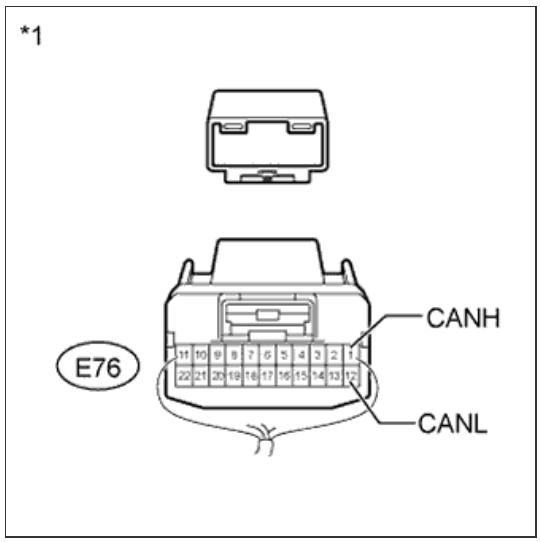
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-1 (CANH) - E76-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 9 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

OK

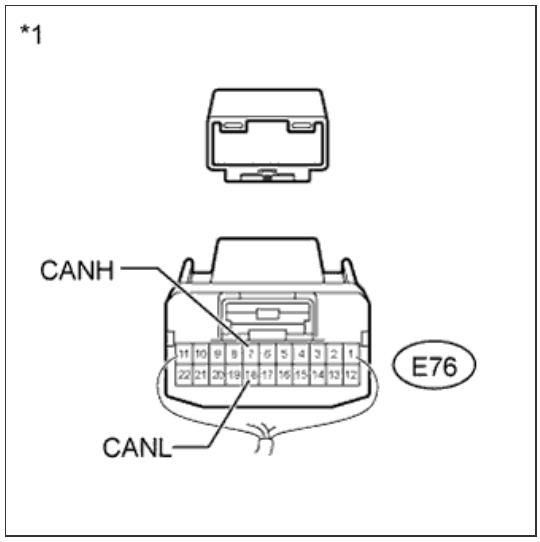
## 18.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 9 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| E76-7 (CANH) - E76-18 (CANL) | Engine switch off | 108 to 132 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 9 Junction Connector) |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 9 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

OK

REPLACE NO. 9 JUNCTION CONNECTOR

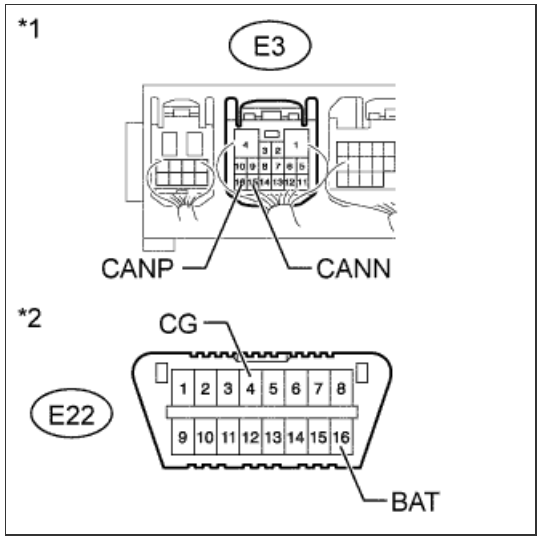
## 19.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR SIDE)

a. Disconnect the E70 No. 10 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Main Body ECU [Cowl Side Junction Block LH]) |
| *2 | DLC3 |

NG → Go to step 21

OK

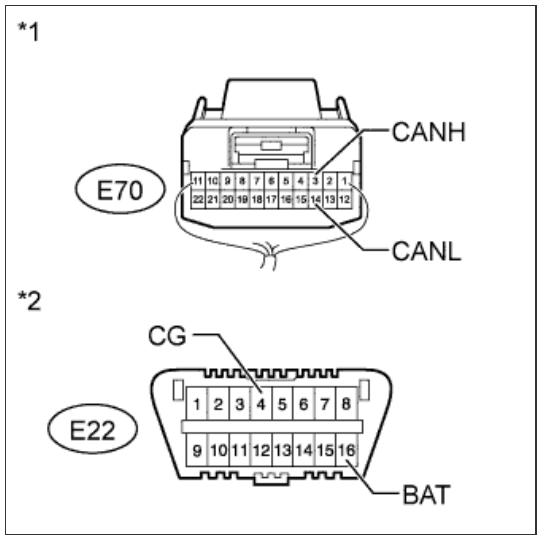
## 20.CHECK FOR SHORT IN CAN BUS WIRES (NO. 10 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| | | Specified |
|---|---|---|

| Tester Connection | Switch Condition | Condition |
|---|---|---|
| E70-3 (CANH) - E70-14 (CANN) | Engine switch off | 108 to 132 Ω |
| E70-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E70-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E70-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E70-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 10 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 37

OK

**REPLACE NO. 10 JUNCTION CONNECTOR**

**21.CONNECT CONNECTOR**

a. Reconnect the E70 No. 10 junction connector.

NEXT

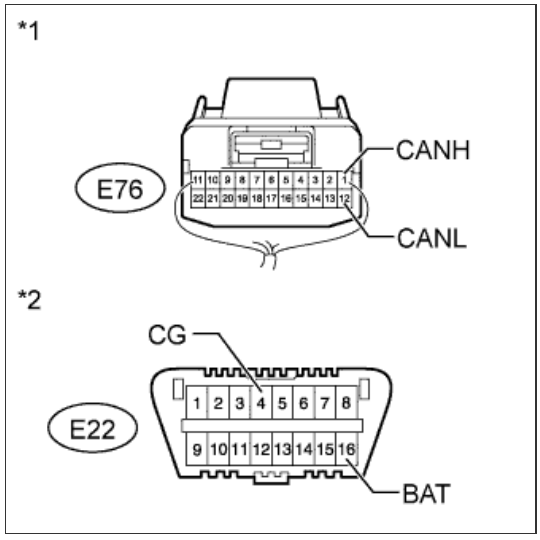
**22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)**

a. Disconnect the E76 No. 9 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-1 (CANH) - E76-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E76-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 9 Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 9 JUNCTION CONNECTOR - NO. 10 JUNCTION CONNECTOR)

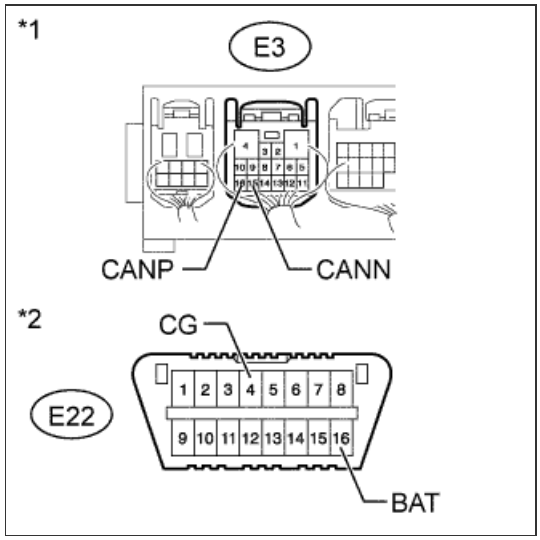
OK

**23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR SIDE)**

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Main Body ECU [Cowl Side Junction Block LH]) |
| *2 | DLC3 |

NG → Go to step 28

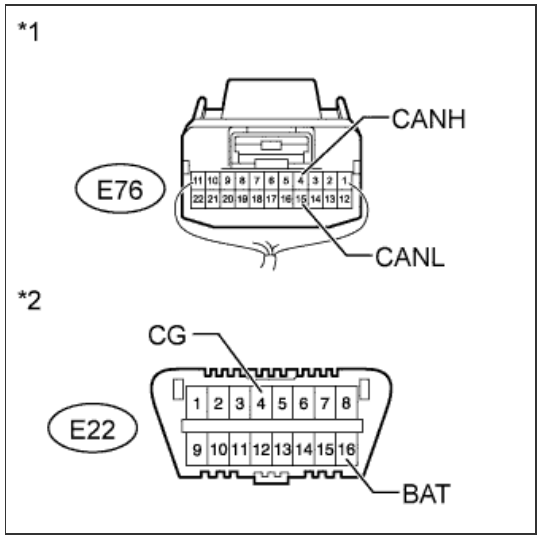
OK

## 24.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - POSITION CONTROL ECU AND SWITCH)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-4 (CANH) - E76-15 (CANL) | Engine switch off | 200 Ω or higher |
| E76-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 9 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 39

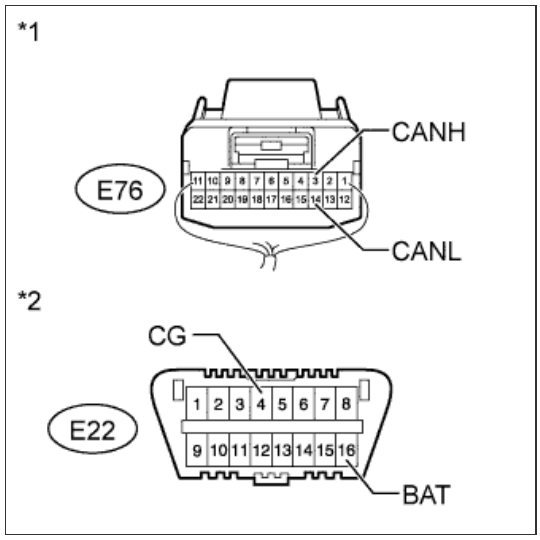
OK

## 25.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - MULTIPLEX TILT AND TELESCOPIC ECU)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-3 (CANH) - E76-14 (CANL) | Engine switch off | 200 Ω or higher |
| E76-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 9 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 41

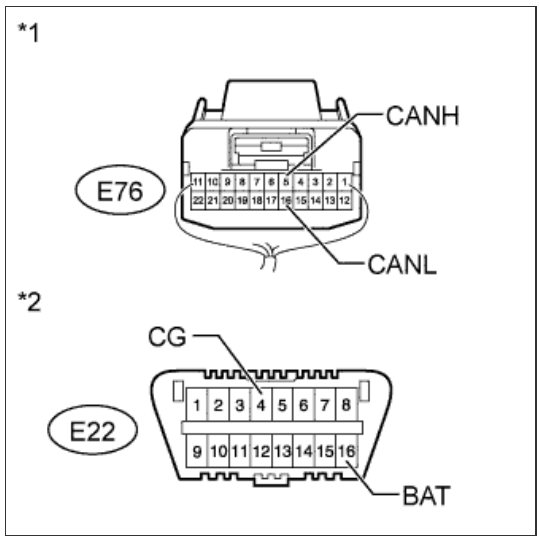
OK

**26.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - OUTER MIRROR CONTROL ECU ASSEMBLY)**

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-5 (CANH) - E76-16 (CANL) | Engine switch off | 200 Ω or higher |
| E76-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 9 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 43

OK

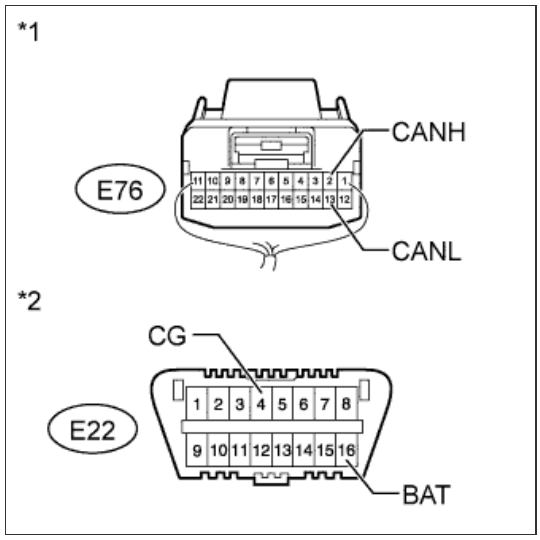
**27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 9 JUNCTION CONNECTOR - CERTIFICATION ECU)**

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E76-2 (CANH) - | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E76-13 (CANL) - E76-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E76-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E76-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 9 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 45

OK

**REPLACE NO. 9 JUNCTION CONNECTOR**

**28.CONNECT CONNECTOR**

a. Reconnect the E76 No. 9 junction connector.

NEXT

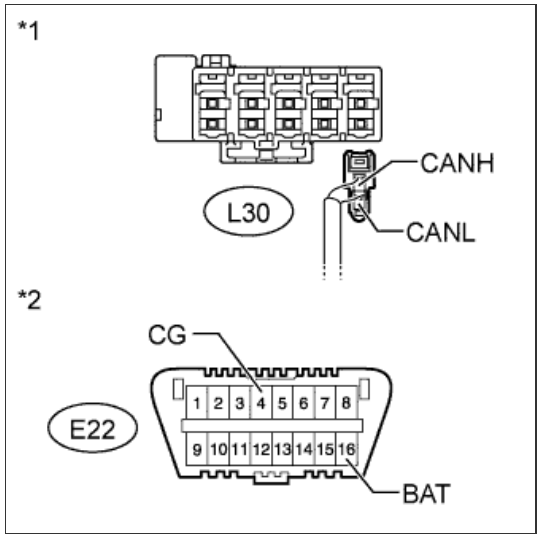
**29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)**

a. Disconnect the L30 No. 2 CAN junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L30-1 (CANH) - L30-2 (CANL) | Engine switch off | 108 to 132 Ω |
| L30-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L30-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L30-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| L30-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 CAN Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 CAN JUNCTION CONNECTOR - NO. 9 JUNCTION CONNECTOR)

OK

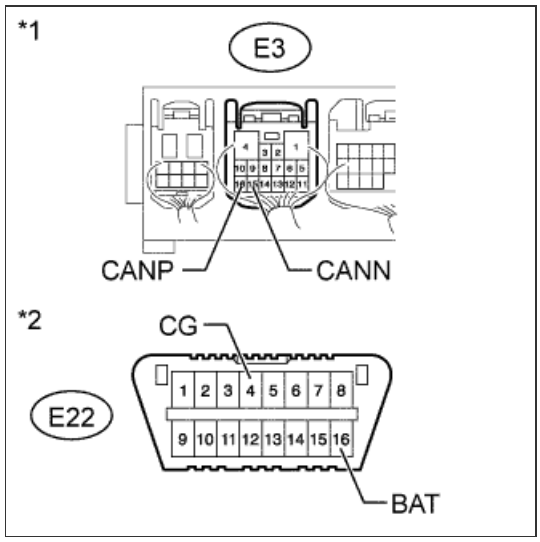
## 30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR SIDE)

a. Disconnect the L29 No. 2 CAN junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illumination**

| | |
|---|---|
| *1 | Component with harness connected (Main Body ECU [Cowl Side Junction Block LH]) |
| *2 | DLC3 |

NG → Go to step 33

OK

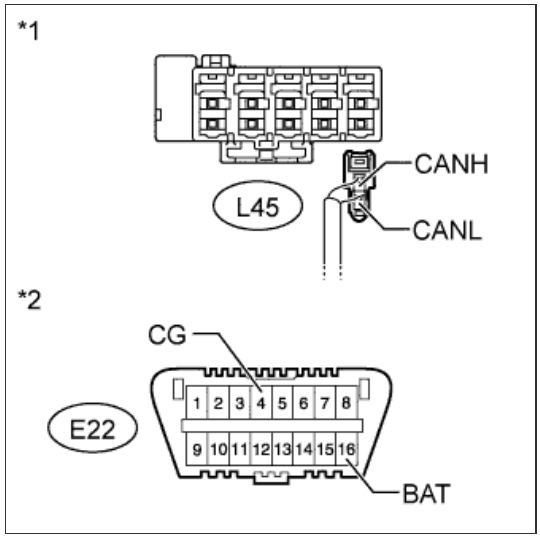
## 31.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - POWER BACK DOOR ECU)

a. Disconnect the L45 No. 2 CAN junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L45-1 (CANH) - L45-2 (CANL) | Engine switch off | 200 Ω or higher |
| L45-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L45-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L45-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| L45-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illumination**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 CAN Junction Connector) |
| *2 | DLC3 |

NG → Go to step 47

OK

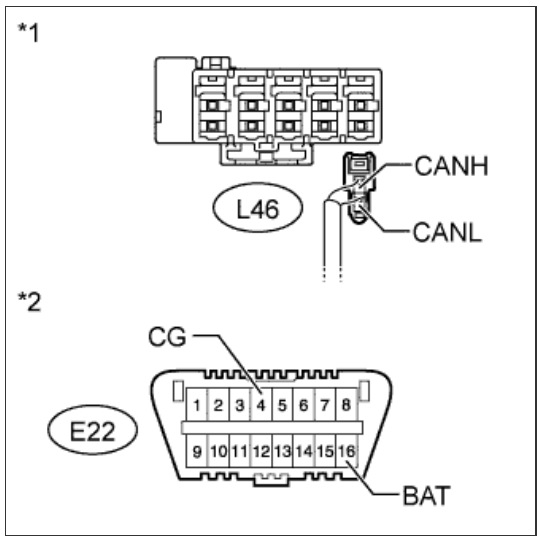
## 32.CHECK FOR FOR SHORT IN CAN BUS WIRES (NO. 2 CAN JUNCTION CONNECTOR - NO. 2 MAIN BODY ECU)

a. Disconnect the L46 No. 2 CAN junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L46-1 (CANH) - L46-2 (CANL) | Engine switch off | 200 Ω or higher |
| L46-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L46-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L46-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| L46-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 CAN Junction Connector) |
| *2 | DLC3 |

NG → Go to step 49

OK

**REPLACE NO. 2 CAN JUNCTION CONNECTOR**

**33.CONNECT CONNECTOR**

a. Reconnect the L29 and L30 No. 2 CAN junction connectors.

NEXT

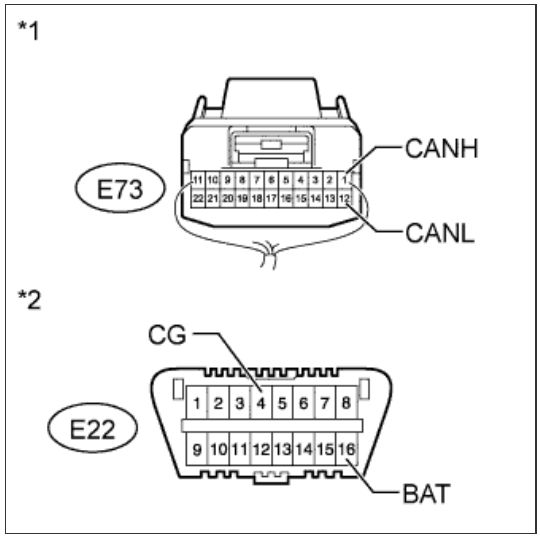
**34.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)**

a. Disconnect the E73 No. 8 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-1 (CANH) - E73-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E73-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E73-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 8 JUNCTION CONNECTOR - NO. 2 CAN JUNCTION CONNECTOR)

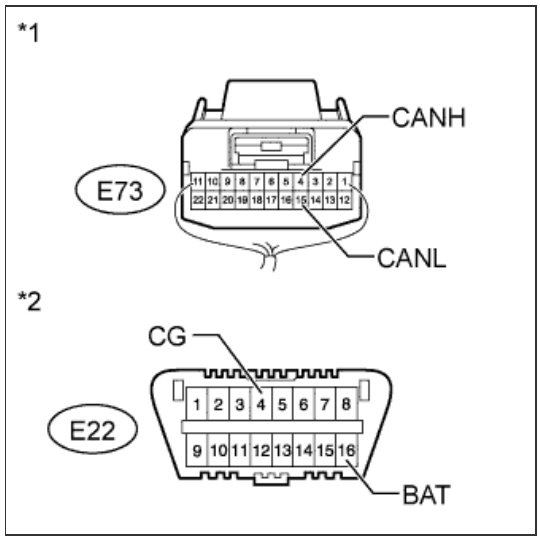
OK

## 35.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - WINDSHIELD WIPER ECU)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-4 (CANH) - E73-15 (CANL) | Engine switch off | 200 Ω or higher |
| E73-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E73-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illumination**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 51

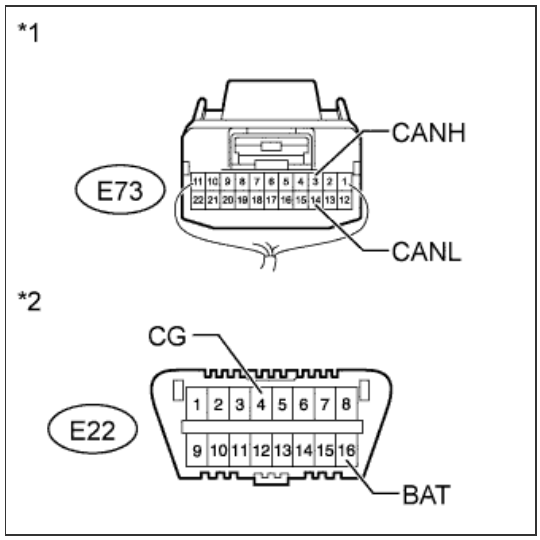
OK

## 36.CHECK FOR SHORT IN CAN BUS WIRES (NO. 8 JUNCTION CONNECTOR - MAIN BODY ECU)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E73-3 (CANH) - E73-14 (CANL) | Engine switch off | 108 to 132 Ω |
| E73-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E73-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E73-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illumination**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 8 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 53

OK

REPLACE NO. 8 JUNCTION CONNECTOR

37.CONNECT CONNECTOR

a. Reconnect the E70 No. 10 junction connector.

NEXT

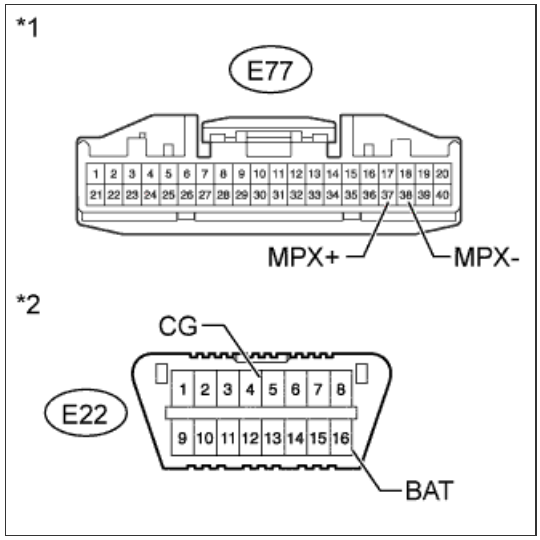
38.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER ASSEMBLY)

a. Disconnect the E77 combination meter assembly connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-37 (MPX+) - E77-38 (MPX-) | Engine switch off | 108 to 132 Ω |
| E77-37 (MPX+) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E77-38 (MPX-) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E77-37 (MPX+) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E77-38 (MPX-) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Combination Meter Assembly) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER ASSEMBLY (MPX+, MPX-)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

39.CONNECT CONNECTOR

a. Reconnect the E76 No. 9 junction connector.

NEXT

40.CHECK FOR SHORT IN CAN BUS WIRES (POSITION CONTROL ECU AND SWITCH)

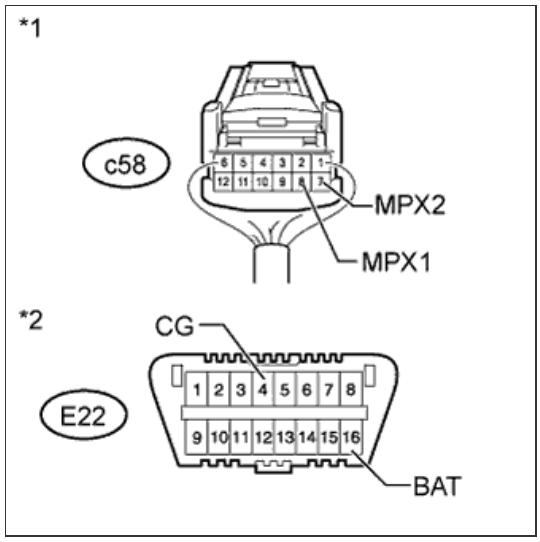
a. Disconnect the c58 position control ECU and switch connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| c58-8 (MPX1) - c58-7 (MPX2) | Engine switch off | 54 to 69 Ω |
| c58-8 (MPX1) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| c58-7 (MPX2) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| c58-8 (MPX1) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| c58-7 (MPX2) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Position Control ECU and Switch) |
| *2 | DLC3 |

NG → REPLACE CAN BRANCH WIRE CONNECTED TO POSITION CONTROL ECU AND SWITCH (MPX1, MPX2)

OK

REPLACE POSITION CONTROL ECU AND SWITCH (Click here)

## 41.CONNECT CONNECTOR

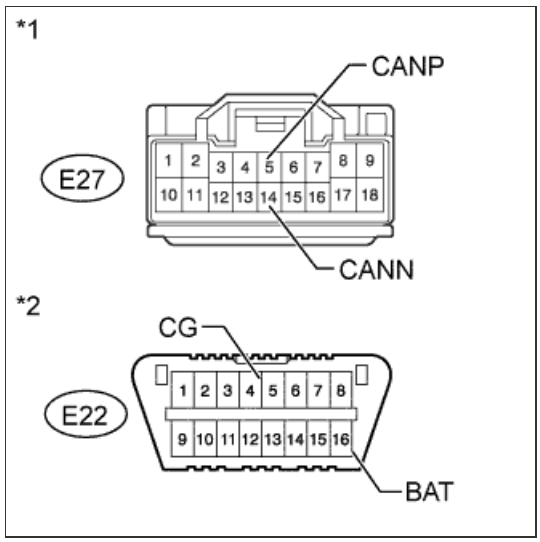
a. Reconnect the E76 No. 9 junction connector.

NEXT

## 42.CHECK FOR SHORT IN CAN BUS WIRES (MULTIPLEX TILT AND TELESCOPIC ECU)

a. Disconnect the E27 power tilt and telescopic ECU connector.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | Engine switch off | 54 to 69 Ω |
| E27-5 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E27-14 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E27-5 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E27-14 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Multiplex Tilt and Telescopic ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTIPLEX TILT AND TELESCOPIC ECU (CANP, CANN)

OK

REPLACE MULTIPLEX TILT AND TELESCOPIC ECU (Click here)

**43.CONNECT CONNECTOR**

a. Reconnect the E76 No. 9 junction connector.

**NEXT**

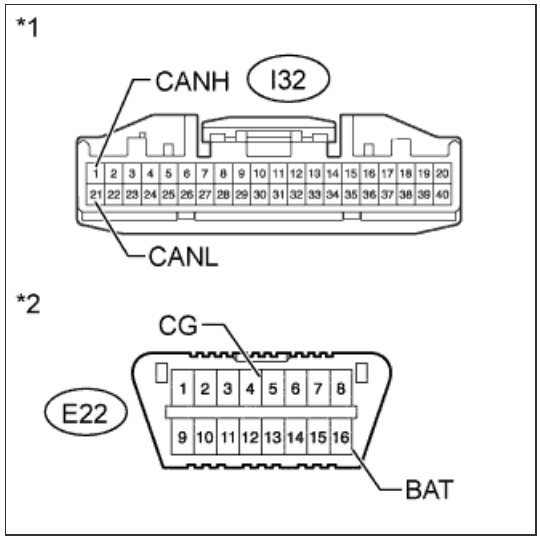
**44.CHECK FOR SHORT IN CAN BUS WIRES (OUTER MIRROR CONTROL ECU ASSEMBLY)**

a. Disconnect the I32 outer mirror control ECU assembly connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I32-1 (CANH) - I32-21 (CANL) | Engine switch off | 54 to 69 Ω |
| I32-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| I32-21 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| I32-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| I32-21 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Outer Mirror Control ECU Assembly) |
| *2 | DLC3 |

**NG** → **REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO OUTER MIRROR CONTROL ECU ASSEMBLY (CANH, CANL)**

**OK**

**REPLACE OUTER MIRROR CONTROL ECU ASSEMBLY (Click here)**

**45.CONNECT CONNECTOR**

a. Reconnect the E76 No. 9 junction connector.

**NEXT**

**46.CHECK FOR SHORT IN CAN BUS WIRES (CERTIFICATION ECU)**

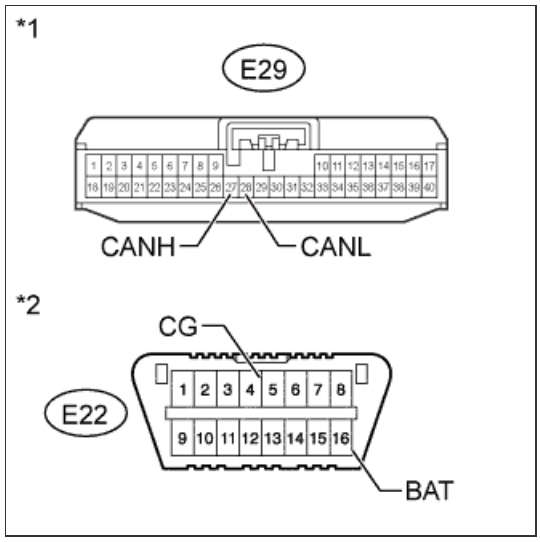
a. Disconnect the E29 certification ECU (smart key ECU assembly) connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E29-27 (CANH) - E29-28 (CANL) | Engine switch off | 54 to 69 Ω |
| E29-27 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E29-28 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E29-27 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E29-28 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Certification ECU [Smart Key ECU Assembly]) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CERTIFICATION ECU (CANH, CANL)

OK → REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)

## 47.CONNECT CONNECTOR

a. Reconnect the L29, L30 and L45 No. 2 CAN junction connectors.

NEXT

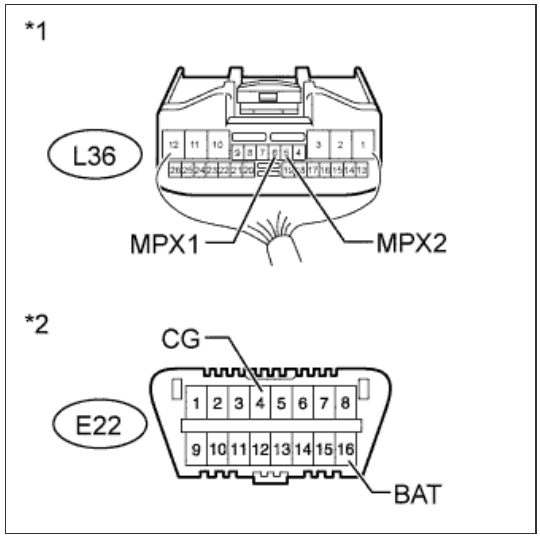
## 48.CHECK FOR SHORT IN CAN BUS WIRES (POWER BACK DOOR ECU)

a. Disconnect the L36 power back door unit assembly (power back door ECU) connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L36-6 (MPX1) - L36-5 (MPX2) | Engine switch off | 54 to 69 Ω |
| L36-6 (MPX1) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L36-5 (MPX2) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L36-6 (MPX1) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| L36-5 (MPX2) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Power Back Door Unit Assembly [Power Back Door ECU]) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO POWER BACK DOOR ECU (MPX1, MPX2)

OK

REPLACE POWER BACK DOOR UNIT ASSEMBLY (POWER BACK DOOR ECU) ( Click here)

49.CONNECT CONNECTOR

a. Reconnect the L29, L30, L45 and L46 No. 2 CAN junction connectors.

NEXT

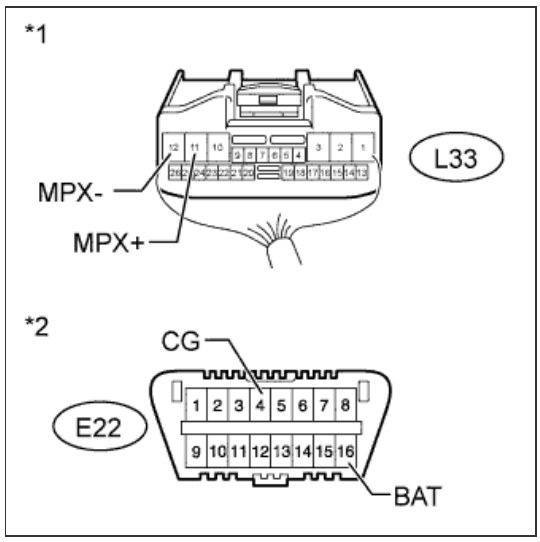
50.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 MAIN BODY ECU)

a. Disconnect the L33 No. 2 main body ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | Engine switch off | 54 to 69 Ω |
| L33-11 (MPX+) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L33-12 (MPX-) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| L33-11 (MPX+) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| L33-12 (MPX-) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Main Body ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NO. 2 MAIN BODY ECU (MPX+, MPX-)

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

51.CONNECT CONNECTOR

a. Reconnect the E73 No. 8 junction connector.

NEXT

52.CHECK FOR SHORT IN CAN BUS WIRES (WINDSHIELD WIPER ECU)

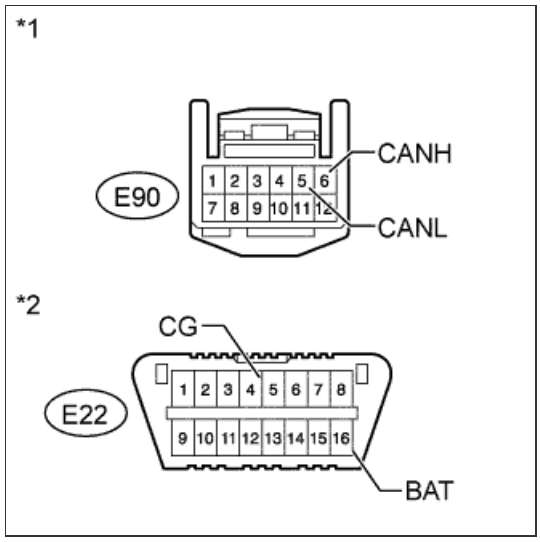
a. Disconnect the E90 windshield wiper ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | Engine switch off | 54 to 69 Ω |
| E90-6 (CANH) - | | |

| | | |
|---|---|---|
| E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E90-5 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E90-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E90-5 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Windshield Wiper ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO WINDSHIELD WIPER ECU (CANH, CANL)

OK

REPLACE WINDSHIELD WIPER ECU (Click here)

## 53.CONNECT CONNECTOR

a. Reconnect the E73 No. 8 junction connector.

NEXT

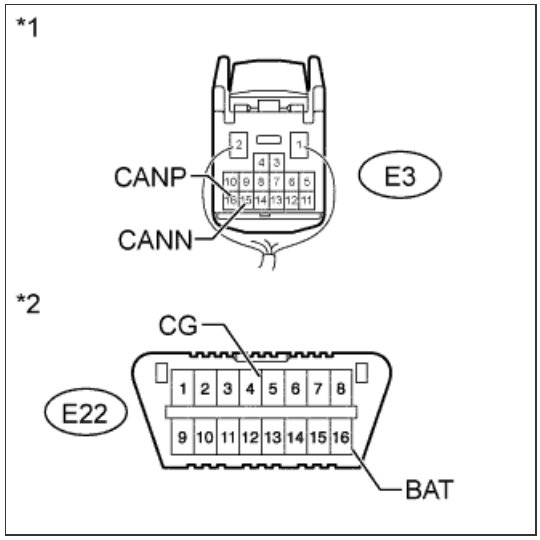
## 54.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-16 (CANP) - E3-15 (CANN) | Engine switch off | 108 to 132 Ω |
| E3-16 (CANP) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-15 (CANN) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E3-16 (CANP) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E3-15 (CANN) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) |
| *2 | DLC3 |

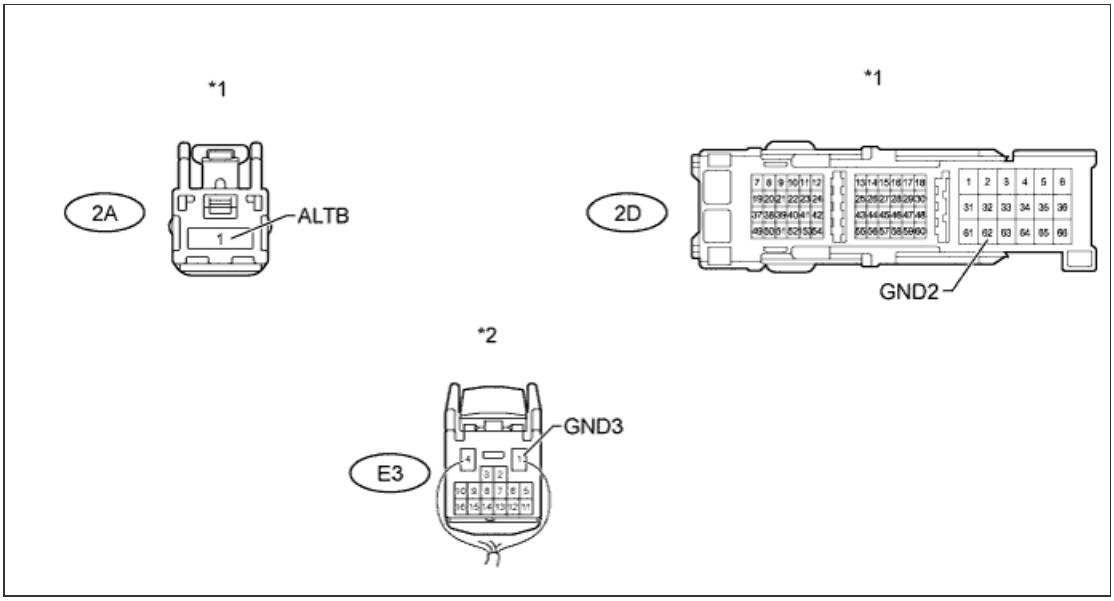
NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO MAIN BODY ECU (CANP, CANN)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 55.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Front view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) | *2 | Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) |

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

b. Disconnect the 2A, 2D and E3 main body ECU (cowl side junction block LH) connectors.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2A-1 (ALTB) - Body ground | Always | 11 to 14 V |

d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |
| E3-1 (GND3) - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## DTC U0125 Lost Communication with Yaw Rate Sensor Module

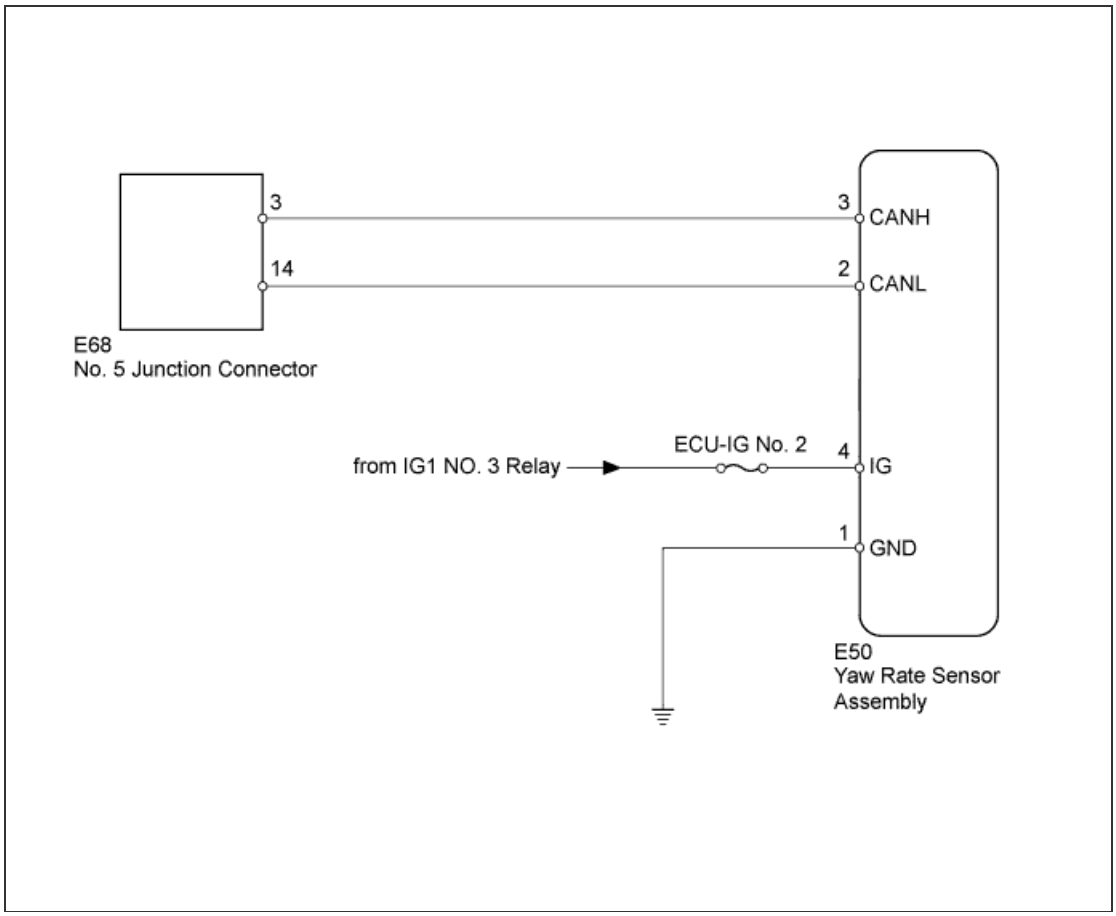
## DTC U0124 Lost Communication with Lateral Acceleration Sensor Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0125 | There is no communication from the yaw rate sensor assembly. | • Power source circuit of yaw rate sensor assembly<br>• Yaw rate sensor CAN branch wire or connector<br>• Yaw rate sensor assembly |
| U0124 | There is no communication from the yaw rate sensor assembly (lateral acceleration sensor). | • Power source circuit of yaw rate sensor assembly<br>• Yaw rate sensor CAN branch wire or connector<br>• Yaw rate sensor assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

**NEXT**

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (YAW RATE SENSOR ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the E50 yaw rate sensor assembly connector.

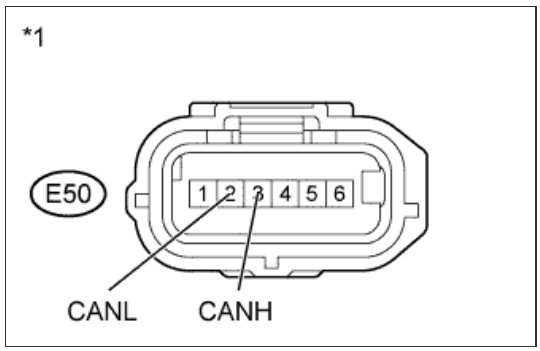
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Yaw Rate Sensor Assembly) |




**NG** → **REPAIR OR REPLACE YAW RATE SENSOR ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)**

**OK**

## 4.CHECK HARNESS AND CONNECTOR (YAW RATE SENSOR ASSEMBLY - BATTERY AND BODY GROUND)

a. 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).

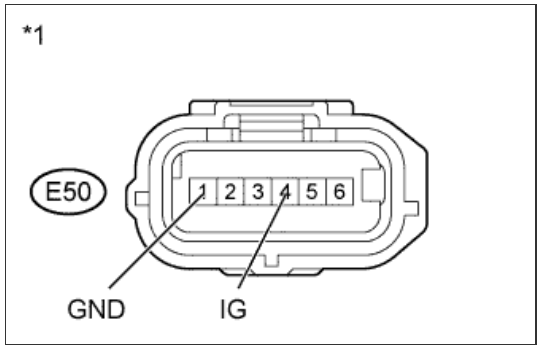
b. Measure the voltage according to the value(s) in table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-4 (IG) - 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 |
|---|---|---|
| E50-1 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Yaw Rate Sensor Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE YAW RATE SENSOR ASSEMBLY (Click here)

## DTC U1002 (CAN No. 2 BUS) Lost Communication with Gateway Module (Network Gateway ECU)

**for Preparation** Click here

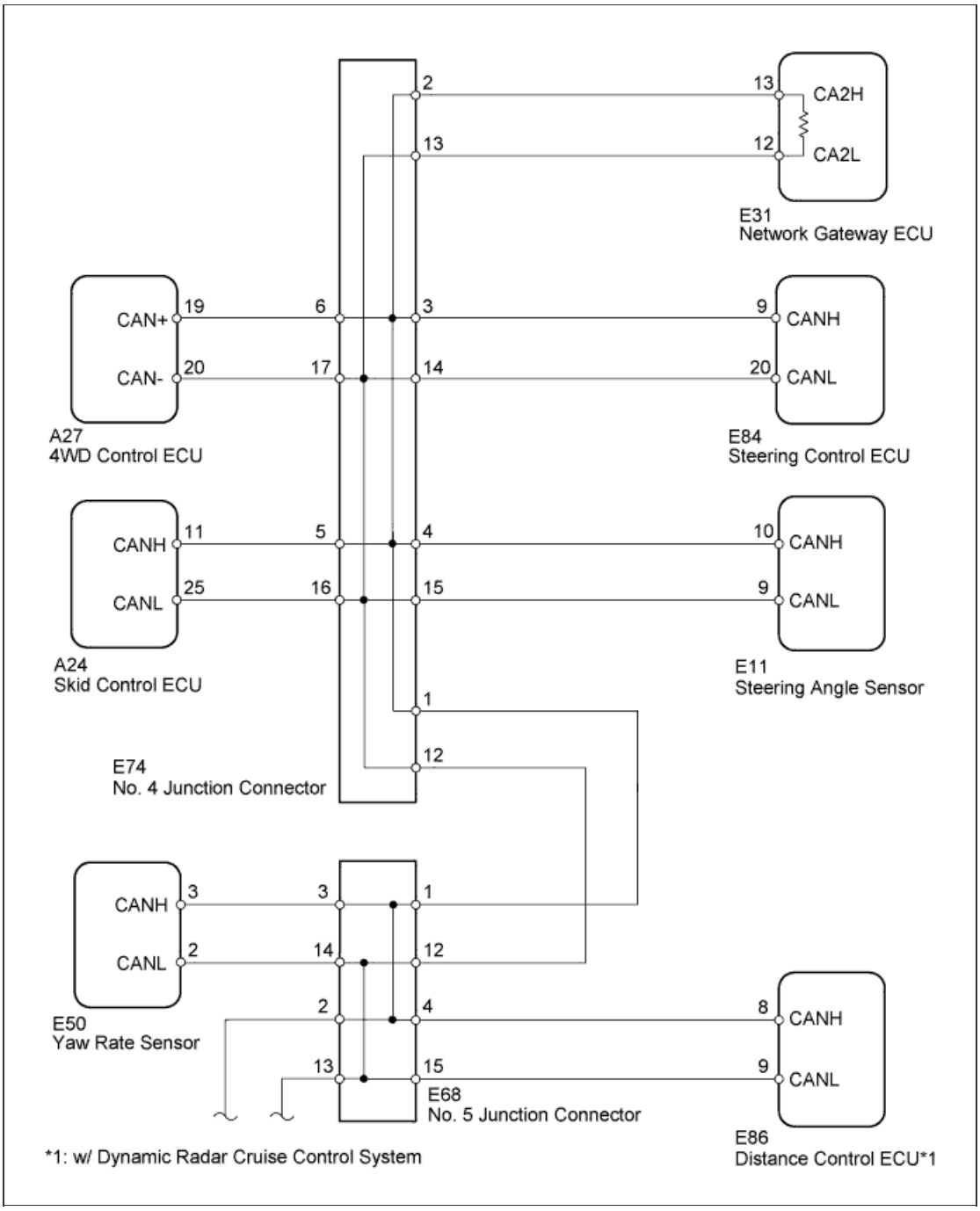
### DESCRIPTION

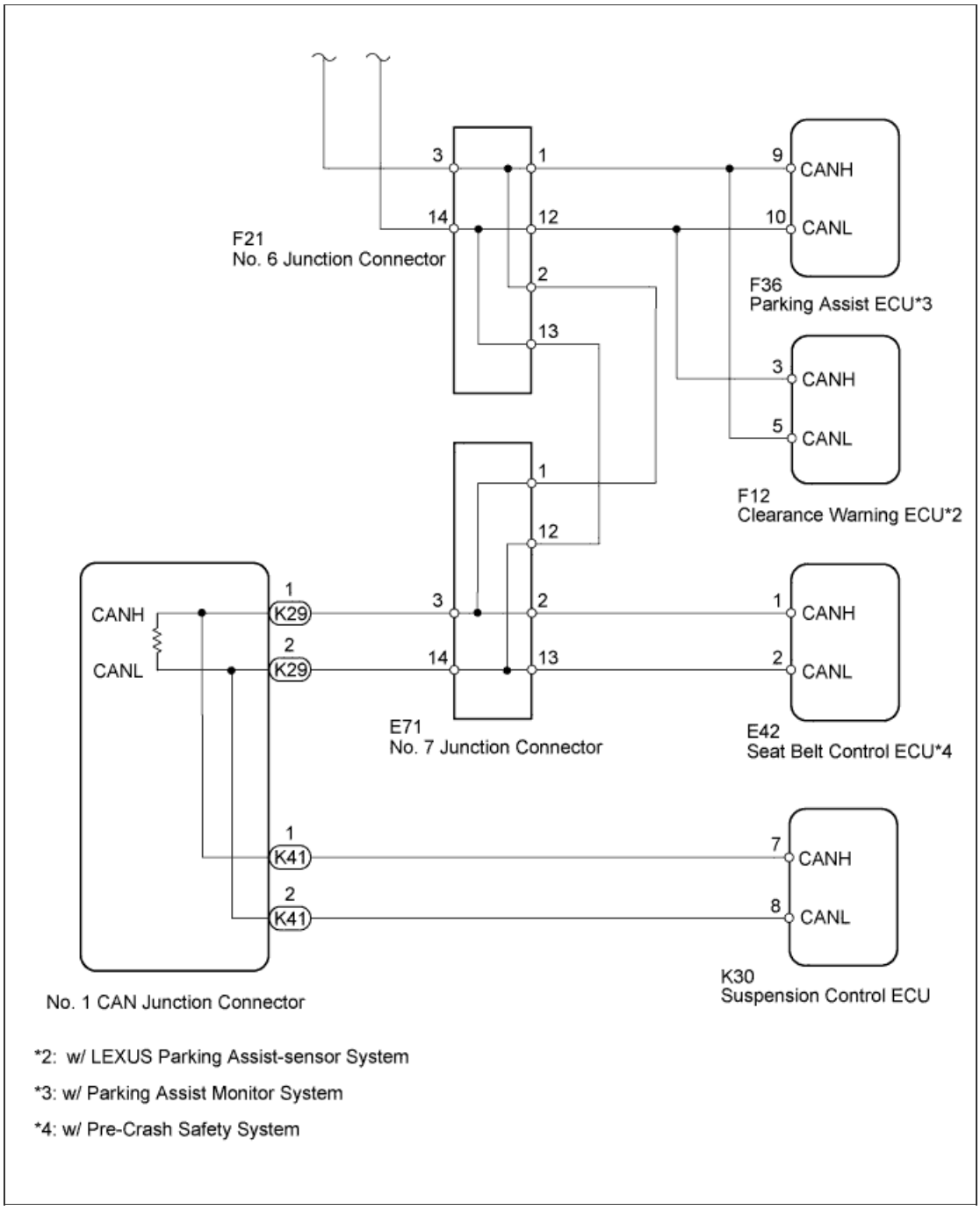
If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (one side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| DTC Code | Symptoms | Trouble Area |
|---|---|---|
| U1002 (CAN No. 2 BUS) | Lost communication with the gateway module (network gateway ECU). | • Movement control bus circuit<br>• 4WD control ECU branch wire or connector<br>• Yaw rate sensor branch wire or connector<br>• Seat belt control ECU branch wire or connector*1<br>• Clearance warning ECU branch wire or connector*2<br>• Parking assist ECU branch wire or connector*3<br>• Skid control ECU branch wire or connector<br>• Steering angle sensor branch wire or connector<br>• Network gateway ECU main wire or connector<br>• Suspension control ECU branch wire or connector<br>• Steering control ECU branch wire or connector<br>• Distance Control ECU branch wire or connector*4<br>• 4WD control ECU<br>• Yaw rate sensor<br>• Seat belt control ECU*1<br>• Clearance warning ECU*2<br>• Parking assist ECU*3<br>• Skid control ECU<br>• Steering angle sensor<br>• Suspension control ECU<br>• Steering control ECU<br>• Network gateway ECU<br>• Distance Control ECU*4<br>• No. 4 junction connector<br>• No. 5 junction connector<br>• No. 6 junction connector<br>• No. 7 junction connector<br>• No. 1 CAN junction connector |

*1: w/ Pre-Crash Safety System
*2: w/ LEXUS Parking Assist-sensor System
*3: w/ Parking Assist Monitor System
*4: w/ Dynamic Radar Cruise Control System

### WIRING DIAGRAM


2
13
13
CA2H
12
CA2L
E31
Network Gateway ECU
CAN+
19
6
3
9
CANH
CAN-
20
17
14
20
CANL
A27
4WD Control ECU
E84
Steering Control ECU
CANH
11
5
4
10
CANH
CANL
25
16
15
9
CANL
A24
Skid Control ECU
E11
Steering Angle Sensor
1
12
E74
No. 4 Junction Connector
CANH
3
3
1
CANL
2
14
12
2
4
8
CANH
13
15
9
CANL
E50
Yaw Rate Sensor
E68
No. 5 Junction Connector
E86
Distance Control ECU*1
*1: w/ Dynamic Radar Cruise Control System




## INSPECTION PROCEDURE

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

### 2.CHECK CAN BUS WIRE (MAIN WIRE FOR DISCONNECTION, BUS LINE FOR SHORT CIRCUIT)

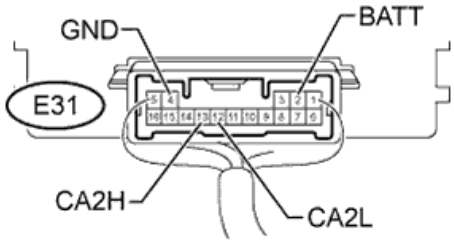
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Resistance Malfunction |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 54 to 69 Ω | Below 53 Ω: Short in line |
| | Engine switch off | | 70 Ω or higher: Open in CAN main bus line |
| E31-13 (CA2H) - E31-2 (BAAT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E31-12 (CA2L) - E31-2 (BAAT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E31-13 (CA2H) - E31-4 (GND) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |
| E31-12 (CA2L) - E31-4 (GND) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |

Component with harness connected:
(Network Gateway ECU)




H

**Result**

| Result | Proceed to |
|---|---|
| NG<br>- Open in CAN main bus line | A |
| NG<br>- Short in line<br>- +B short<br>- Ground short | B |
| OK | C |

B → Go to step 18

C → Go to step 63

A

**3.CHECK FOR OPEN IN MAIN BUS WIRE (NO. 7 CAN JUNCTION CONNECTOR - NETWORK GATEWAY ECU)**

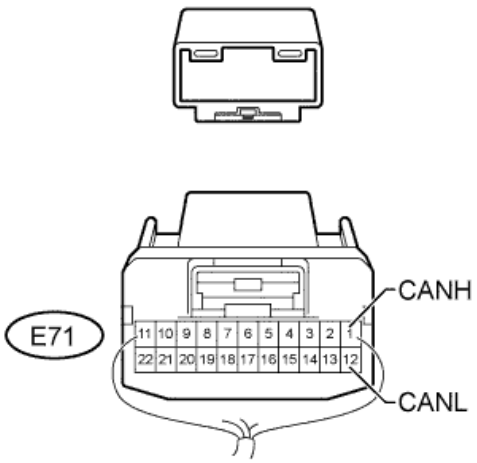
a. Disconnect the E71 No. 7 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-1 (CANH) - E71-12 (CANL) | Engine switch off | 108 to 132 Ω |

Rear view of wire harness connector:
(to No. 7 Junction Connector)




NG → Go to step 5

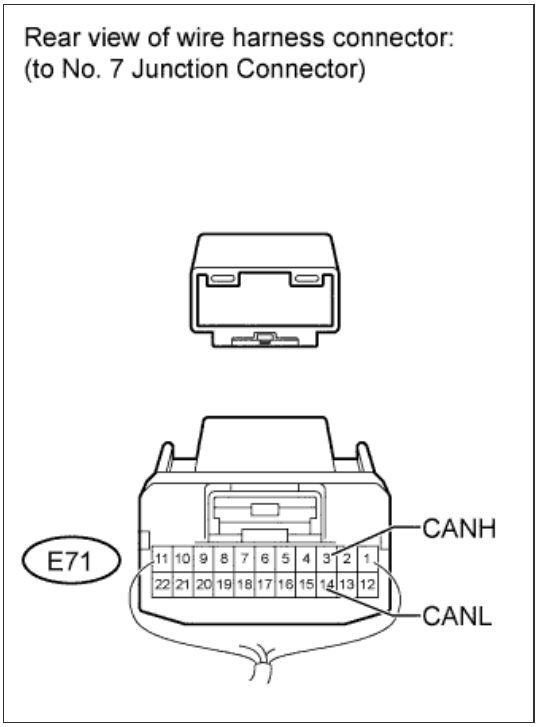
OK

4.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-3 (CANH) - E71-14 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 14

OK

REPAIR OR REPLACE NO. 7 JUNCTION CONNECTOR

5.CONNECT CONNECTOR

a. Reconnect the E71 No. 7 junction connector connector.

NEXT

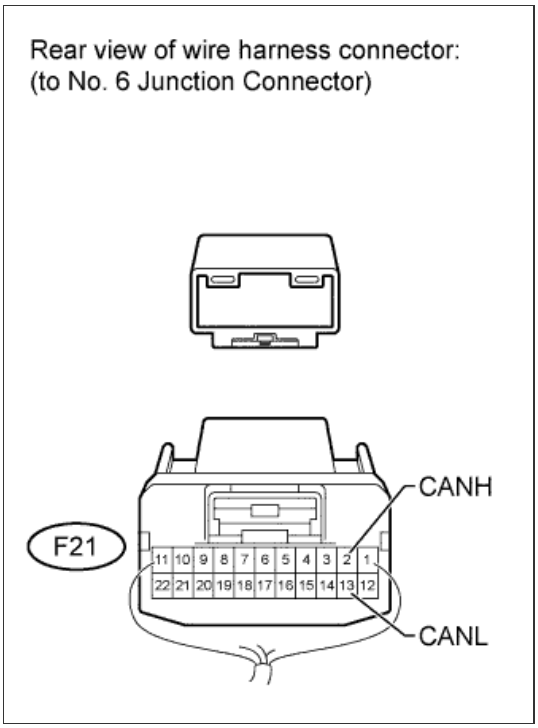
6.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION BLOCK)

a. Disconnect the F21 No. 6 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F21-2 (CANH) - F21-13 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

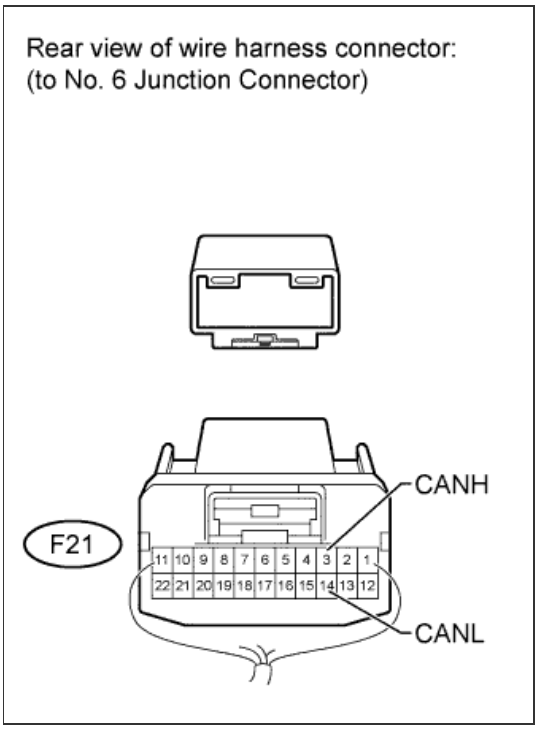
OK

## 7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 6 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F21-3 (CANH) - F21-14 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 8

OK

## REPAIR OR REPLACE NO. 6 JUNCTION CONNECTOR

## 8.CONNECT CONNECTOR

a. Reconnect the F21 No. 6 junction connector connector.

NEXT

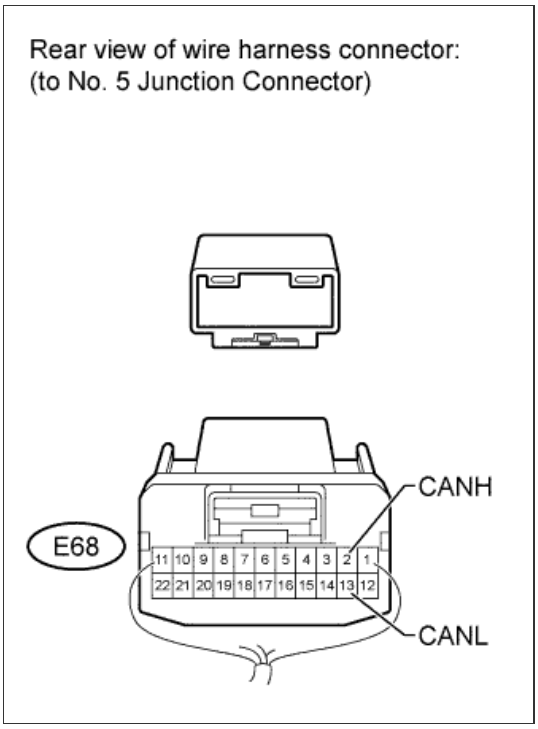
## 9.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

a. Disconnect the E68 No. 5 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-2 (CANH) - E68-13 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

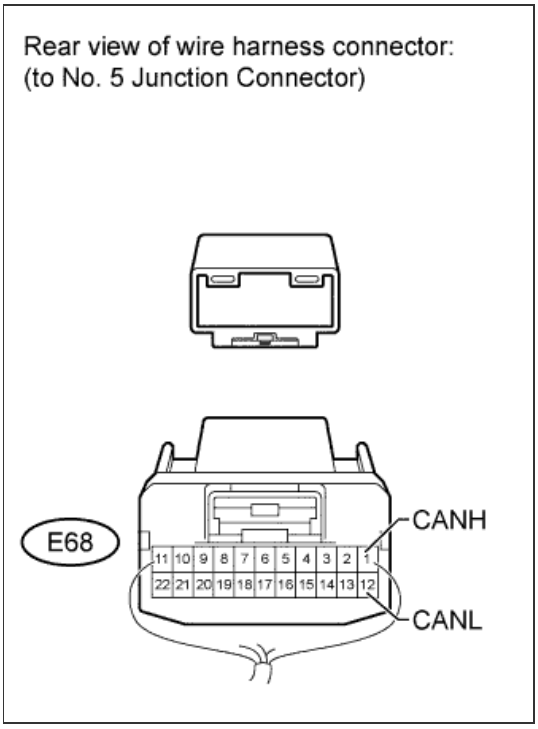
OK

**10.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 5 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)**

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-1 (CANH) - E68-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 11

OK

REPAIR OR REPLACE NO. 5 JUNCTION CONNECTOR

**11.CONNECT CONNECTOR**

a. Reconnect the E68 No. 5 junction connector connector.

NEXT

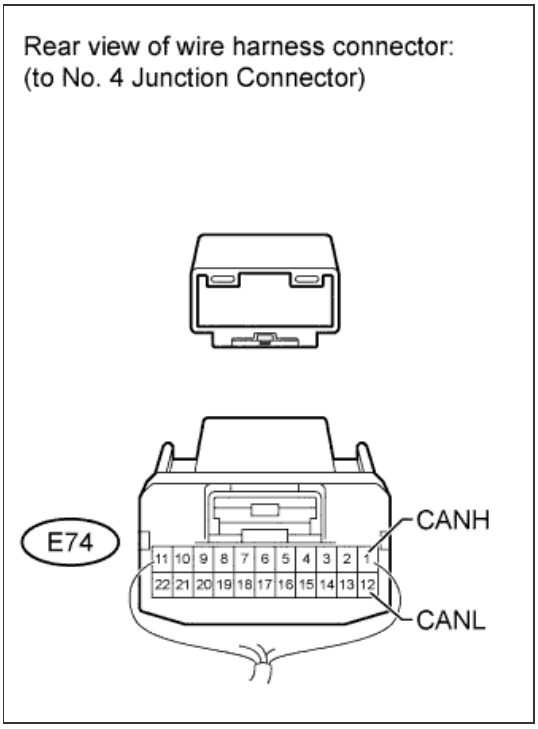
## 12.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

a. Disconnect the E74 No. 4 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-1 (CANH) - E74-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

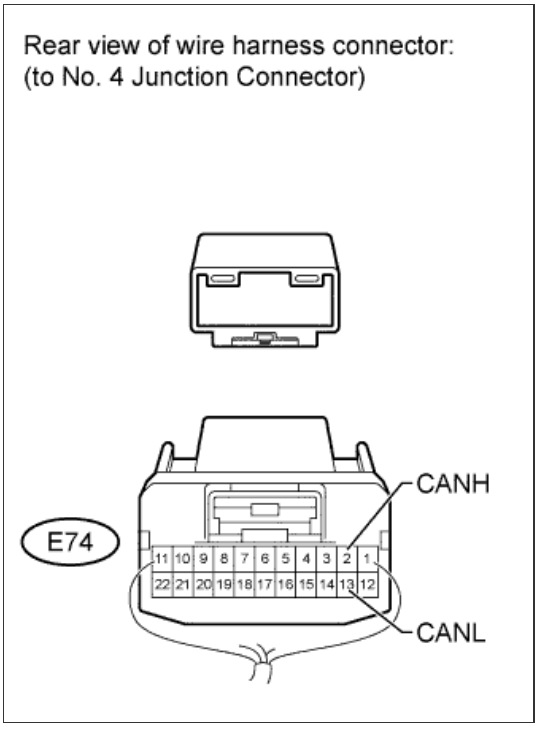
OK

## 13.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 4 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-2 (CANH) - E74-13 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 16

OK

REPAIR OR REPLACE NO. 4 CAN JUNCTION CONNECTOR

## 14.CONNECT CONNECTOR

a. Reconnect the E71 No. 7 junction connector connector.

NEXT

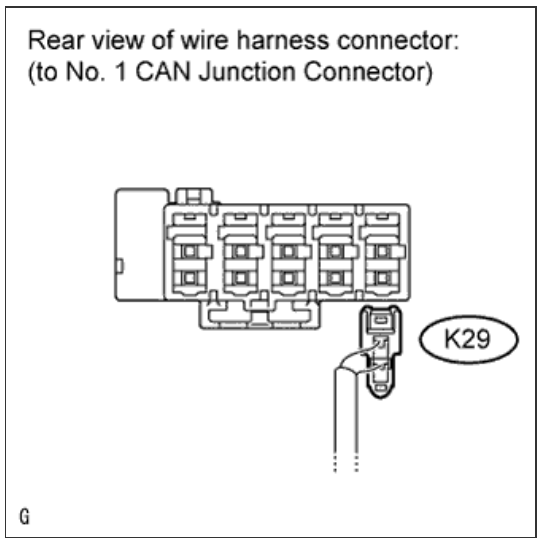
15.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 CAN JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

a. Disconnect the K29 No. 1 CAN junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K29-1 (CANH) - K29-2 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 CAN JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

OK

REPAIR OR REPLACE NO. 1 CAN JUNCTION CONNECTOR

16.CONNECT CONNECTOR

a. Reconnect the E74 No. 4 junction connector connector.

NEXT

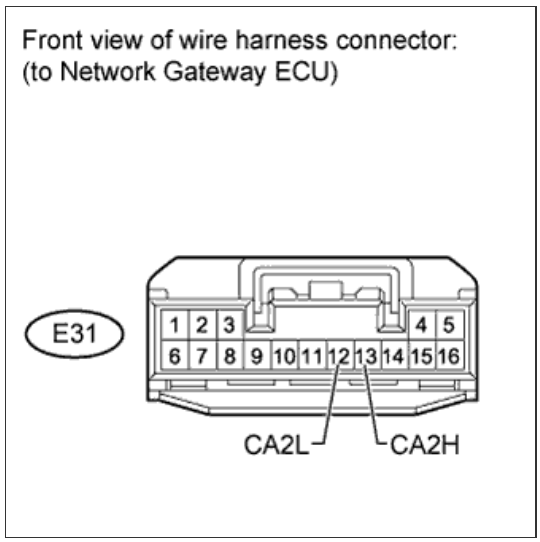
17.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NETWORK GATEWAY ECU - NO. 1 CAN JUNCTION CONNECTOR)

a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO NETWORK GATEWAY ECU (NETWORK GATEWAY ECU - NO. 1 CAN JUNCTION CONNECTOR)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## 18.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR SIDE)

a. Disconnect the E71 No. 7 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

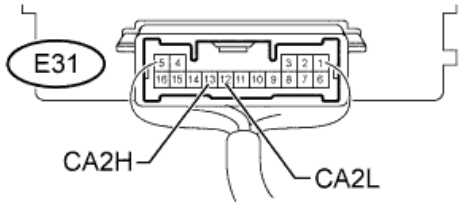
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

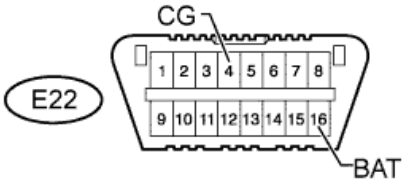
**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Pre-Crash Safety System) | A |
| OK (w/o Pre-Crash Safety System) | B |
| NG | C |

Component with harness connected:
(Network Gateway ECU)




Front view of DLC3:




B → Go to step 20

C → Go to step 21

A

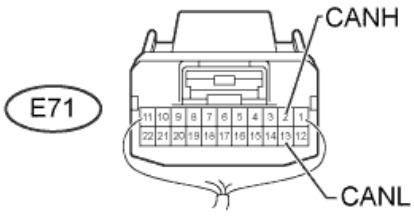
## 19.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - SEAT BELT CONTROL ECU)

a. Measure the resistance according to the value(s) in the table below.

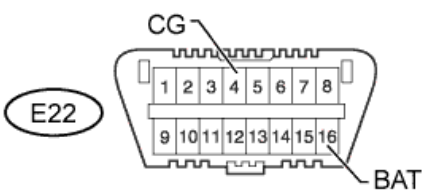
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E71-2 (CANH) - E71-13 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E71-2 (CANH) - E71-13 (CANL) | Engine switch off | Below 1 Ω | NG |
| E71-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E71-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E71-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E71-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E71-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E71-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E71-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E71-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 7 Junction Connector)




Front view of DLC3:



NG → Go to step 38

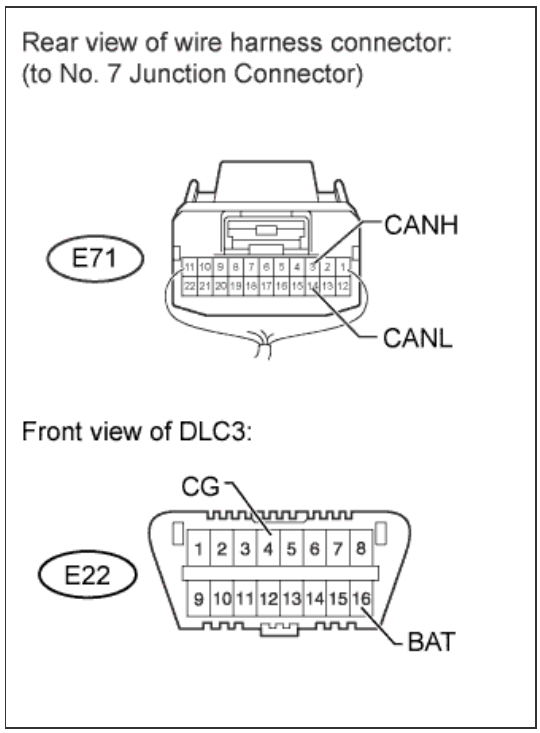
OK

## 20.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E71-3 (CANH) - E71-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E71-3 (CANH) - E71-14 (CANL) | Engine switch off | Below 1 Ω | NG |
| E71-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E71-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E71-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E71-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E71-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E71-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E71-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E71-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 40

OK

## 21.CONNECT CONNECTOR

a. Reconnect the E71 No. 7 junction connector connector.

NEXT

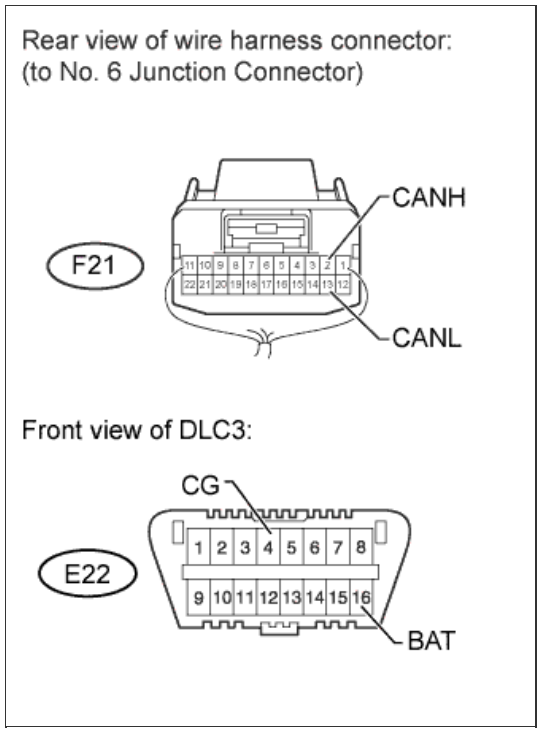
## 22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

a. Disconnect the F21 No. 6 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F21-2 (CANH) - F21-13 (CANL) | Engine switch off | 108 to 132 Ω |
| F21-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F21-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F21-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| F21-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

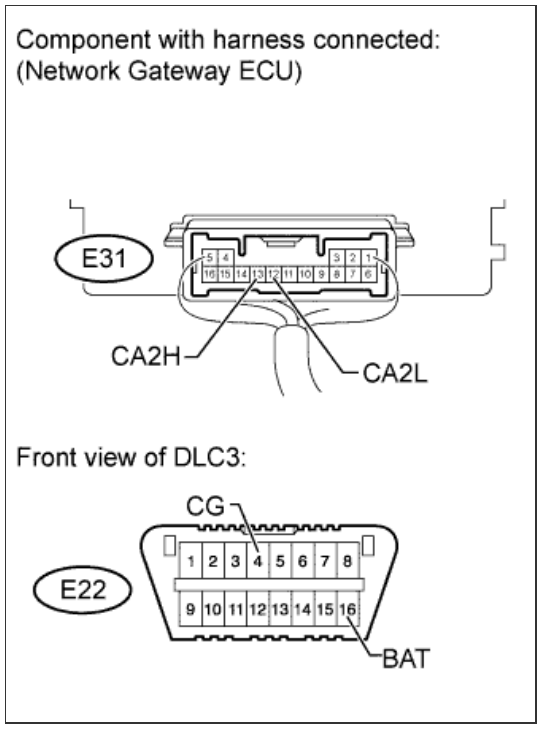



NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 7 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

OK

## 23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR SIDE)

a. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Result**

| Tester Connection | Switch Condition |
|---|---|
| OK (w/ LEXUS Parking Assist-sensor System) | A |
| OK (w/ Parking Assist Monitor System) | B |
| NG | C |

B → Go to step 25

C → Go to step 26

A

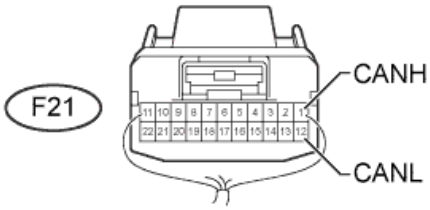
## 24.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - CLEARANCE WARNING ECU)

a. Measure the resistance according to the value(s) in the table below.

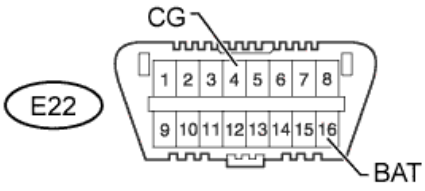
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| F21-1 (CANH) - F21-12 (CANL) | Engine switch off | 1 Ω or higher | OK |
| F21-1 (CANH) - F21-12 (CANL) | Engine switch off | Below 1 Ω | NG |
| F21-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F21-12 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F21-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F21-12 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F21-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F21-12 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F21-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| F21-12 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 6 Junction Connector)




Front view of DLC3:




NG → Go to step 45

OK

REPAIR OR REPLACE NO. 6 JUNCTION CONNECTOR

25.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - PARKING ASSIST ECU)

a. Measure the resistance according to the value(s) in the table below.

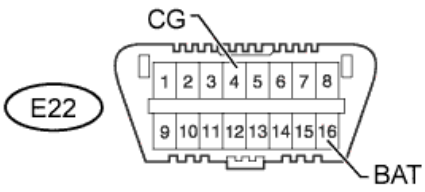
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| F21-1 (CANH) - F21-12 (CANL) | Engine switch off | 1 Ω or higher | OK |
| F21-1 (CANH) - F21-12 (CANL) | Engine switch off | Below 1 Ω | NG |
| F21-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F21-12 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F21-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F21-12 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F21-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F21-12 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F21-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| F21-12 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 6 Junction Connector)




Front view of DLC3:




NG → Go to step 47

OK

REPAIR OR REPLACE NO. 6 JUNCTION CONNECTOR

26.CONNECT CONNECTOR

a. Reconnect the F21 No. 6 junction connector connector.

NEXT

27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

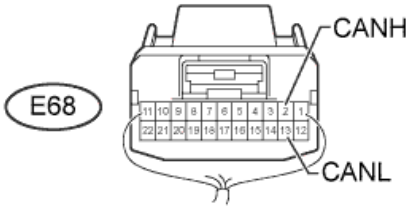
a. Disconnect the E68 No. 5 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

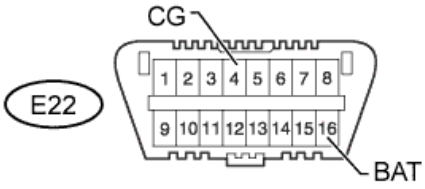
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-2 (CANH) - E68-13 (CANL) | Engine switch off | 108 to 132 Ω |
| E68-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E68-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Rear view of wire harness connector:
(to No. 5 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 6 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

OK

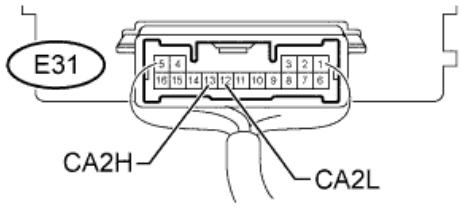
28.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR SIDE)

a. Measure the resistance according to the value(s) in the table below.

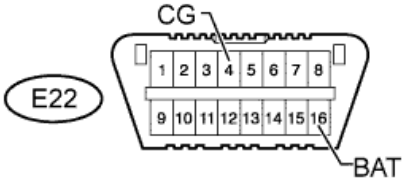
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Component with harness connected:
(Network Gateway ECU)




Front view of DLC3:



NG → Go to step 31

OK

## 29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - DISTANCE CONTROL ECU)

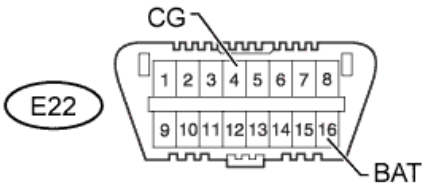
**NOTICE:**

For vehicles without the dynamic radar cruise control system, go to "Check for short in CAN Bus Wires (No. 5 Junction Control - Yaw Rate Sensor)".

Rear view of wire harness connector:
(to No. 5 Junction Connector)




Front view of DLC3:




a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E68-4 (CANH) - E68-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E68-4 (CANH) - E68-15 (CANL) | Engine switch off | Below 1 Ω | NG |
| E68-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E68-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E68-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E68-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E68-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E68-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E68-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E68-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

NG → Go to step 49

OK

## 30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - YAW RATE SENSOR)

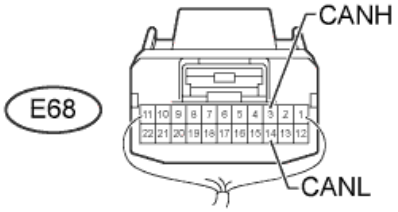
a. Measure the resistance according to the value(s) in the table below.

**Result**

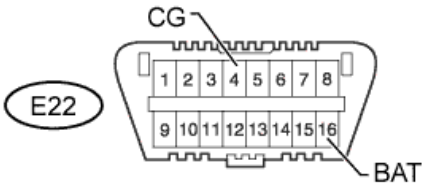
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E68-3 (CANH) - E68-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E68-3 (CANH) - E68-14 (CANL) | Engine switch off | Below 1 Ω | NG |
| E68-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E68-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E68-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E68-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E68-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E68-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E68-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

| | | | |
|---|---|---|---|
| E68-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 5 Junction Connector)




Front view of DLC3:




NG → Go to step 51

OK

REPAIR OR REPLACE NO. 5 JUNCTION CONNECTOR

31.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector connector.

NEXT

32.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

a. Disconnect the E74 No. 4 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

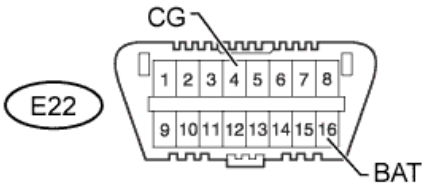
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-1 (CANH) - E74-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E74-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E74-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

Rear view of wire harness connector:
(to No. 4 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 5 JUNCTION CONNECTOR - NO. 4 JUNCTION CONNECTOR)

OK

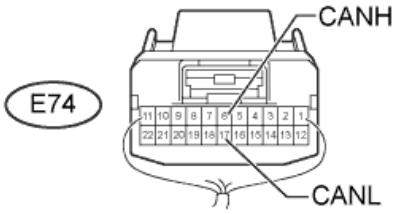
## 33.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - 4WD CONTROL ECU)

a. Measure the resistance according to the value(s) in the table below.

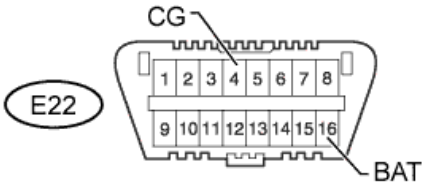
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E74-6 (CANH) - E74-17 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E74-6 (CANH) - E74-17 (CANL) | Engine switch off | Below 1 Ω | NG |
| E74-6 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-17 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-6 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-17 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-6 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-17 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-6 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E74-17 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 4 Junction Connector)




Front view of DLC3:




NG → Go to step 53

OK →

## 34.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - STEERING CONTROL ECU)

**NOTICE:**

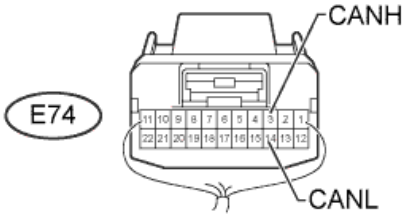
For vehicles without the variable gear ratio steering system, go to "Check for Short in CAN Bus Wires (No. 4 Junction Connector - Steering Angle Sensor)".

a. Measure the resistance according to the value(s) in the table below.

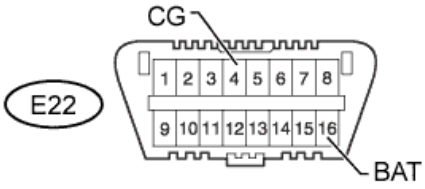
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E74-3 (CANH) - E74-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E74-3 (CANH) - E74-14 (CANL) | Engine switch off | Below 1 Ω | NG |
| E74-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E74-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 4 Junction Connector)




Front view of DLC3:



NG → Go to step 55

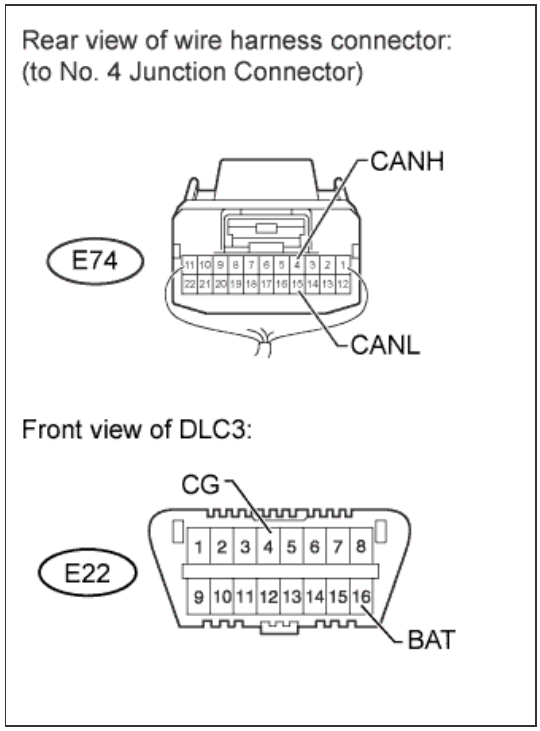
OK

## 35.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - STEERING ANGLE SENSOR)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E74-4 (CANH) - E74-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E74-4 (CANH) - E74-15 (CANL) | Engine switch off | Below 1 Ω | NG |
| E74-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E74-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 57

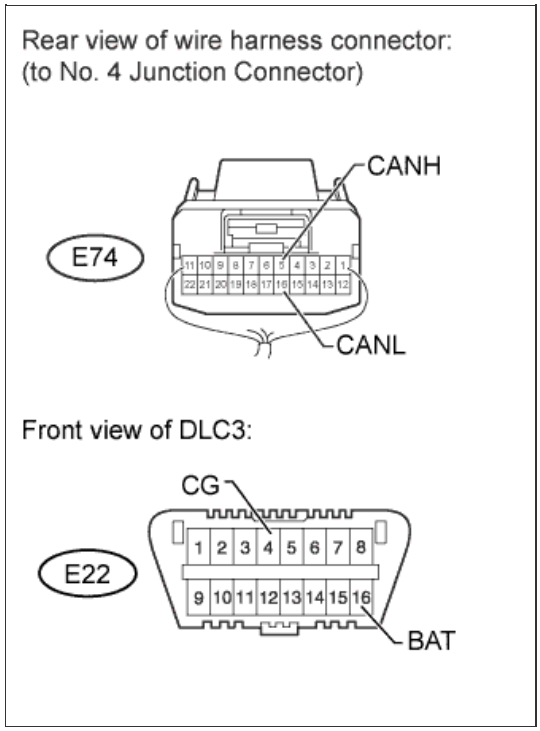
OK

## 36.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - SKID CONTROL ECU)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E74-5 (CANH) - E74-16 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E74-5 (CANH) - E74-16 (CANL) | Engine switch off | Below 1 Ω | NG |
| E74-5 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-16 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-5 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-16 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-5 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-16 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-5 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E74-16 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |



NG → Go to step 59

OK

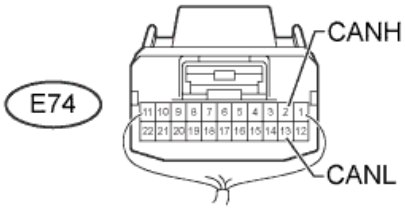
## 37.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

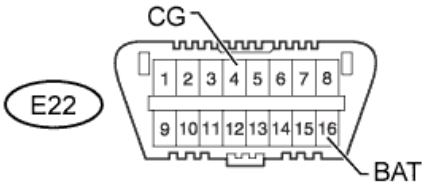
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E74-2 (CANH) - E74-13 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E74-2 (CANH) - E74-13 (CANL) | Engine switch off | Below 1 Ω | NG |
| E74-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E74-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E74-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E74-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E74-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 4 Junction Connector)




Front view of DLC3:




NG → Go to step 61

OK

REPAIR OR REPLACE NO. 4 JUNCTION CONNECTOR

## 38.CONNECT CONNECTOR

a. Reconnect the E71 No. 7 junction connector connector.

NEXT

## 39.CHECK FOR SHORT IN CAN BUS WIRES (SEAT BELT CONTROL ECU)

a. Disconnect the E42 seat belt control ECU connector.

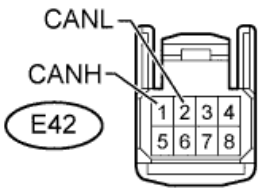
b. Measure the resistance according to the value(s) in the table below.

Result

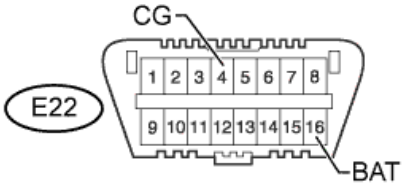
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E42-1 (CANH) - E42-2 (CANL) | Engine switch off | Below 1 Ω | NG |
| E42-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E42-2 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E42-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

| | | | |
|---|---|---|---|
| E42-2 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E42-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E42-2 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E42-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E42-2 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Seat Belt Control ECU)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO SEAT BELT CONTROL ECU (CANH, CANL)

OK → REPLACE SEAT BELT CONTROL ECU (Click here)

### 40.CONNECT CONNECTOR

a. Reconnect the E71 No. 7 junction connector connector.

NEXT

### 41.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR - SUSPENSION CONTROL ECU)

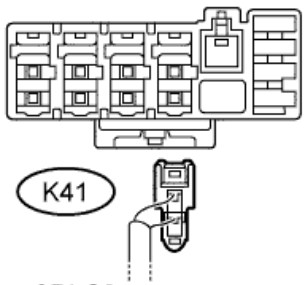
a. Disconnect the K41 No. 1 CAN junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

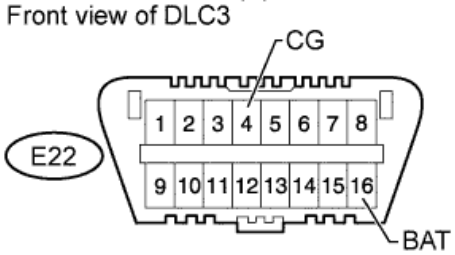
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| K41-1 (CANH) - K41-2 (CANL) | Engine switch off | 1 Ω or higher | OK |
| K41-1 (CANH) - K41-2 (CANL) | Engine switch off | Below 1 Ω | NG |
| K41-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| K41-2 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| K41-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| K41-2 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| K41-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| K41-2 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| K41-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| K41-2 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 CAN Junction Connector)




Front view of DLC3



NG → Go to step 44

OK

## 42.CONNECT CONNECTOR

a. Reconnect the K41 No. 1 CAN junction connector connector.

NEXT

## 43.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR)

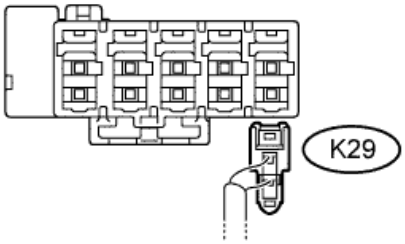
a. Disconnect the K29 No. 1 CAN junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

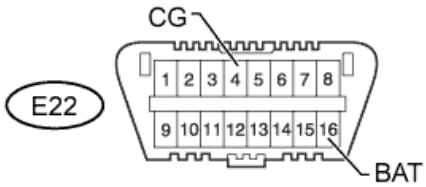
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| K29-1 (CANH) - K29-2 (CANL) | Engine switch off | 1 Ω or higher | OK |
| K29-1 (CANH) - K29-2 (CANL) | Engine switch off | Below 1 Ω | NG |
| K29-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| K29-2 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| K29-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| K29-2 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| K29-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| K29-2 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| K29-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| K29-2 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 CAN Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NO. 1 CAN JUNCTION CONNECTOR (CANH, CANL)

OK

## REPLACE NO. 1 CAN JUNCTION CONNECTOR

## 44.CHECK FOR SHORT IN CAN BUS WIRES (SUSPENSION CONTROL ECU)

a. Disconnect the K30 suspension control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

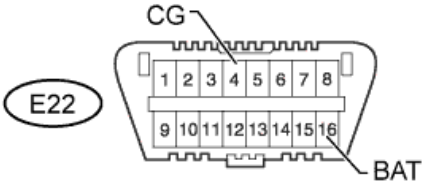
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | Engine switch off | 1 Ω or higher | OK |
| K30-7 (CANH) - K30-8 (CANL) | Engine switch off | Below 1 Ω | NG |
| K30-7 (CANH) - E22-4 | Engine | | |

| | | | |
|---|---|---|---|
| (CG) | switch off | 1 Ω or higher | OK |
| K30-8 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| K30-7 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| K30-8 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| K30-7 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| K30-8 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| K30-7 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| K30-8 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to Suspension Control ECU)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO SUSPENSION CONTROL ECU (CANH, CANL)

OK

REPLACE SUSPENSION CONTROL ECU (Click here)

## 45.CONNECT CONNECTOR

a. Reconnect the F21 No. 6 junction connector connector.

NEXT

## 46.CHECK FOR SHORT IN CAN BUS WIRES (CLEARANCE WARNING ECU)

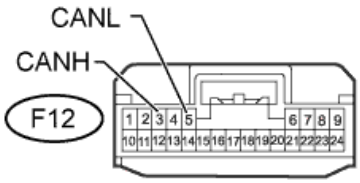
a. Disconnect the F12 clearance warning ECU connector.

b. Measure the resistance according to the value(s) in the table below.

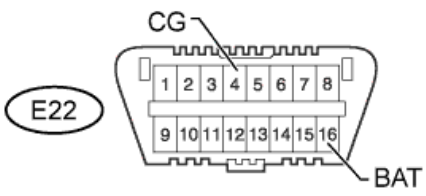
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| F12-3 (CANH) - F12-5 (CANL) | Engine switch off | 1 Ω or higher | OK |
| F12-3 (CANH) - F12-5 (CANL) | Engine switch off | Below 1 Ω | NG |
| F12-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F12-5 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F12-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F12-5 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F12-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F12-5 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F12-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| F12-5 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Clearance Warning ECU)




Front view of DLC3:



NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CLEARANCE WARNING ECU (CANH, CANL)

OK

REPLACE CLEARANCE WARNING ECU ASSEMBLY (Click here)

47.CONNECT CONNECTOR

a. Reconnect the F21 No. 6 junction connector connector.

NEXT

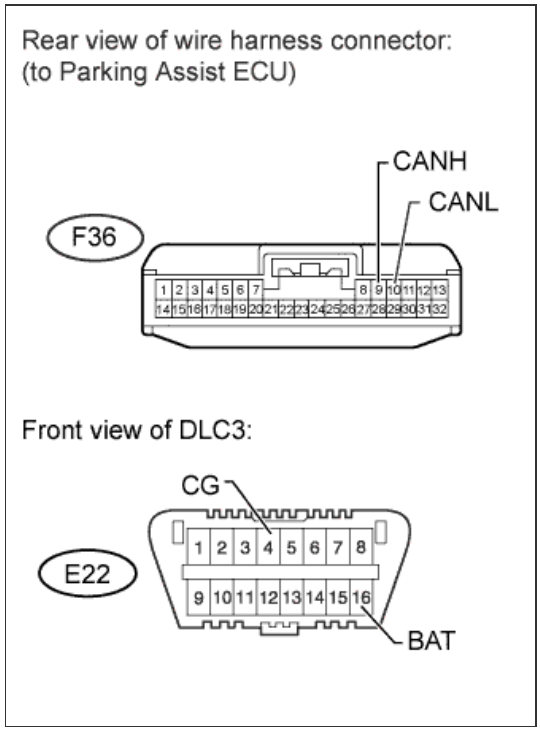
48.CHECK FOR SHORT IN CAN BUS WIRES (PARKING ASSIST ECU)

a. Disconnect the F36 parking assist ECU connector.

b. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| F36-9 (CANH) - F36-10 (CANL) | Engine switch off | 1 Ω or higher | OK |
| F36-9 (CANH) - F36-10 (CANL) | Engine switch off | Below 1 Ω | NG |
| F36-9 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F36-10 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| F36-9 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F36-10 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| F36-9 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F36-10 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| F36-9 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| F36-10 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE TO PARKING ASSIST ECU (CANH, CANL)

OK

REPLACE PARKING ASSIST ECU (Click here)

49.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector connector.

NEXT

50.CHECK FOR SHORT IN CAN BUS WIRES (DISTANCE CONTROL ECU)

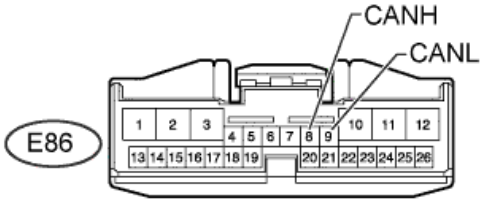
a. Disconnect the E86 distance control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

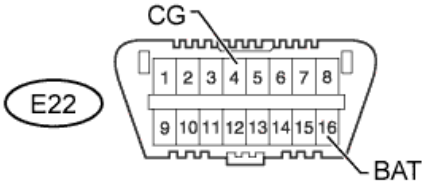
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E86-8 (CANH) - E86-9 (CANL) | Engine switch off | Below 1 Ω | NG |
| E86-8 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E86-9 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E86-8 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E86-9 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E86-8 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E86-9 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E86-8 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E86-9 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Distance Control ECU)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DISTANCE CONTROL ECU (CANH, CANL)

OK

REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

## 51.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector connector.

NEXT

## 52.CHECK FOR SHORT IN CAN BUS WIRES (YAW RATE SENSOR)

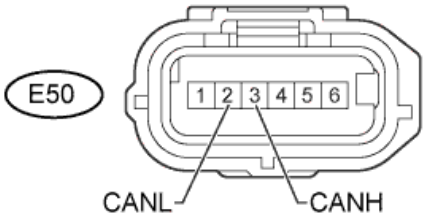
a. Disconnect the E50 yaw rate sensor connector.

b. Measure the resistance according to the value(s) in the table below.

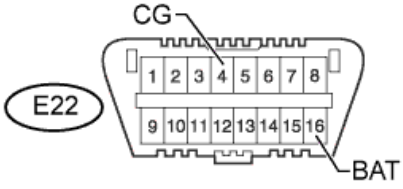
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | Below 1 Ω | NG |
| E50-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E50-2 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E50-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E50-2 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E50-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E50-2 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E50-3 (CANH) - E22- | Engine | | |

Front view of wire harness connector:
(to Yaw Rate Sensor)




Front view of DLC3:



| | | | |
|---|---|---|---|
| 16 (BAT) | switch off | Below 1 Ω | NG |
| E50-2 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO YAW RATE SENSOR (CANH, CANL)

OK

REPLACE YAW RATE SENSOR ASSEMBLY (Click here)

53.CONNECT CONNECTOR

a. Reconnect the E74 No. 4 junction connector connector.

NEXT

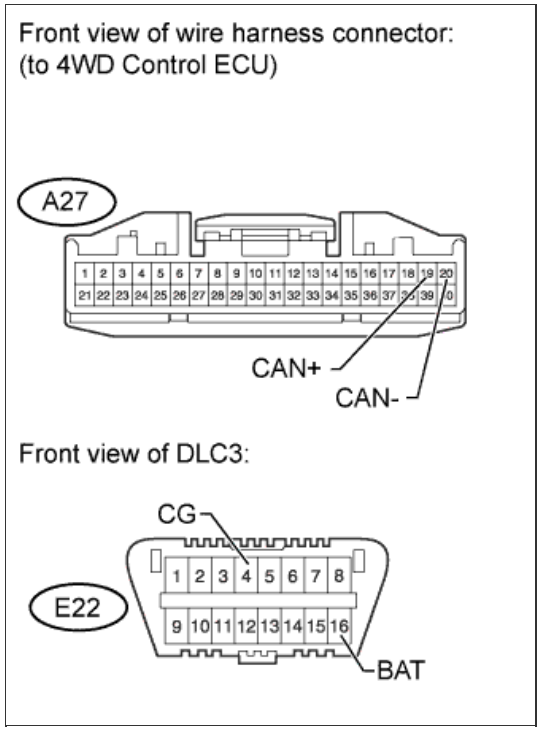
54.CHECK FOR SHORT IN CAN BUS WIRES (4WD CONTROL ECU)

a. Disconnect the A27 4WD control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| A27-19 (CAN+) - A29-20 (CAN-) | Engine switch off | 1 Ω or higher | OK |
| A27-19 (CAN+) - A29-20 (CAN-) | Engine switch off | Below 1 Ω | NG |
| A27-19 (CAN+) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| A29-20 (CAN-) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| A27-19 (CAN+) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| A29-20 (CAN-) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| A27-19 (CAN+) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| A29-20 (CAN-) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| A27-19 (CAN+) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| A29-20 (CAN-) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO 4WD CONTROL ECU (CAN+, CAN-)

OK

REPLACE 4WD CONTROL ECU (Click here)

55.CONNECT CONNECTOR

a. Reconnect the E74 No. 4 junction connector connector.

NEXT

56.CHECK FOR SHORT IN CAN BUS WIRES (STEERING CONTROL ECU)

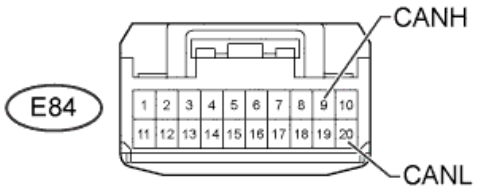
a. Disconnect the E84 suspension control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

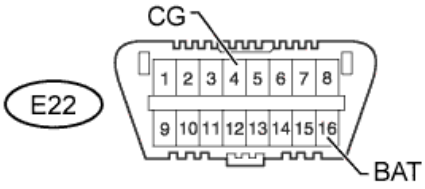
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E84-9 (CANH) - E84-20 (CANL) | Engine switch off | Below 1 Ω | NG |
| E84-9 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E84-20 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E84-9 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E84-20 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E84-9 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E84-20 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E84-9 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E84-20 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Steering Control ECU)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO STEERING CONTROL ECU (CANH, CANL)

OK

REPLACE STEERING CONTROL ECU (Click here)

## 57.CONNECT CONNECTOR

a. Reconnect the E74 No. 4 junction connector connector.

NEXT

## 58.CHECK FOR SHORT IN CAN BUS WIRES (STEERING ANGLE SENSOR)

a. Disconnect the E11 steering angle sensor connector.

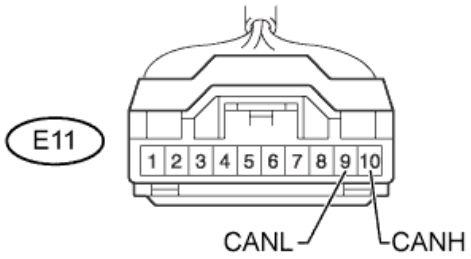
b. Measure the resistance according to the value(s) in the table below.

**Result**

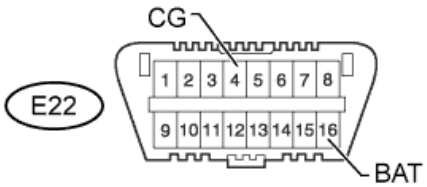
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E11-10 (CANH) - E11-9 (CANL) | Engine switch off | 1 Ω or higher | OK |
| E11-10 (CANH) - E11-9 (CANL) | Engine switch off | Below 1 Ω | NG |
| E11-10 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E11-9 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E11-10 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E11-9 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E11-10 (CANH) - E22- | Engine | | |

| | | | |
|---|---|---|---|
| 16 (BAT) | switch off | 1 Ω or higher | OK |
| E11-9 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E11-10 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E11-9 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Steering Angle Sensor)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO STEERING ANGLE SENSOR (CANH, CANL)

OK

REPLACE STEERING ANGLE SENSOR (Click here)

## 59.CONNECT CONNECTOR

a. Reconnect the E74 No. 4 junction connector connector.

NEXT

## 60.CHECK FOR SHORT IN CAN BUS WIRES (SKID CONTROL ECU)

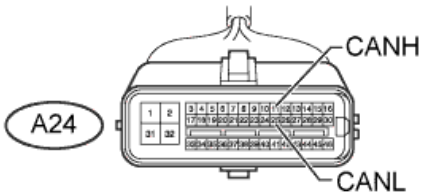
a. Disconnect the A24 skid control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

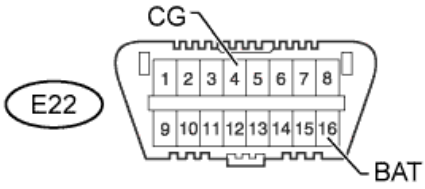
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | Engine switch off | 1 Ω or higher | OK |
| A24-11 (CANH) - A24-25 (CANL) | Engine switch off | Below 1 Ω | NG |
| A24-11 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| A24-25 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| A24-11 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| A24-25 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| A24-11 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| A24-25 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| A24-11 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| A24-25 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Front view of wire harness connector:
(to Skid Control ECU)




Front view of DLC3:



NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO SKID CONTROL ECU (CANH, CANL)

OK

REPLACE MASTER CYLINDER SOLENOID (SKID CONTROL ECU) (Click here)

61.CONNECT CONNECTOR

a. Reconnect the E74 No. 4 junction connector connector.

NEXT

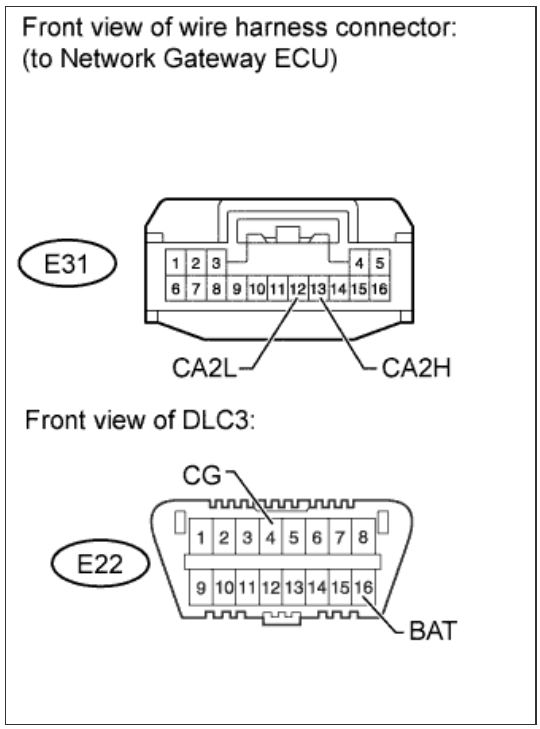
62.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 1 Ω or higher | OK |
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | Below 1 Ω | NG |
| E31-13 (CA2H) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E31-12 (CA2L) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E31-13 (CA2H) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E31-12 (CA2L) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E31-13 (CA2H) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E31-12 (CA2L) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E31-13 (CA2H) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E31-12 (CA2L) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CA2H, CA2L)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

63.CHECK HARNESS AND CONNECTOR (NETWORK GATEWAY ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E31 network gateway ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

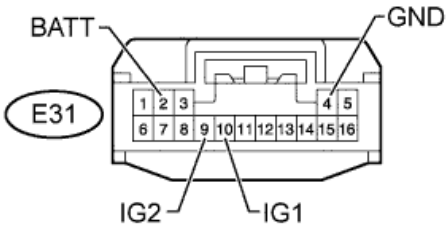
| | | |
|---|---|---|
| E31-4 (GND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-2 (BATT) - Body ground | Always | 11 to 14 V |
| E31-9 (IG2) - Body ground | Engine switch on (IG) | 11 to 14 V |
| E31-10 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector:
(to Network Gateway ECU)




T

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE NETWORK GATEWAY ECU (Click here)

## DTC U0126 Lost Communication with Steering Angle Sensor Module

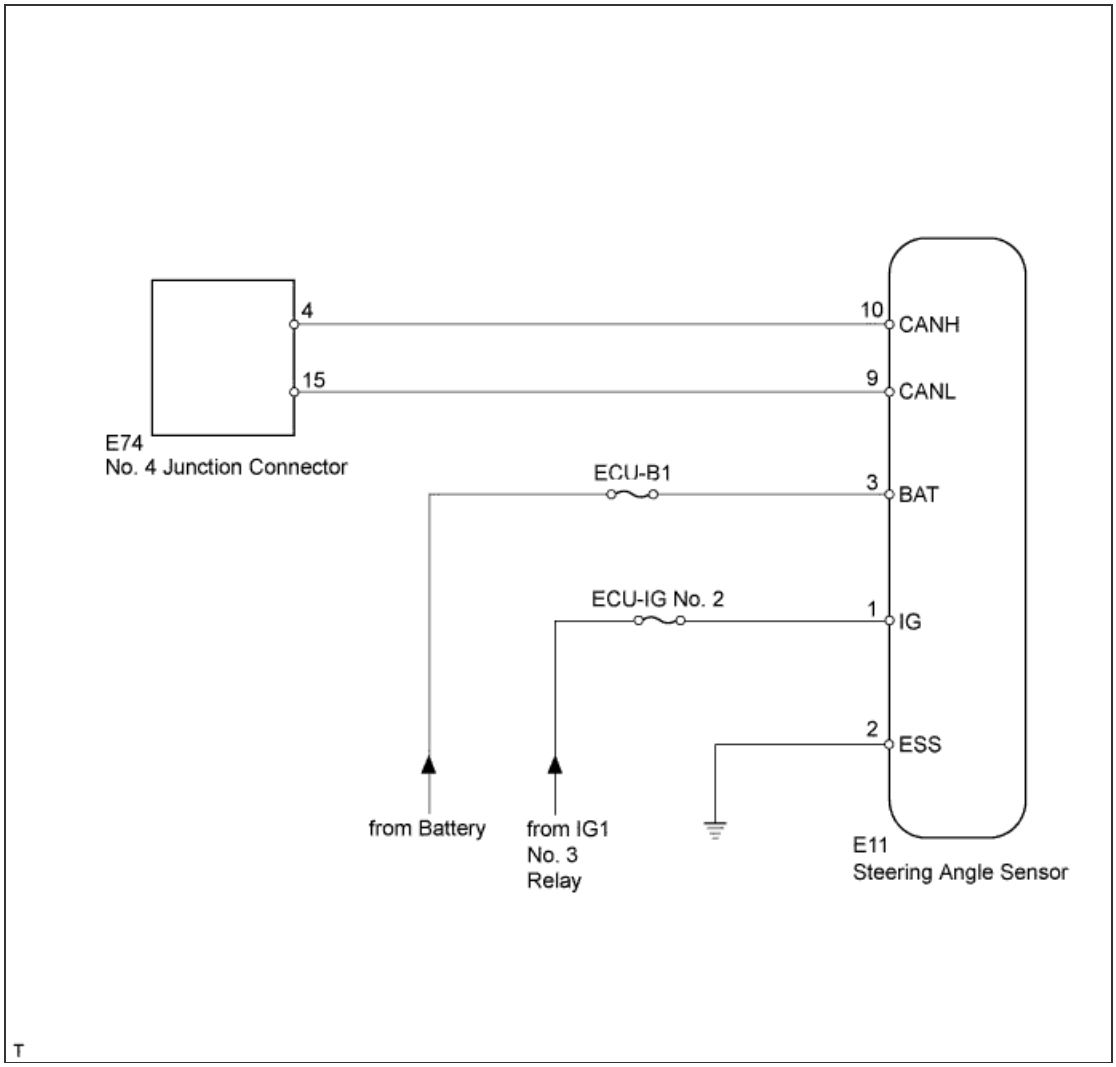
**for Preparation** Click here

### DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0126 | There is no communication from the steering angle sensor. | • Power source circuit of steering angle sensor<br>• One side of CAN branch wire of other systems<br>• Steering angle sensor<br>• Steering angle sensor branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

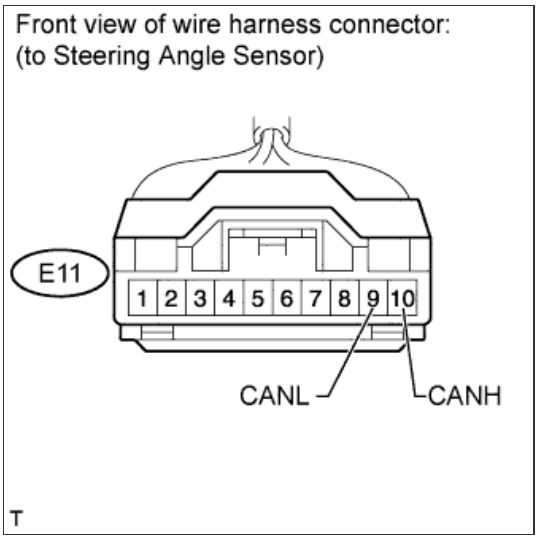
## 2.CHECK FOR OPEN IN CAN BUS WIRE (STEERING ANGLE SENSOR BRANCH WIRE)

a. Disconnect the E11 steering angle sensor connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E11-10 (CANH) - E11-9 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE STEERING ANGLE SENSOR BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (STEERING ANGLE SENSOR - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E11 steering angle sensor connector.

c. Measure the resistance according to the value(s) in the table below.

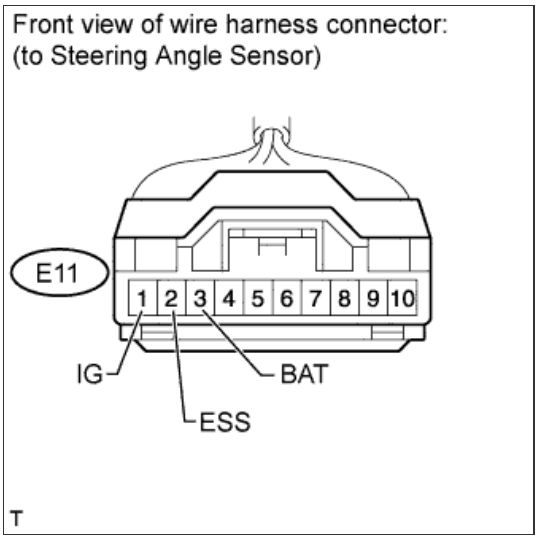
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E11-2 (ESS) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E11-3 (BAT) - Body ground | Always | 11 to 14 V |
| E11-1 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE STEERING ANGLE SENSOR (Click here)

## DTC U1002 (CAN No. 2 BUS) Lost Communication with Gateway Module (Network Gateway ECU)

**for Preparation** Click here

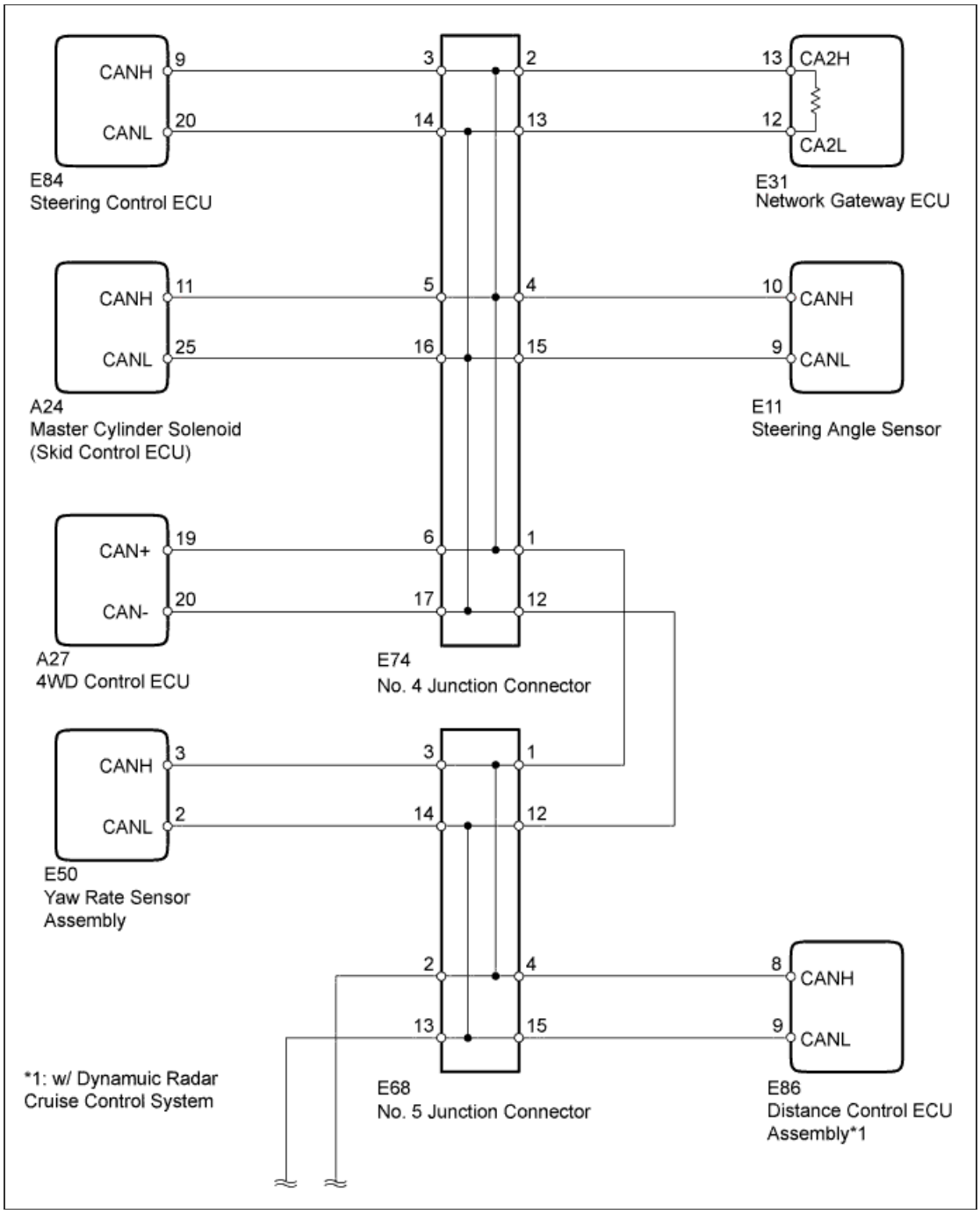
### DESCRIPTION

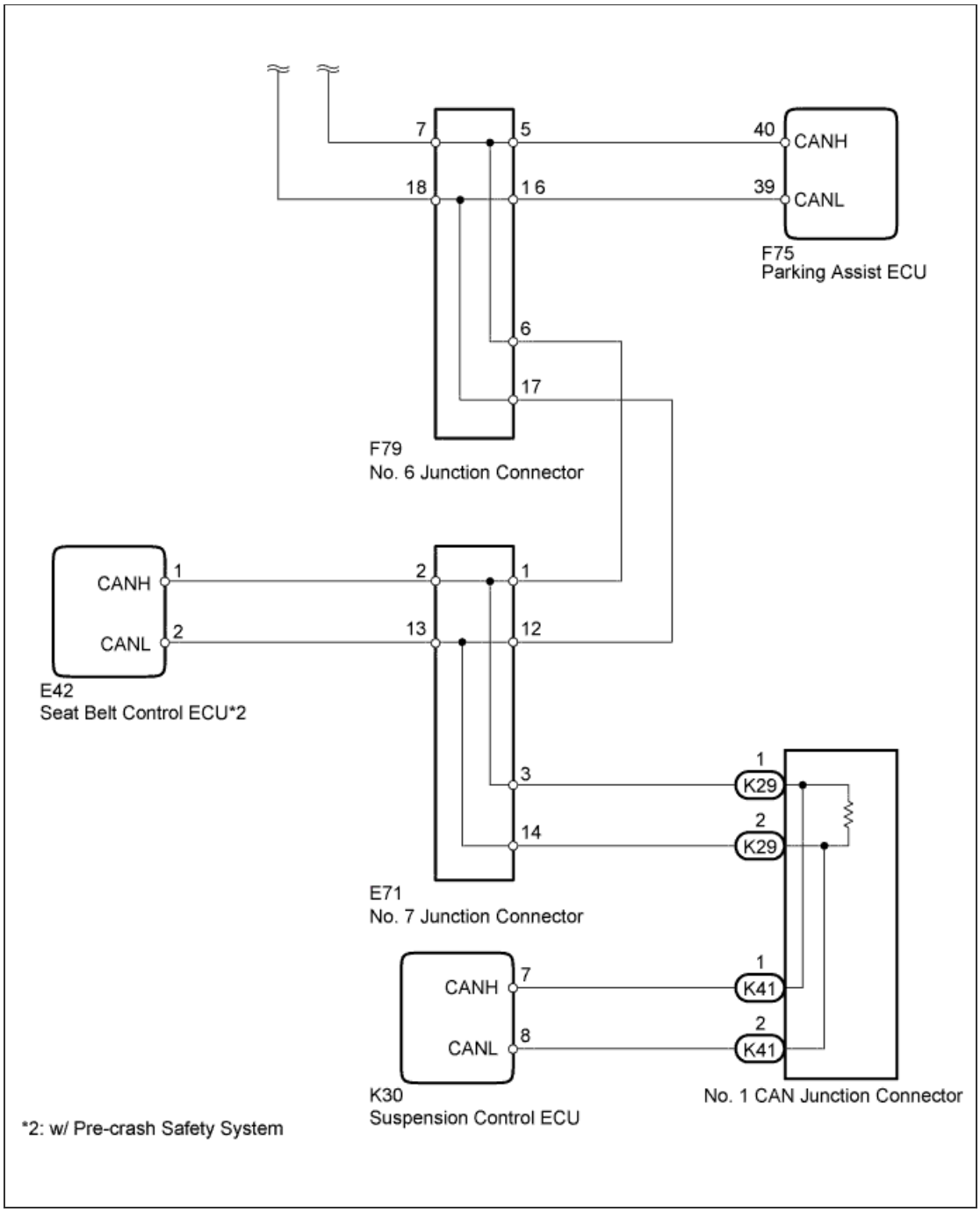
- The network gateway ECU stores this DTC when no signals can be received from the ECUs that have been memorized as those connected to the CAN movement control bus.
- When the network gateway ECU receives a response signal from the ECUs connected to the CAN movement control bus, the network gateway ECU recognizes and memorizes that the ECU is connected to the CAN movement control bus. Based on this memorized data, the network gateway ECU monitors for malfunctions in the ECUs connected to the CAN movement control bus when communicating with those ECUs. If the network gateway ECU cannot receive response signals from the ECUs that have been memorized as those connected to the CAN movement control bus, the network gateway ECU determines that a malfunction exists.
- If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (one side of the CANH [CAN branch wire]/CANL [CAN branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1002 (CAN No. 2 BUS) | Lost communication with the gateway module (network gateway ECU). | • Movement control bus circuit<br>• 4WD control ECU CAN branch wire or connector<br>• Yaw rate sensor assembly CAN branch wire or connector<br>• Distance control ECU assembly CAN branch wire or connector*1<br>• Seat belt control ECU CAN branch wire or connector*2<br>• Parking assist ECU CAN branch wire or connector<br>• Master cylinder solenoid (skid control ECU) CAN branch wire or connector<br>• Steering angle sensor CAN branch wire or connector<br>• Network gateway ECU CAN main wire or connector<br>• Steering control ECU CAN branch wire or connector<br>• Suspension control ECU CAN branch wire or connector<br>• 4WD control ECU<br>• Yaw rate sensor assembly<br>• Distance control ECU assembly*1<br>• Seat belt control ECU*2<br>• Parking assist ECU<br>• Master cylinder solenoid (skid control ECU)<br>• Steering angle sensor<br>• Steering control ECU<br>• Suspension control ECU<br>• Network gateway ECU<br>• No. 4 junction connector<br>• No. 5 junction connector<br>• No. 6 junction connector<br>• No. 7 junction connector<br>• No. 1 CAN junction connector |

*1: w/ Dynamic Radar Cruise Control System
*2: w/ Pre-crash Safety System

### WIRING DIAGRAM


CANH
9
CANL
20
E84
Steering Control ECU
3
2
14
13
13
CA2H
12
CA2L
E31
Network Gateway ECU
CANH
11
CANL
25
A24
Master Cylinder Solenoid
(Skid Control ECU)
5
4
16
15
10
CANH
9
CANL
E11
Steering Angle Sensor
CAN+
19
CAN-
20
A27
4WD Control ECU
6
1
17
12
E74
No. 4 Junction Connector
CANH
3
CANL
2
E50
Yaw Rate Sensor
Assembly
3
1
14
12
2
4
13
15
8
CANH
9
CANL
*1: w/ Dynamuic Radar
Cruise Control System
E68
No. 5 Junction Connector
E86
Distance Control ECU
Assembly*1




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

**NEXT**

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

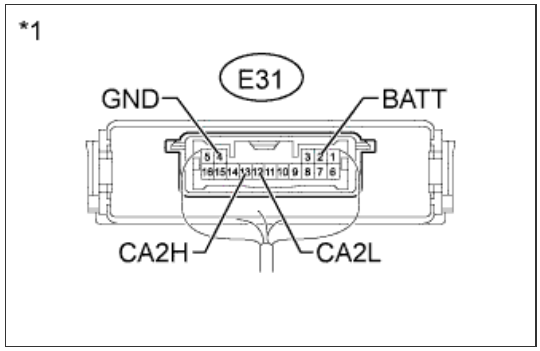
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

**NEXT**

## 3.CHECK CAN BUS WIRE (CAN MAIN WIRE FOR DISCONNECTION, CHECK BUS LINE FOR SHORT CIRCUIT)

a. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition | Resistance Malfunction |
|---|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 54 to 69 Ω | Below 53 Ω: Short in line |
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 54 to 69 Ω | 70 Ω or higher: Open in CAN main bus line |
| E31-13 (CA2H) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E31-12 (CA2L) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher | Below 6 kΩ: +B short |
| E31-13 (CA2H) - E31-4 (GND) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |
| E31-12 (CA2L) - E31-4 (GND) | Engine switch off | 200 Ω or higher | Below 200 Ω: Ground short |

**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Network Gateway ECU) |

**Result**

| Result | Proceed to |
|---|---|
| NG<br>• Open in CAN main wire | A |
| NG<br>• Short in line<br>• +B short<br>• Ground short | B |
| OK | C |

**B** → Go to step 19

**C** → Go to step 61

**A**

## 4.CHECK FOR OPEN IN MAIN BUS WIRE (NO. 7 CAN JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Disconnect the E71 No. 7 junction connector.

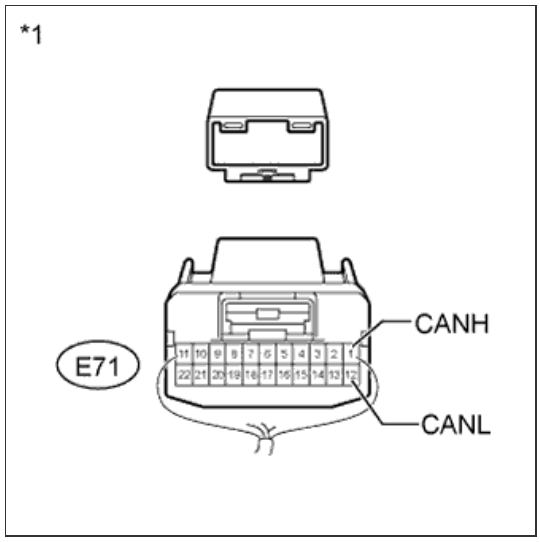
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-1 (CANH) - E71-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 7 Junction Connector) |




NG → Go to step 6

OK

**5.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)**

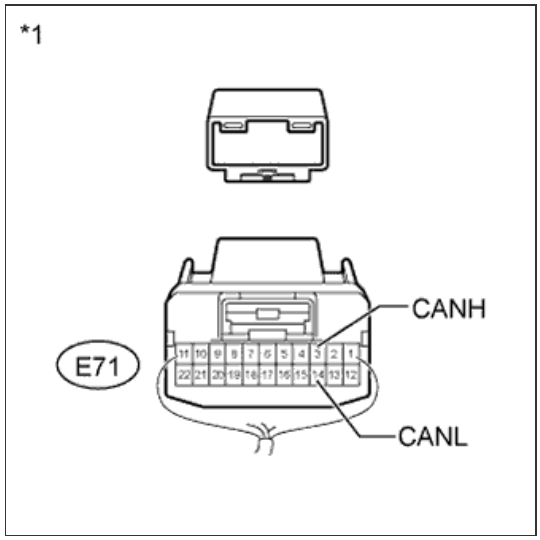
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-3 (CANH) - E71-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 7 Junction Connector) |




NG → Go to step 15

OK

**REPLACE NO. 7 JUNCTION CONNECTOR**

**6.CONNECT CONNECTOR**

a. Reconnect the E71 No. 7 junction connector.

NEXT

**7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)**

a. Disconnect the F79 No. 6 junction connector.

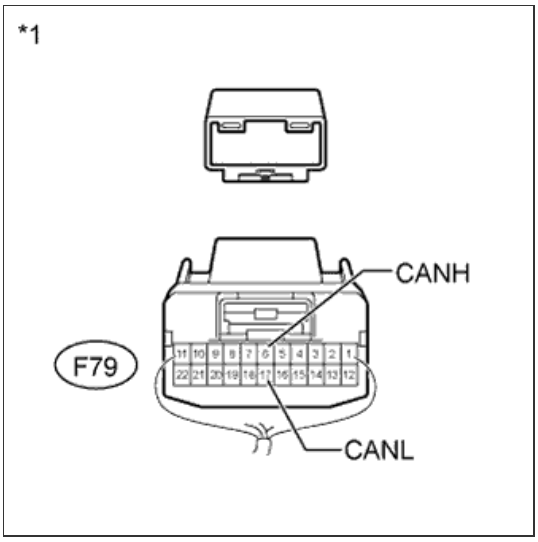
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F79-6 (CANH) - F79-17 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 6 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

OK

## 8.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 6 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

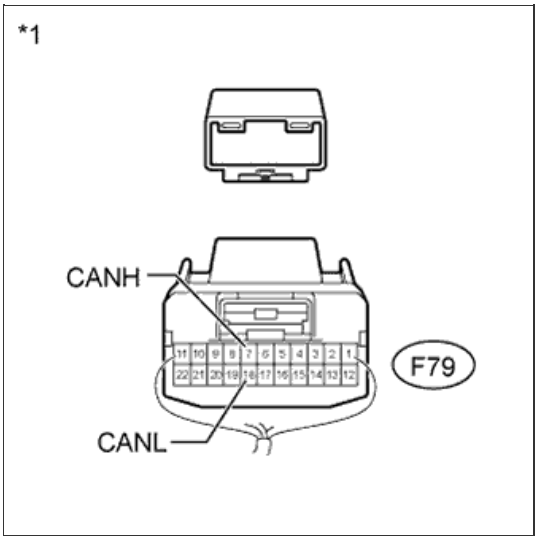
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F79-7 (CANH) - F79-18 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 6 Junction Connector) |




NG → Go to step 9

OK

## REPLACE NO. 6 JUNCTION CONNECTOR

## 9.CONNECT CONNECTOR

a. Reconnect the F79 No. 6 junction connector.

NEXT

## 10.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

a. Disconnect the E68 No. 5 junction connector.

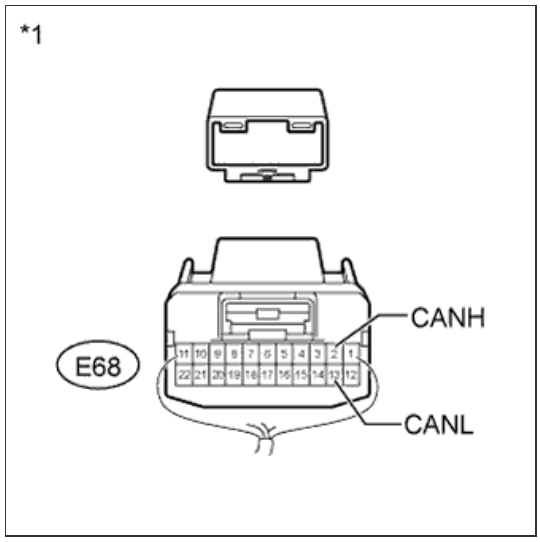
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-2 (CANH) - E68-13 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 5 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

OK

## 11.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 5 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

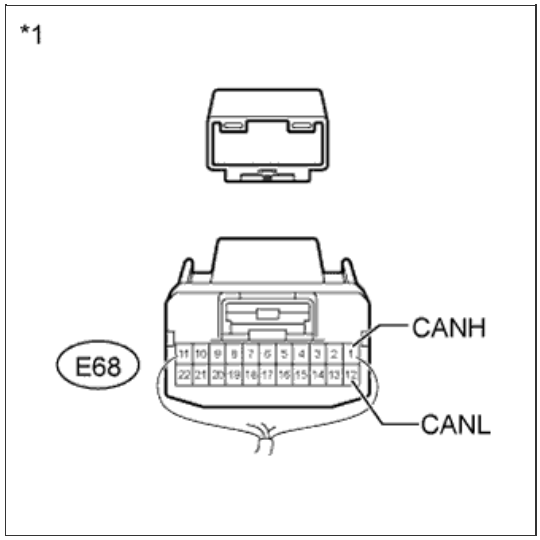
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-1 (CANH) - E68-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 5 Junction Connector) |




NG → Go to step 12

OK

## REPLACE NO. 5 JUNCTION CONNECTOR

## 12.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector.

NEXT

## 13.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

a. Disconnect the E74 No. 4 junction connector.

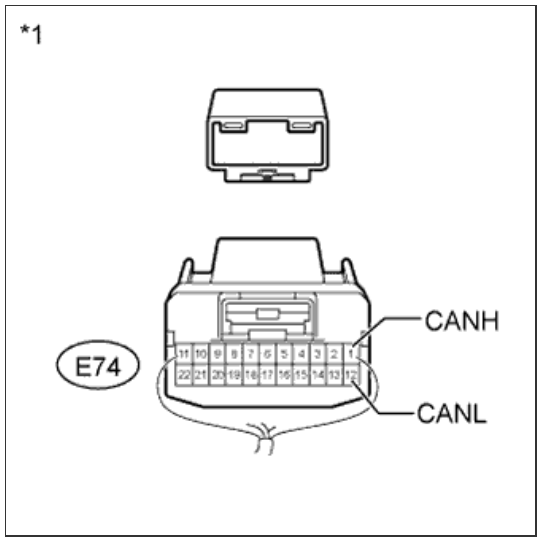
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-1 (CANH) - E74-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

OK

**14.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 4 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)**

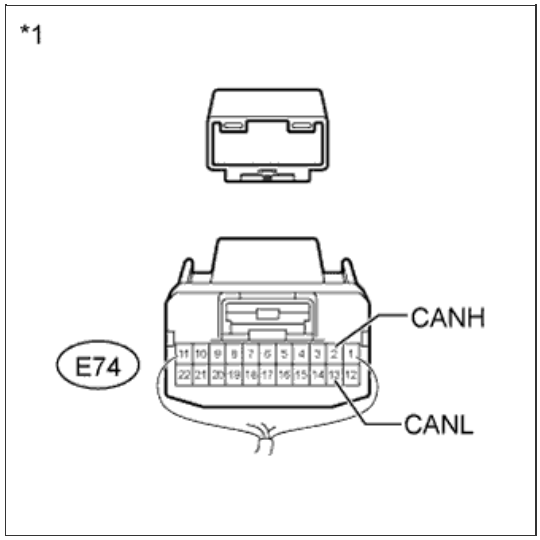
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-2 (CANH) - E74-13 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |




NG → Go to step 17

OK

**REPLACE NO. 4 JUNCTION CONNECTOR**

**15.CONNECT CONNECTOR**

a. Reconnect the E71 No. 7 junction connector.

NEXT

**16.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 CAN JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)**

a. Disconnect the K29 No. 1 CAN junction connector.

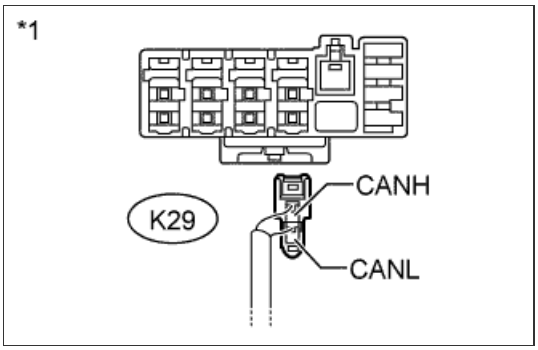
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K29-1 (CANH) - K29-2 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 CAN Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 CAN JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

OK

REPLACE NO. 1 CAN JUNCTION CONNECTOR

17.CONNECT CONNECTOR

a. Reconnect the E74 No. 4 junction connector.

NEXT

18.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NETWORK GATEWAY ECU - NO. 8 JUNCTION CONNECTOR)

a. Disconnect the E31 network gateway ECU connector.

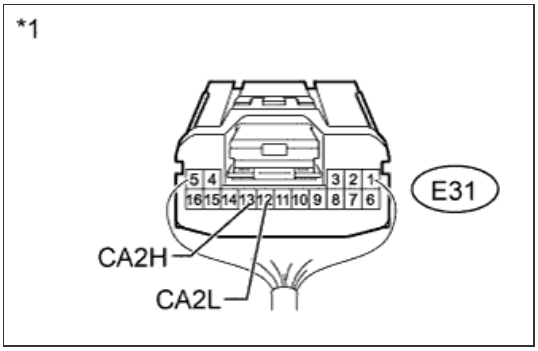
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Network Gateway ECU) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO NETWORK GATEWAY ECU (NETWORK GATEWAY ECU - NO. 4 JUNCTION CONNECTOR)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

19.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR SIDE)

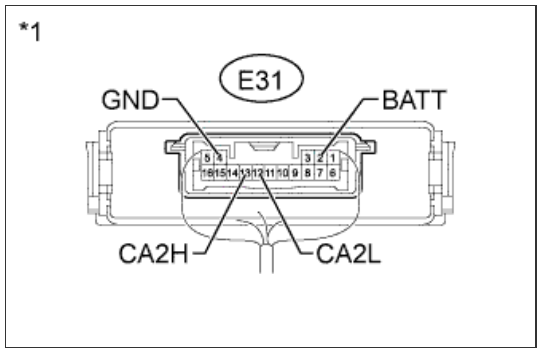
a. Disconnect the E71 No. 7 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |

| | | |
|---|---|---|
| E31-13 (CA2H) - E31-4 (GND) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E31-4 (GND) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Network Gateway ECU) |

NG → Go to step 22

OK

## 20.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - SEAT BELT CONTROL ECU)

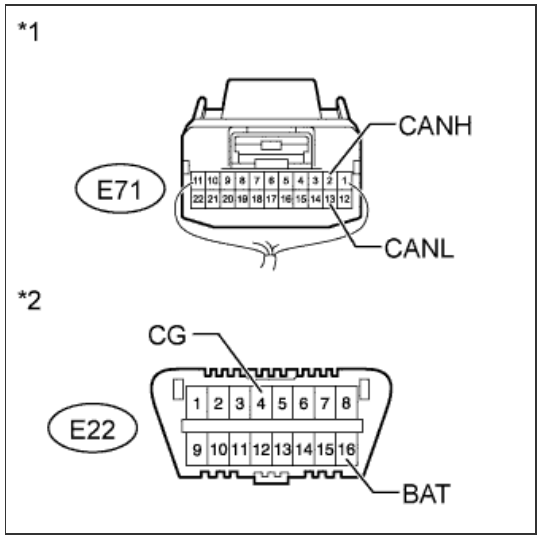
**NOTICE:**

For vehicles without an pre-crash safety system, go to "Check for Short in CAN Bus Wires (No. 7 Junction Connector - No. 1 CAN Junction Connector)".

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-2 (CANH) - E71-13 (CANL) | Engine switch off | 200 Ω or higher |
| E71-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E71-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E71-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E71-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 7 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 38

OK

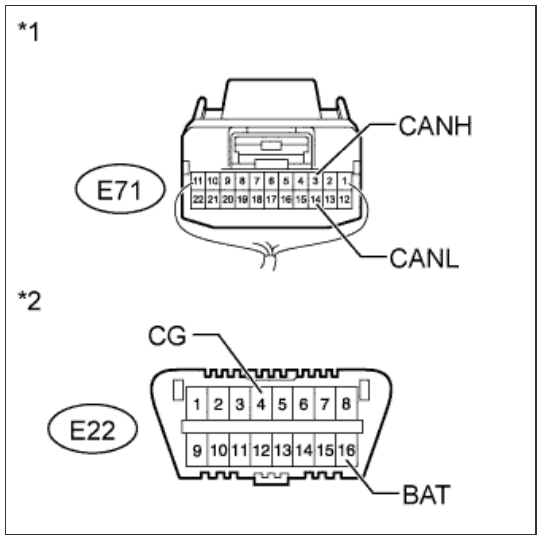
## 21.CHECK FOR SHORT IN CAN BUS WIRES (NO. 7 JUNCTION CONNECTOR - NO. 1 CAN JUNCTION CONNECTOR)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E71-3 (CANH) - E71-14 (CANL) | Engine switch off | 108 to 132 Ω |
| E71-3 (CANH) - | | |

| | | |
|---|---|---|
| E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E71-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E71-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E71-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 7 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 40

OK

**REPLACE NO. 7 JUNCTION CONNECTOR**

**22.CONNECT CONNECTOR**

a. Reconnect the E71 No. 7 junction connector.

NEXT

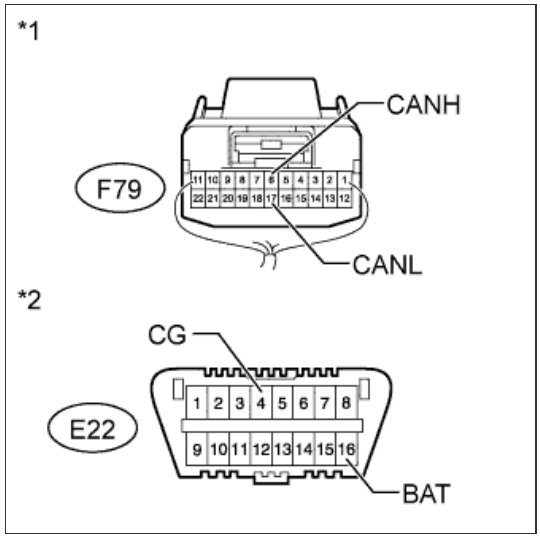
**23.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)**

a. Disconnect the F79 No. 6 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F79-6 (CANH) - F79-17 (CANL) | Engine switch off | 108 to 132 Ω |
| F79-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F79-17 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F79-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| F79-17 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 6 Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 6 JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

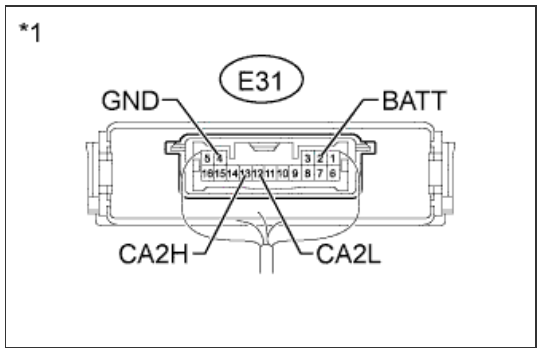
OK

**24.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR SIDE)**

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E31-4 (GND) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E31-4 (GND) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Component with harness connected (Network Gateway ECU) |

NG → Go to step 26

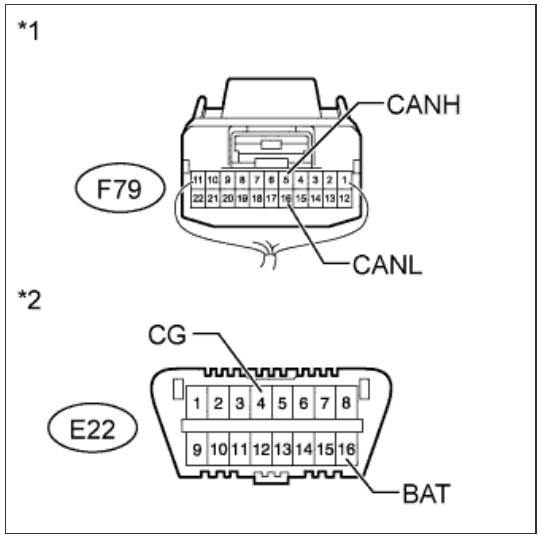
OK

**25.CHECK FOR SHORT IN CAN BUS WIRES (NO. 6 JUNCTION CONNECTOR - PARKING ASSIST ECU)**

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F79-5 (CANH) - F79-16 (CANL) | Engine switch off | 200 Ω or higher |
| F79-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F79-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F79-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| F79-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 6 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 45

OK

**REPLACE NO. 6 JUNCTION CONNECTOR**

**26.CONNECT CONNECTOR**

a. Reconnect the F79 No. 6 junction connector.

NEXT

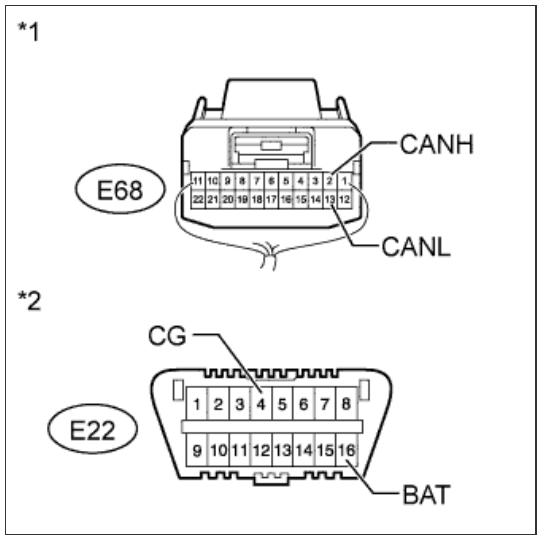
## 27.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

a. Disconnect the E68 No. 5 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-2 (CANH) - E68-13 (CANL) | Engine switch off | 108 to 132 Ω |
| E68-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E68-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illumination**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 5 Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 5 JUNCTION CONNECTOR - NO. 6 JUNCTION CONNECTOR)

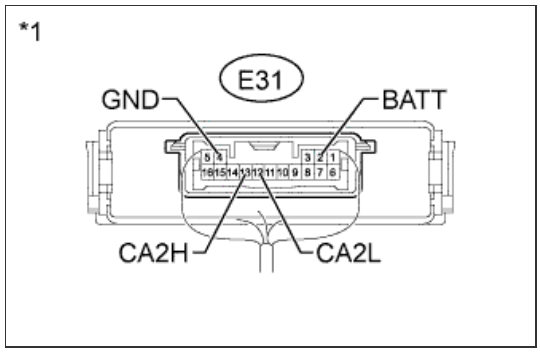
OK

## 28.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR SIDE)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 108 to 132 Ω |
| E31-13 (CA2H) - E31-4 (GND) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E31-4 (GND) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E31-2 (BATT) | Engine switch off | 6 kΩ or higher |




**Text in Illumination**

| | |
|---|---|
| *1 | Component with harness connected (Network Gateway ECU) |

NG → Go to step 31

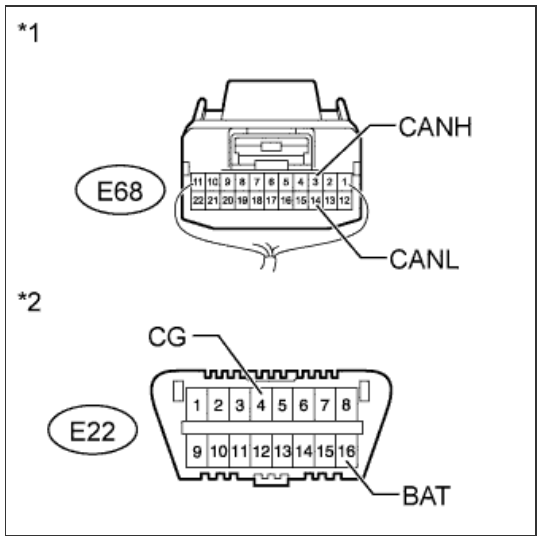
OK

## 29.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - YAW RATE SENSOR ASSEMBLY)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-3 (CANH) - E68-14 (CANL) | Engine switch off | 200 Ω or higher |
| E68-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E68-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 5 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 47

OK

## 30.CHECK FOR SHORT IN CAN BUS WIRES (NO. 5 JUNCTION CONNECTOR - DISTANCE CONTROL ECU ASSEMBLY)

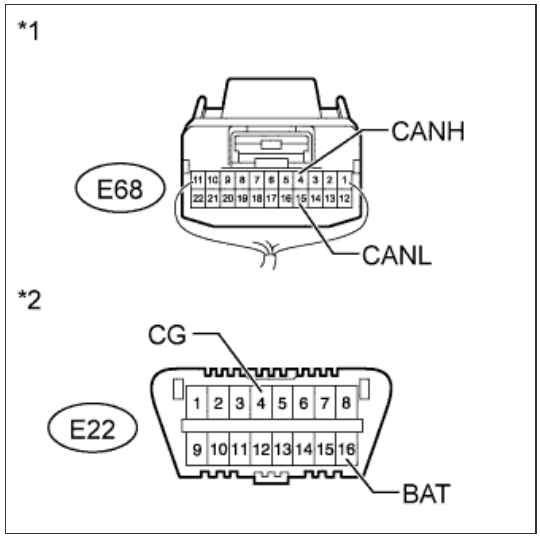
**NOTICE:**

For vehicles without an dynamic radar cruise control system, replace No. 5 junction connector.

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E68-4 (CANH) - E68-15 (CANL) | Engine switch off | 200 Ω or higher |
| E68-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E68-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E68-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 5 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 49

OK

## REPLACE NO. 4 JUNCTION CONNECTOR

## 31.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector.

NEXT

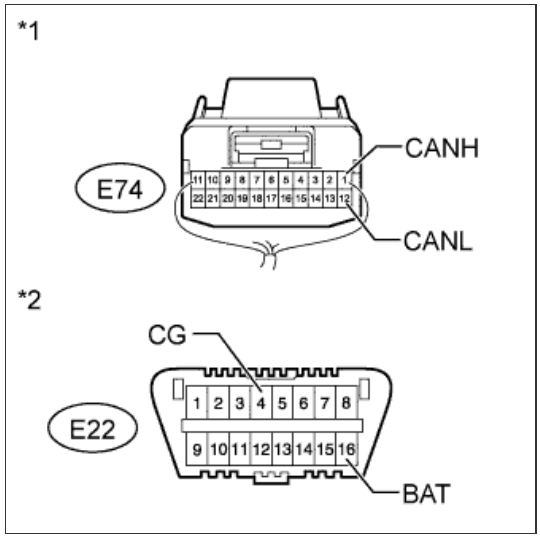
## 32.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

a. Disconnect the E74 No. 4 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-1 (CANH) - E74-12 (CANL) | Engine switch off | 108 to 132 Ω |
| E74-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E74-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 4 JUNCTION CONNECTOR - NO. 5 JUNCTION CONNECTOR)

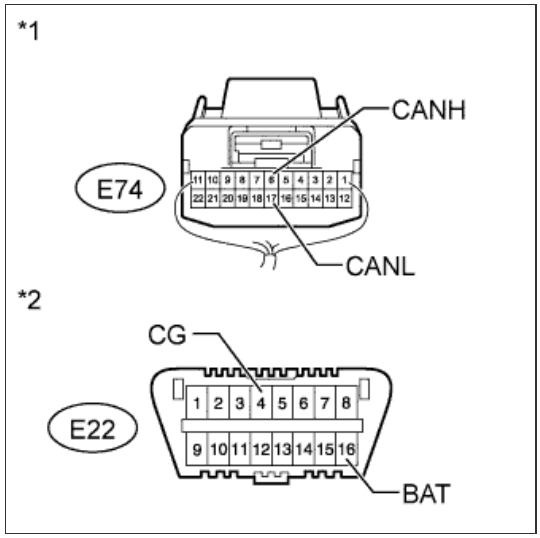
OK

## 33.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - 4WD CONTROL ECU)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-6 (CANH) - E74-17 (CANL) | Engine switch off | 200 Ω or higher |
| E74-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-17 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E74-17 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 51

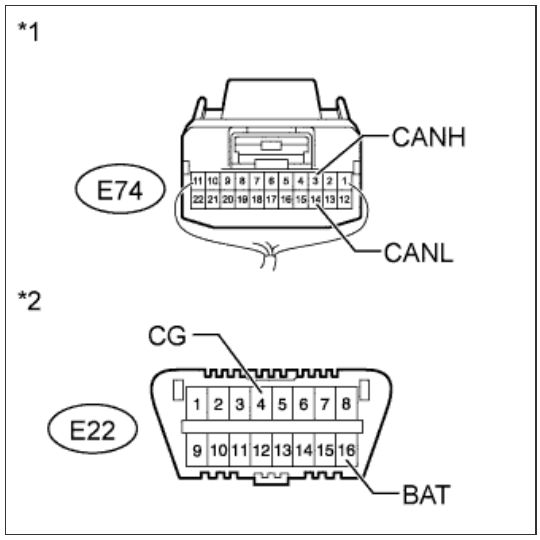
OK

## 34.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - STEERING CONTROL ECU)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-3 (CANH) - E74-14 (CANL) | Engine switch off | 200 Ω or higher |
| E74-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E74-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 53

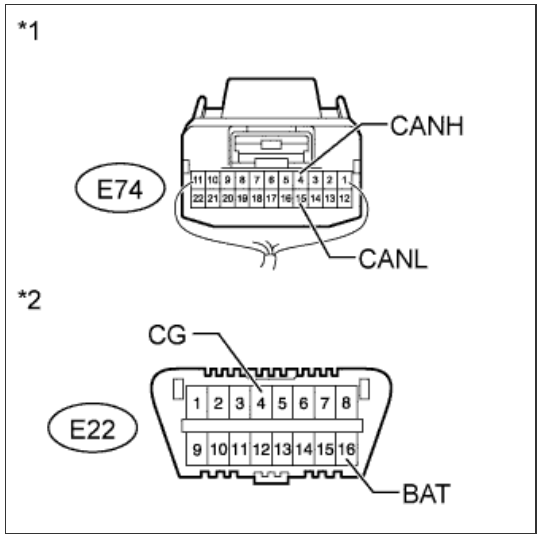
OK

## 35.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - STEERING ANGLE SENSOR)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-4 (CANH) - E74-15 (CANL) | Engine switch off | 200 Ω or higher |
| E74-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E74-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 55

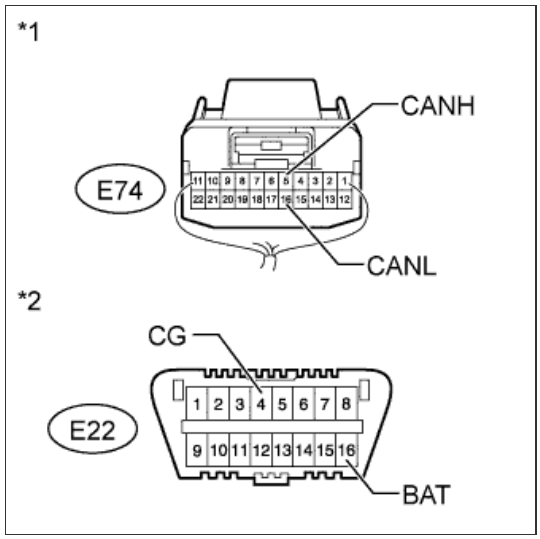
OK

## 36.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - SKID CONTROL ECU)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-5 (CANH) - E74-16 (CANL) | Engine switch off | 200 Ω or higher |
| E74-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E74-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 57

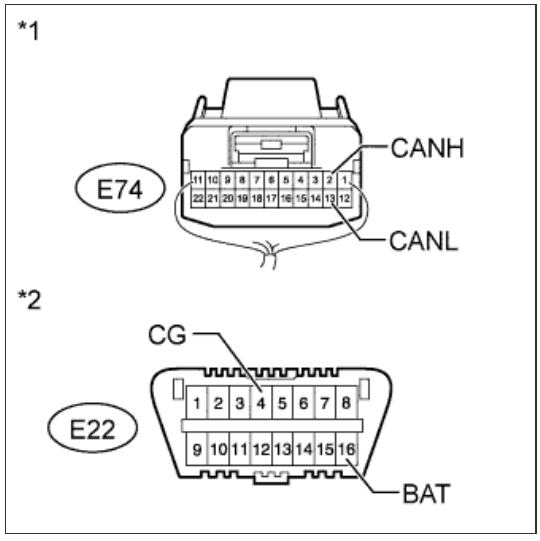
OK

## 37.CHECK FOR SHORT IN CAN BUS WIRES (NO. 4 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E74-2 (CANH) - E74-13 (CANL) | Engine switch off | 108 to 132 Ω |
| E74-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E74-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E74-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 4 Junction Connector) |
| *2 | DLC3 |

NG → Go to step 59

OK

## REPLACE NO. 4 JUNCTION CONNECTOR

**38.CONNECT CONNECTOR**

a. Reconnect the E71 No. 7 junction connector.

**NEXT**

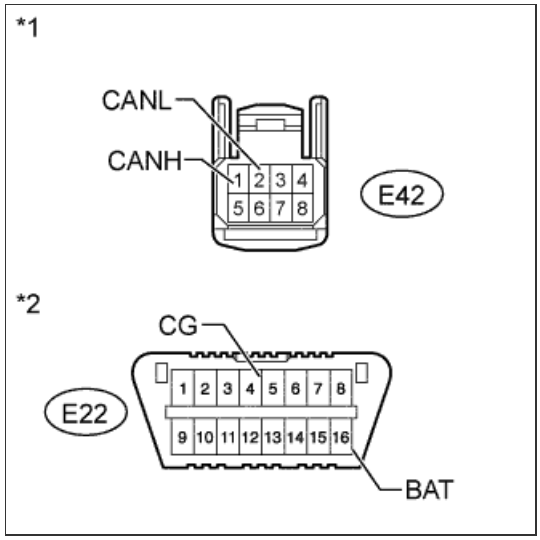
**39.CHECK FOR SHORT IN CAN BUS WIRES (SEAT BELT CONTROL ECU)**

a. Disconnect the E42 seat belt control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | Engine switch off | 54 to 69 Ω |
| E42-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E42-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E42-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E42-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Seat Belt Control ECU) |
| *2 | DLC3 |

**NG** → **REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO SEAT BELT CONTROL ECU (CANH, CANL)**

**OK**

**REPLACE SEAT BELT CONTROL ECU (Click here)**

**40.CONNECT CONNECTOR**

a. Reconnect the E71 No. 7 junction connector.

**NEXT**

**41.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR - SUSPENSION CONTROL ECU)**

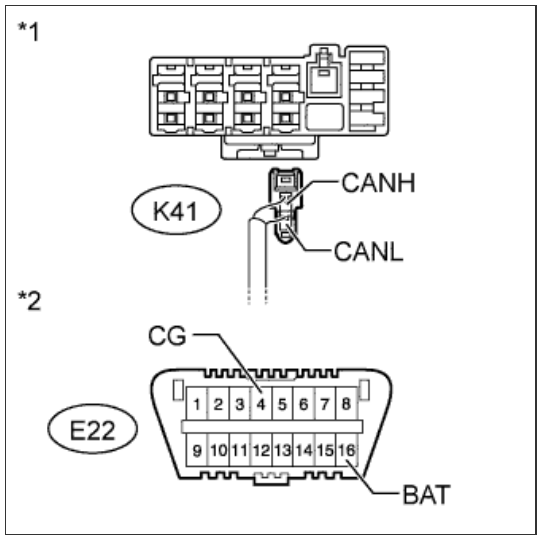
a. Disconnect the K41 No. 1 CAN junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K41-1 (CANH) - K41-2 (CANL) | Engine switch off | 200 Ω or higher |
| K41-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| K41-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| K41-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| K41-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 CAN Junction Connector) |
| *2 | DLC3 |

NG → Go to step 43

OK

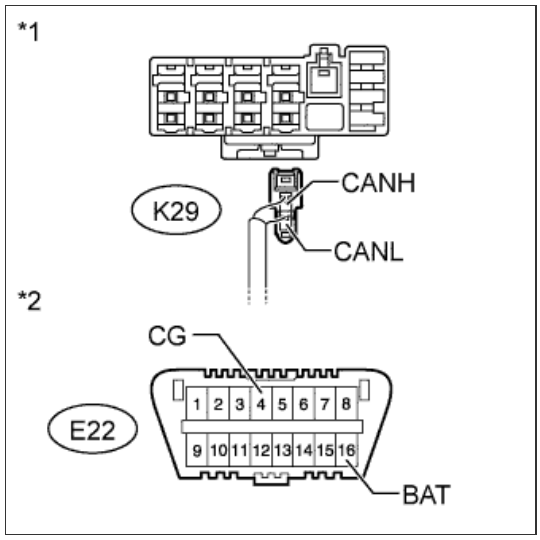
## 42.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 CAN JUNCTION CONNECTOR)

a. Disconnect the K29 No. 1 CAN junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K29-1 (CANH) - K29-2 (CANL) | Engine switch off | 108 to 132 Ω |
| K29-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| K29-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| K29-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| K29-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 CAN Junction Connector) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 CAN JUNCTION CONNECTOR - NO. 7 JUNCTION CONNECTOR)

OK → REPLACE NO. 1 CAN JUNCTION CONNECTOR

## 43.CONNECT CONNECTOR

a. Reconnect the K41 No. 1 CAN junction connector.

NEXT

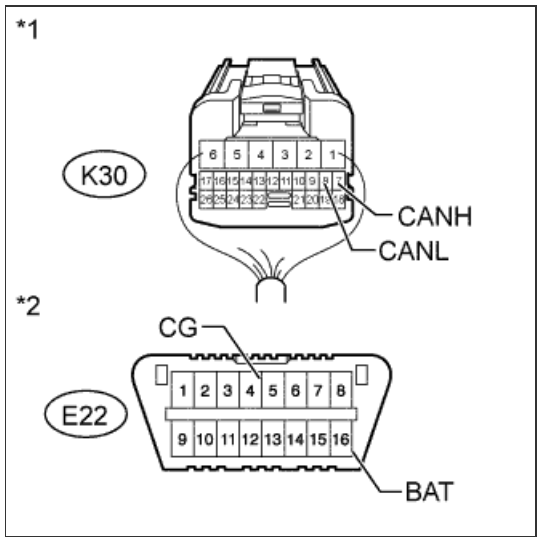
## 44.CHECK FOR SHORT IN CAN BUS WIRES (SUSPENSION CONTROL ECU)

a. Disconnect the K30 suspension control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | Engine switch off | 54 to 69 Ω |
| K30-7 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| K30-8 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| K30-7 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| K30-8 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Suspension Control ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO SUSPENSION CONTROL ECU (CANH, CANL)

OK

REPLACE SUSPENSION CONTROL ECU (Click here)

## 45.CONNECT CONNECTOR

a. Reconnect the F79 No. 6 junction connector.

NEXT

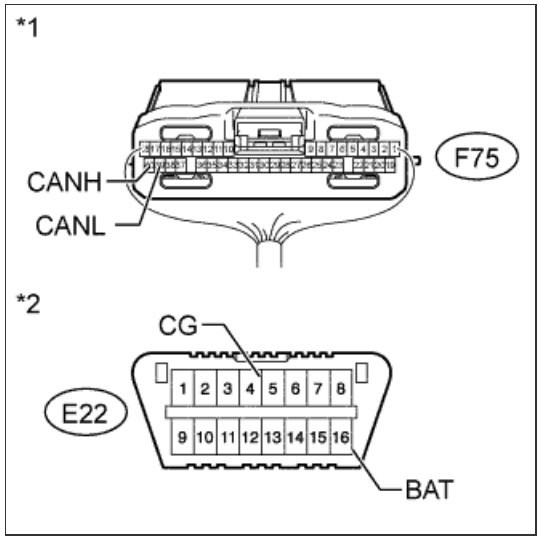
## 46.CHECK FOR SHORT IN CAN BUS WIRES (PARKING ASSIST ECU)

a. Disconnect the F75 parking assist ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F75-40 (CANH) - F75-39 (CANL) | Engine switch off | 54 to 69 Ω |
| F75-40 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F75-39 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| F75-40 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| F75-39 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| | Rear view of wire harness connector |

| | |
|---|---|
| *1 | (to Parking Assist ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO PARKING ASSIST ECU (CANH, CANL)

OK

REPLACE PARKING ASSIST ECU (Click here)

47.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector.

NEXT

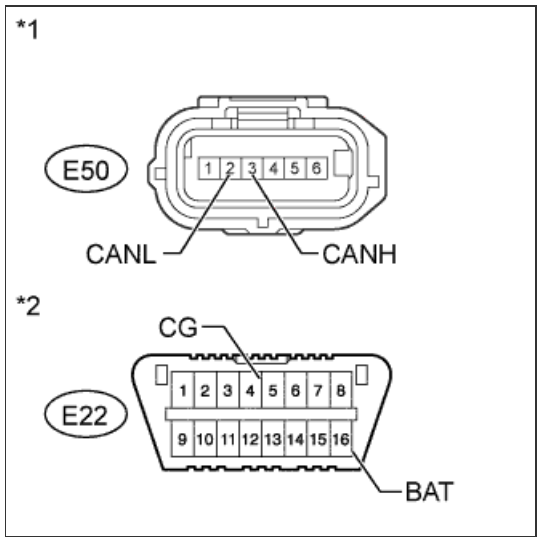
48.CHECK FOR SHORT IN CAN BUS WIRES (YAW RATE SENSOR ASSEMBLY)

a. Disconnect the E50 yaw rate sensor assembly connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E50-3 (CANH) - E50-2 (CANL) | Engine switch off | 54 to 69 Ω |
| E50-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E50-2 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E50-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E50-2 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Yaw Rate Sensor Assembly) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO YAW RATE SENSOR ASSEMBLY (CANH, CANL)

OK

REPLACE YAW RATE SENSOR ASSEMBLY (Click here)

49.CONNECT CONNECTOR

a. Reconnect the E68 No. 5 junction connector.

NEXT

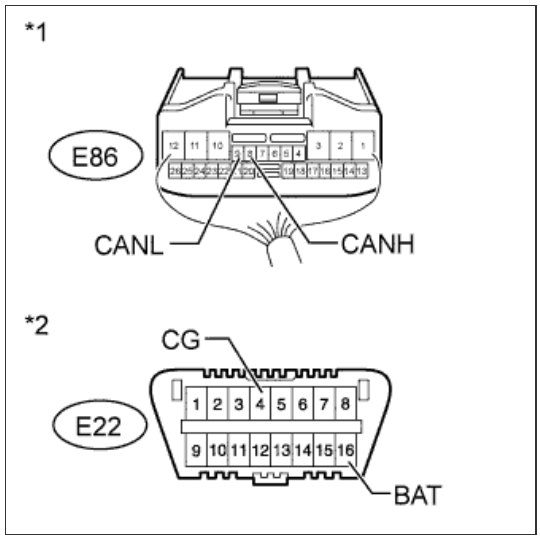
50.CHECK FOR SHORT IN CAN BUS WIRES (DISTANCE CONTROL ECU ASSEMBLY)

a. Disconnect the E86 distance control ECU assembly connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | Engine switch off | 54 to 69 Ω |
| E86-8 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E86-9 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E86-8 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E86-9 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Distance Control ECU Assembly) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DISTANCE CONTROL ECU ASSEMBLY (CANH, CANL)

OK → REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

## 51.CONNECT CONNECTOR

a. Reconnect the E74 No. 4 junction connector.

NEXT

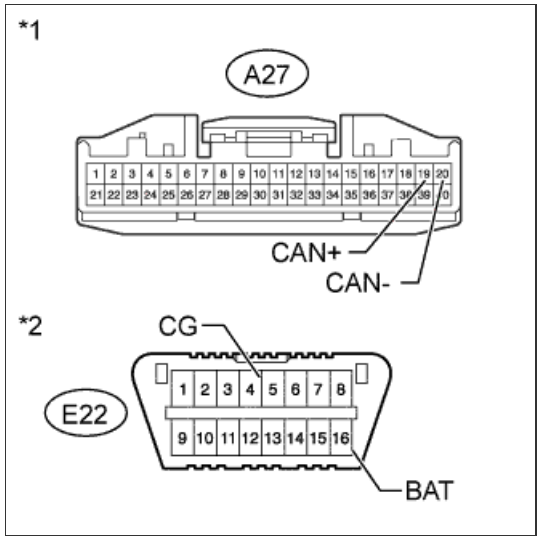
## 52.CHECK FOR SHORT IN CAN BUS WIRES (4WD CONTROL ECU)

a. Disconnect the A27 4WD control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A27-19 (CAN+) - A29-20 (CAN-) | Engine switch off | 54 to 69 Ω |
| A27-19 (CAN+) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| A29-20 (CAN-) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| A27-19 (CAN+) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| A29-20 (CAN-) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to 4WD Control ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO 4WD CONTROL ECU (CAN+, CAN-)

OK

REPLACE 4WD CONTROL ECU (Click here)

53.CONNECT CONNECTOR

a. Reconnect the E74 No. 4 junction connector.

NEXT

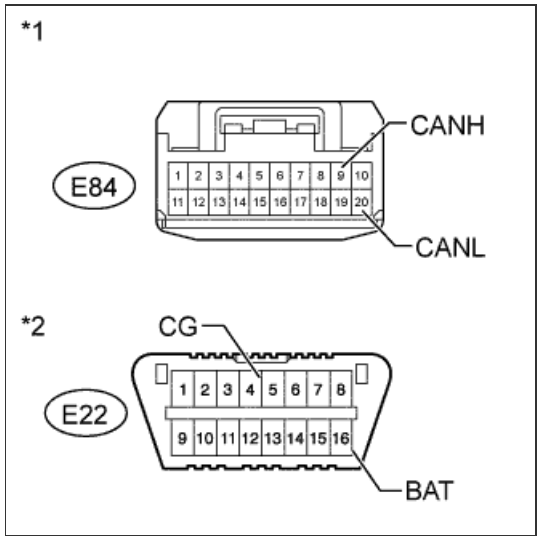
54.CHECK FOR SHORT IN CAN BUS WIRES (STEERING CONTROL ECU)

a. Disconnect the E84 suspension control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | Engine switch off | 54 to 69 Ω |
| E84-9 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E84-20 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E84-9 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E84-20 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Steering Control ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO STEERING CONTROL ECU (CANH, CANL)

OK

REPLACE STEERING CONTROL ECU (Click here)

55.CONNECT CONNECTOR

a. Reconnect the E74 No. 4 junction connector.

NEXT

56.CHECK FOR SHORT IN CAN BUS WIRES (STEERING ANGLE SENSOR)

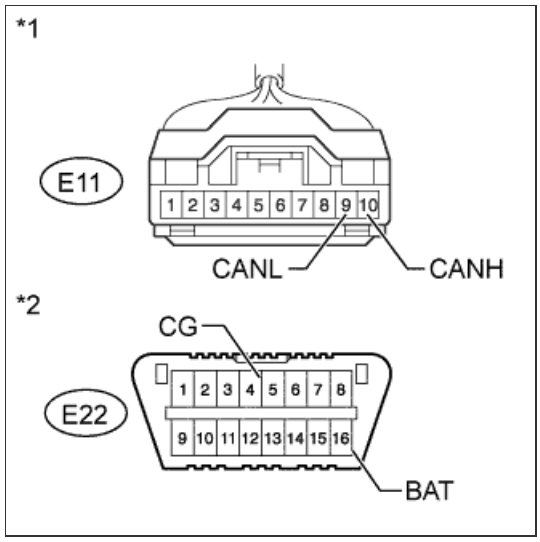
a. Disconnect the E11 steering angle sensor connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E11-10 (CANH) - | Engine switch off | 54 to 69 Ω |

| | | |
|---|---|---|
| E11-9 (CANL) | | |
| E11-10 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E11-9 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E11-10 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E11-9 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Steering Angle Sensor) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO STEERING ANGLE SENSOR (CANH, CANL)

OK

REPLACE STEERING ANGLE SENSOR (Click here)

57.CONNECT CONNECTOR

a. Reconnect the E74 No. 4 junction connector.

NEXT

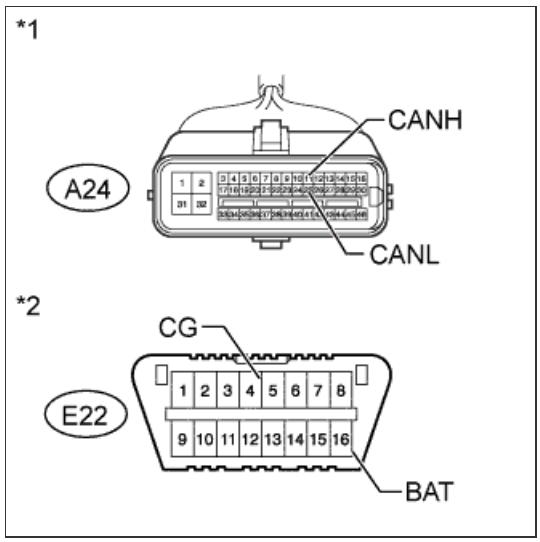
58.CHECK FOR SHORT IN CAN BUS WIRES (SKID CONTROL ECU)

a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | Engine switch off | 54 to 69 Ω |
| A24-11 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| A24-25 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| A24-11 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| A24-25 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Master Cylinder Solenoid [Skid Control ECU]) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO SKID CONTROL ECU (CANH, CANL)

OK

REPLACE MASTER CYLINDER SOLENOID (SKID CONTROL ECU) (Click here)

## 59.CONNECT CONNECTOR

a. Reconnect the E74 No. 4 junction connector.

NEXT

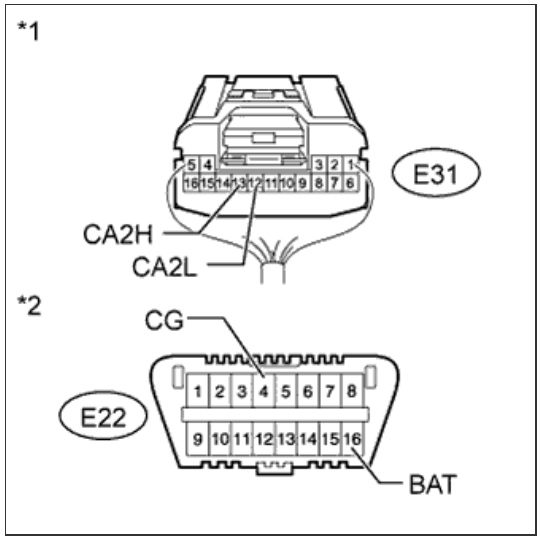
## 60.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-13 (CA2H) - E31-12 (CA2L) | Engine switch off | 54 to 69 Ω |
| E31-13 (CA2H) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-12 (CA2L) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E31-13 (CA2H) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E31-12 (CA2L) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Network Gateway ECU) |
| *2 | DLC3 |

NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO NETWORK GATEWAY ECU (CA2H, CA2L)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## 61.CHECK HARNESS AND CONNECTOR (NETWORK GATEWAY ECU - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

**NOTICE:**

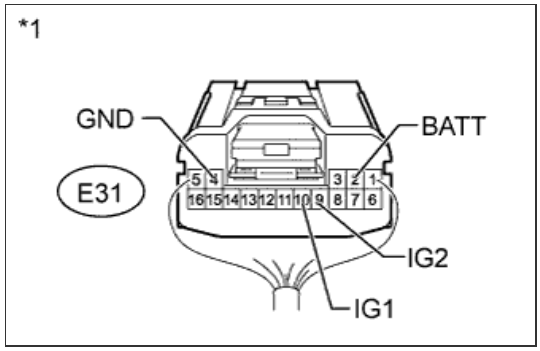
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Disconnect the E31 network gateway ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E31-4 (GND) - Body ground | Always | Below 1 Ω |




d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| | | Specified |
|---|---|---|

| Tester Connection | Switch Condition | Condition |
|---|---|---|
| E31-2 (BATT) - Body ground | Always | 11 to 14 V |
| E31-9 (IG2) - Body ground | Engine switch on (IG) | 11 to 14 V |
| E31-10 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Network Gateway ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE NETWORK GATEWAY ECU (Click here)

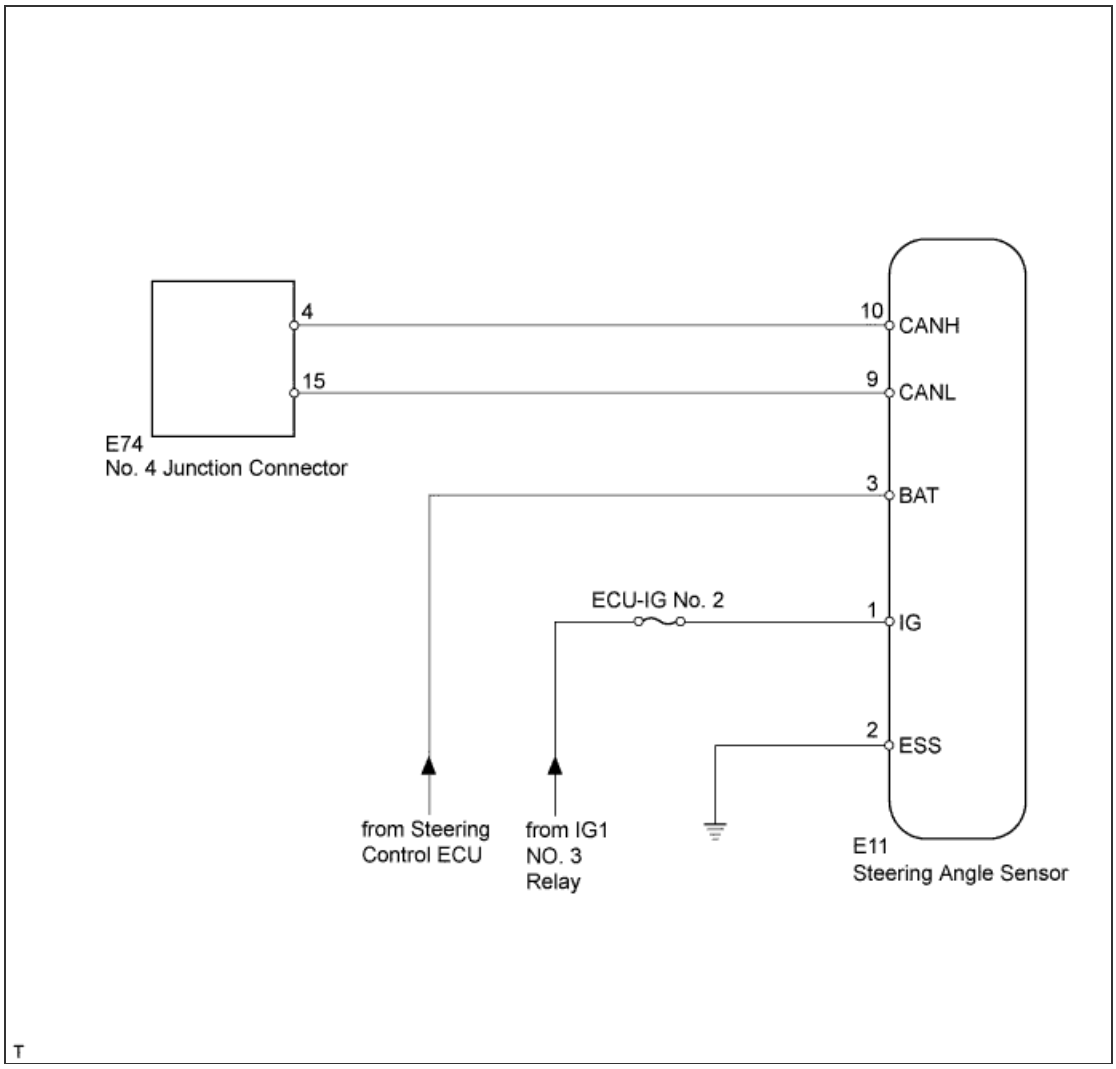
## DTC U0126 Lost Communication with Steering Angle Sensor Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0126 | There is no communication from the steering angle sensor. | • Power source circuit of steering angle sensor<br>• Steering angle sensor CAN branch wire or connector<br>• Steering angle sensor |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (STEERING ANGLE SENSOR CAN BRANCH WIRE)

a. Disconnect the E11 steering angle sensor connector.

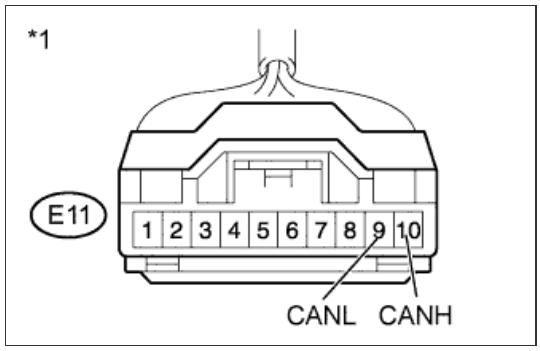
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E11-10 (CANH) - E11-9 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Steering Angle Sensor) |




NG → REPAIR OR REPLACE STEERING ANGLE SENSOR CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (STEERING ANGLE SENSOR - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

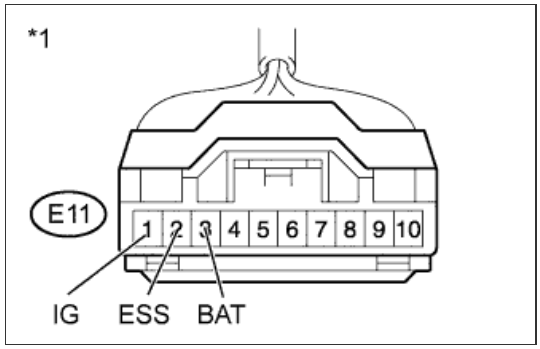
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E11-3 (BAT) - Body ground | Always | 11 to 14 V |
| E11-1 (IG) - 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 |
|---|---|---|
| E11-2 (ESS) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Steering Angle Sensor) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE STEERING ANGLE SENSOR (Click here)

## DTC U1100 Lost Communication with Seat Belt Control ECU

**for Preparation** Click here

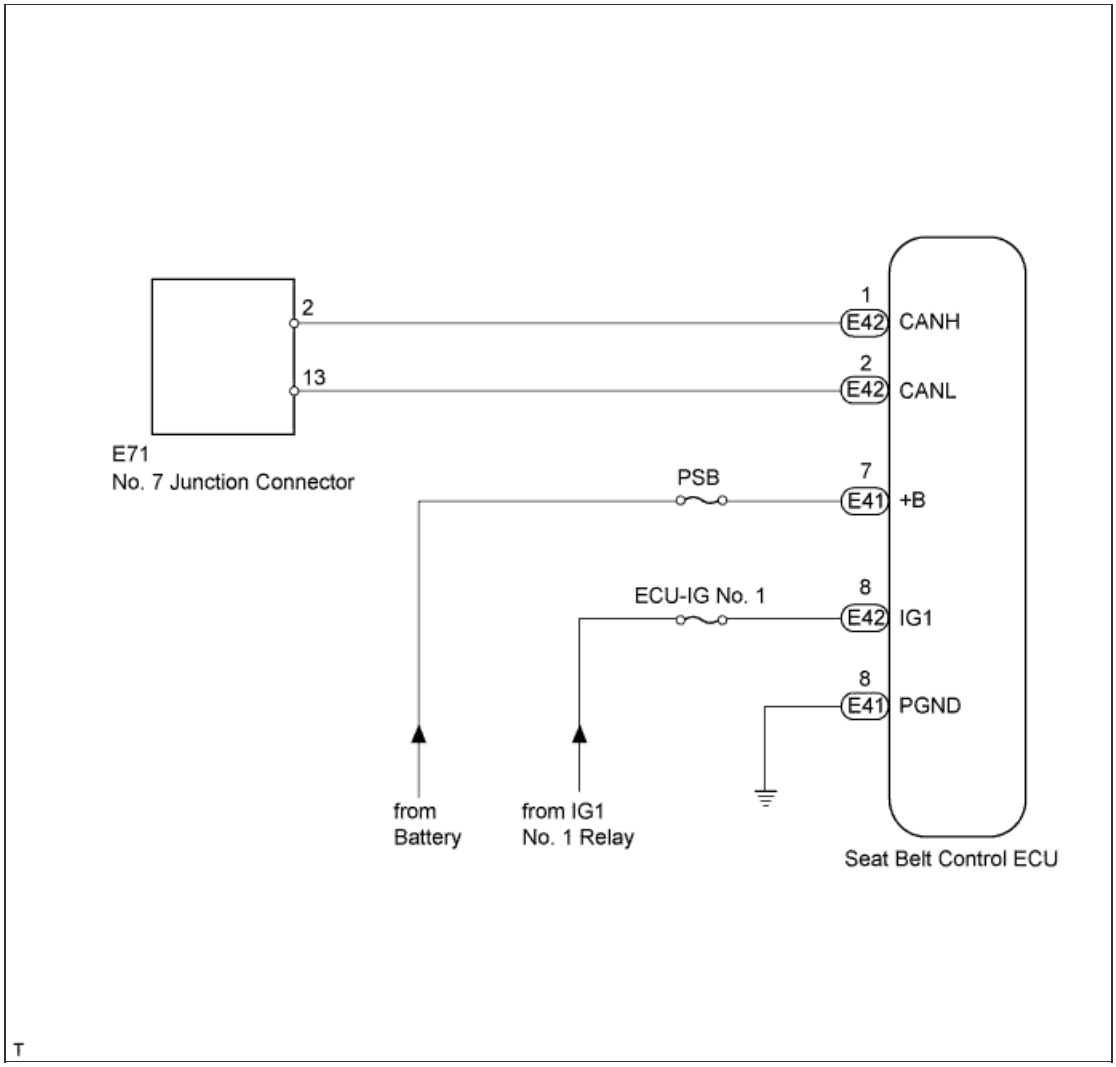
### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1100 | There is no communication from the seat belt control ECU. | • Power source circuit of seat belt control ECU<br>• Seat belt control ECU<br>• Seat belt control ECU branch wire or connector |

**HINT:**

For vehicles with the pre-crash safety system only.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

## 2.CHECK FOR OPEN IN CAN BUS WIRE (SEAT BELT CONTROL ECU BRANCH WIRE)

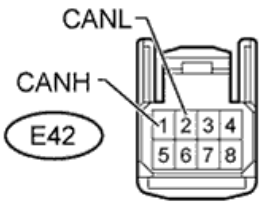
a. Disconnect the E42 seat belt control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Seat Belt Control ECU)




NG → REPAIR OR REPLACE SEAT BELT CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (SEAT BELT CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E41 and E42 seat belt control ECU connectors.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

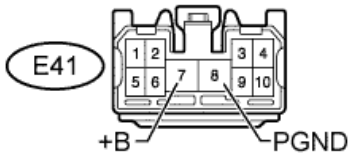
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-8 (PGND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

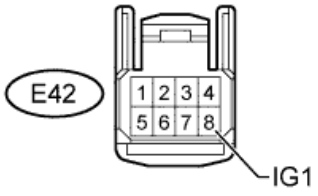
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E41-7 (+B) - Body ground | Always | 11 to 14 V |
| E42-8 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector:
(to Seat Belt Control ECU)




Front view of wire harness connector:
(to Seat Belt Control ECU)



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE SEAT BELT CONTROL ECU (Click here)

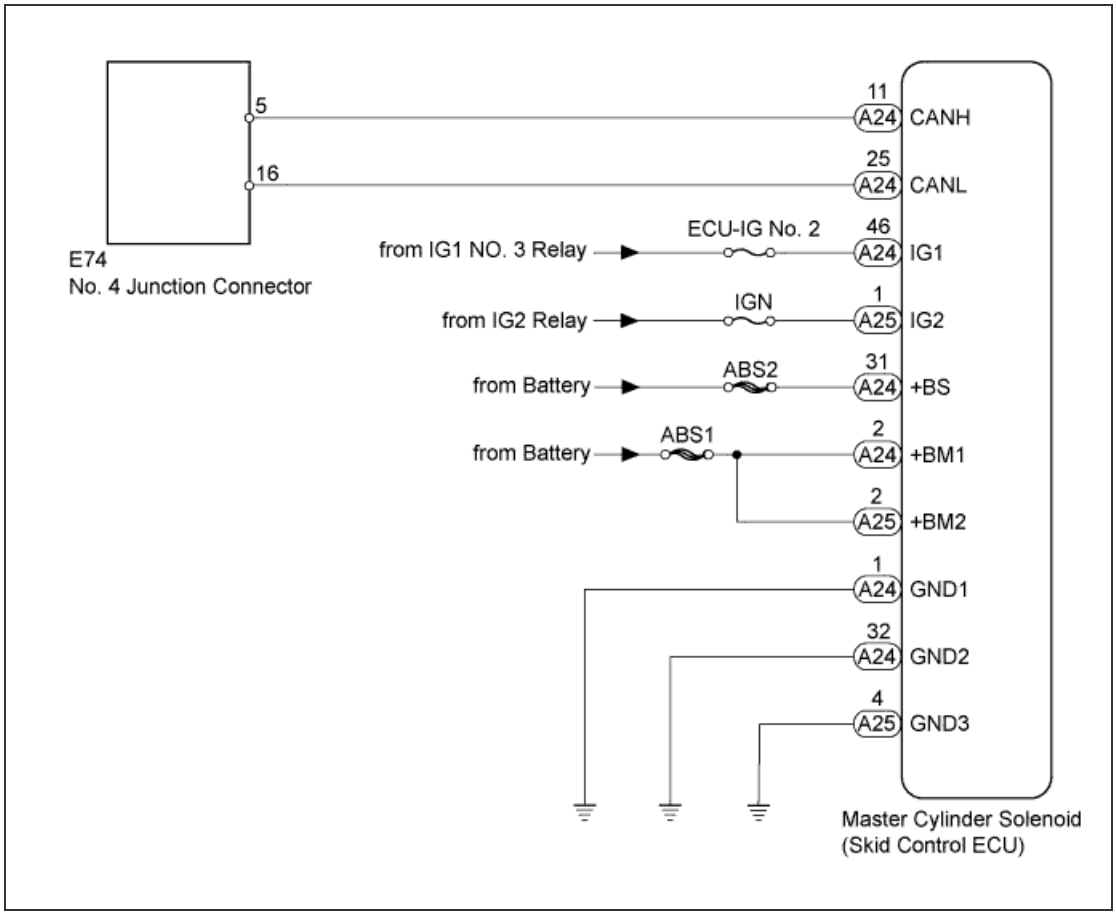
## DTC U0129 Lost Communication with Brake System Control Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0129 | There is no communication from the master cylinder solenoid (skid control ECU). | • Power source circuit of master cylinder solenoid (skid control ECU)<br>• One side of CAN branch wire of other systems<br>• Master cylinder solenoid (skid control ECU)<br>• Master cylinder solenoid (skid control ECU) branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (SKID CONTROL ECU CAN BRANCH WIRE)

a. Disconnect the A24 master cylinder solenoid (skid control ECU) connector.

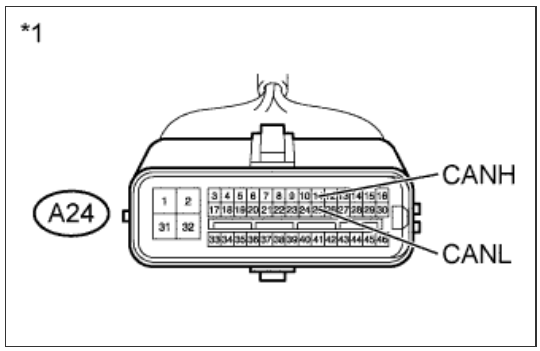
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A24-11 (CANH) - A24-25 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Master Cylinder Solenoid [Skid Control ECU]) |




NG → REPAIR OR REPLACE SKID CONTROL ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (SKID CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the A25 master cylinder solenoid (skid control ECU) connector.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

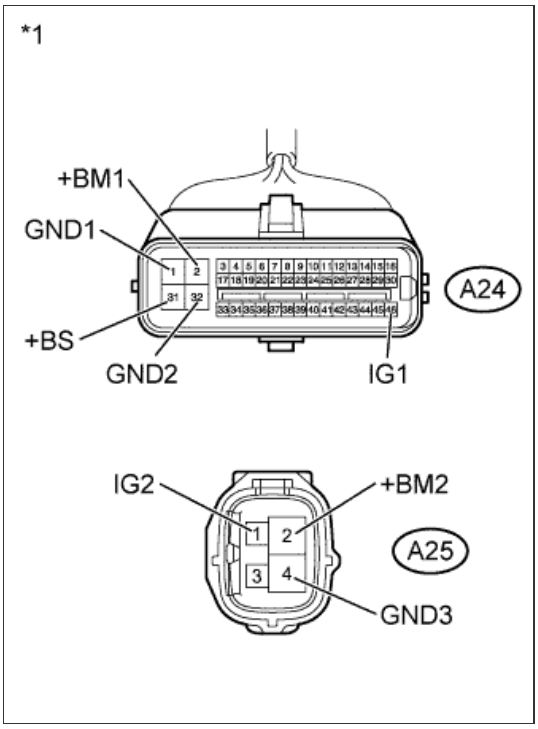
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A24-2 (+BM1) - Body ground | Always | 11 to 14 V |
| A24-31 (+BS) - Body ground | Always | 11 to 14 V |
| A25-2 (+BM2) - Body ground | Always | 11 to 14 V |
| A24-46 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |

| | | |
|---|---|---|
| A25-1 (IG2) - Body ground | Engine switch on (IG) | 11 to 14 V |

d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A24-1 (GND1) - Body ground | Always | Below 1 Ω |
| A24-32 (GND2) - Body ground | Always | Below 1 Ω |
| A25-4 (GND3) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Master Cylinder Solenoid [Skid Control ECU]) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK → REPLACE MASTER CYLINDER SOLENOID (SKID CONTROL ECU) (Click here)

## DTC U1100 Lost Communication with Seat Belt Control ECU

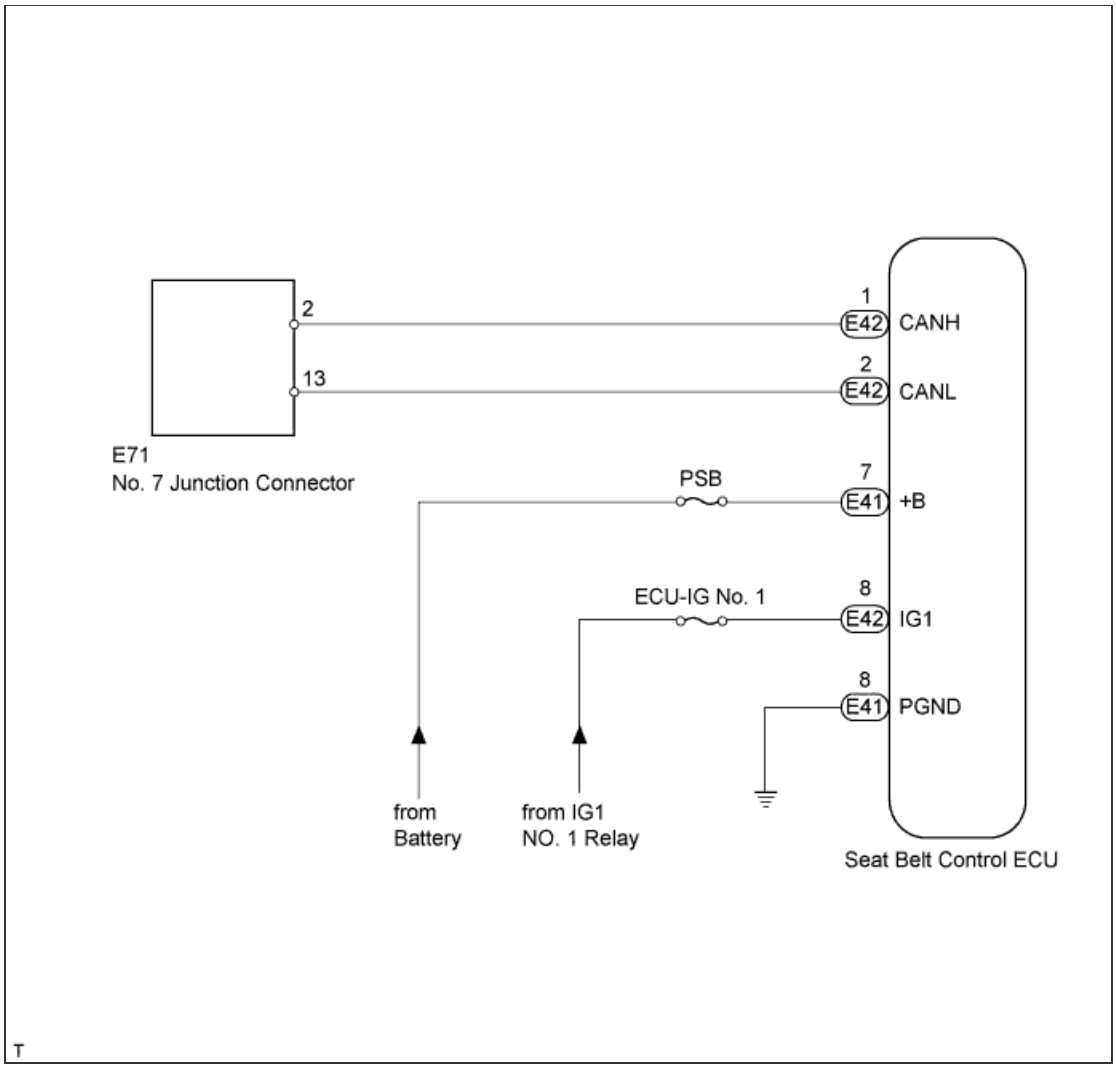
**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1100 | There is no communication from the seat belt control ECU. | • Power source circuit of seat belt control ECU<br>• Seat belt control ECU CAN branch wire or connector<br>• Seat belt control ECU |

For vehicles with the pre-crash safety system.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (SEAT BELT CONTROL ECU CAN BRANCH WIRE)

a. Disconnect the E42 seat belt control ECU connector.

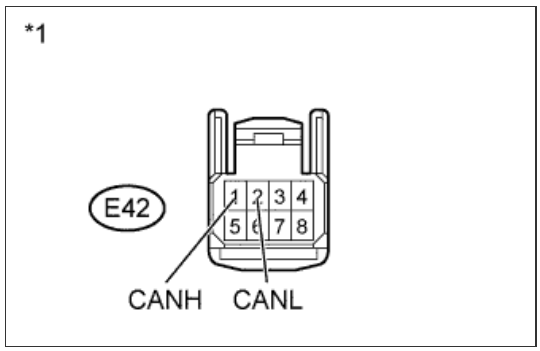
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E42-1 (CANH) - E42-2 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Seat Belt Control ECU) |




NG → REPAIR OR REPLACE SEAT BELT CONTROL ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (SEAT BELT CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E41 seat belt control ECU connector.

c. Measure the voltage according to the value(s) in the table below.

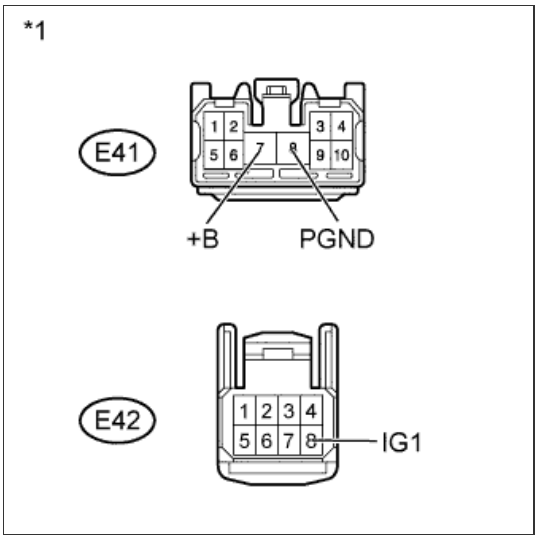
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E41-7 (+B) - Body ground | Always | 11 to 14 V |
| E42-8 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |

d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E41-8 (PGND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Seat Belt Control ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE SEAT BELT CONTROL ECU (Click here)

## DTC U0130 Lost Communication with Steering Effort Control Module

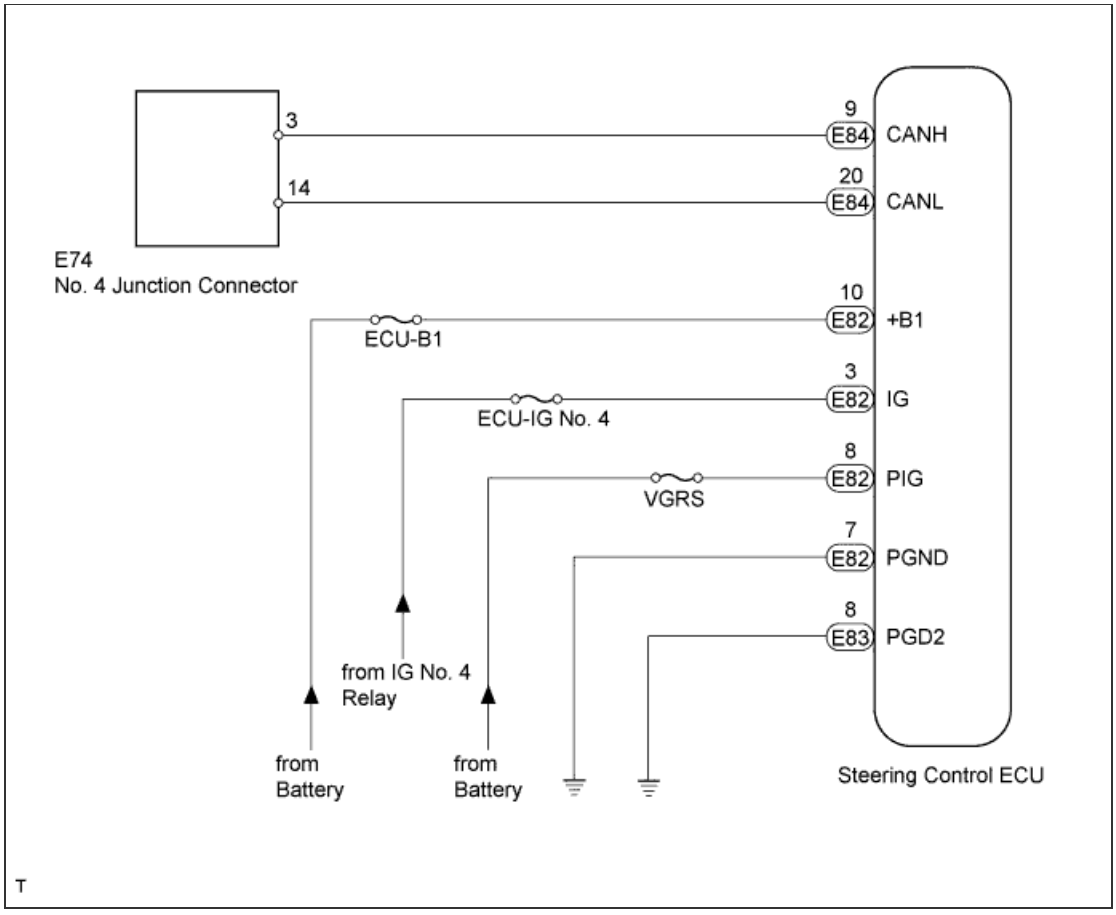
**for Preparation** Click here

### DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (One side of the CANH [branch wire] /CANL [branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0130 | There is no communication from the steering control ECU. | • Power source circuit of steering control ECU<br>• Steering control ECU<br>• Steering control ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

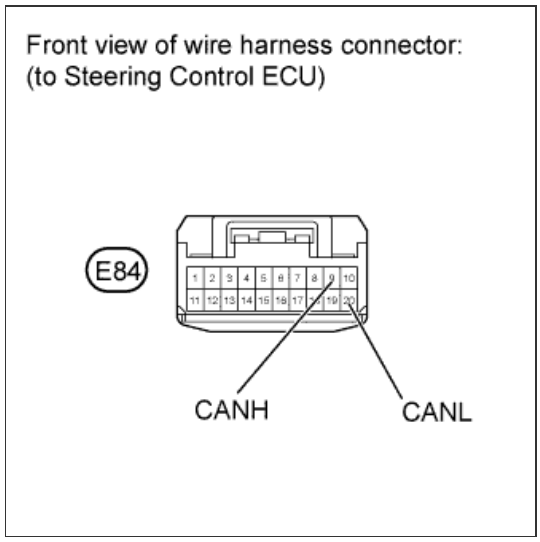
**2.CHECK FOR OPEN IN CAN BUS WIRE (STEERING CONTROL ECU BRANCH WIRE)**

a. Disconnect the E84 steering control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE STEERING CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (STEERING CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E82 and E83 steering control ECU connectors.

c. Measure the resistance according to the value(s) in the table below.

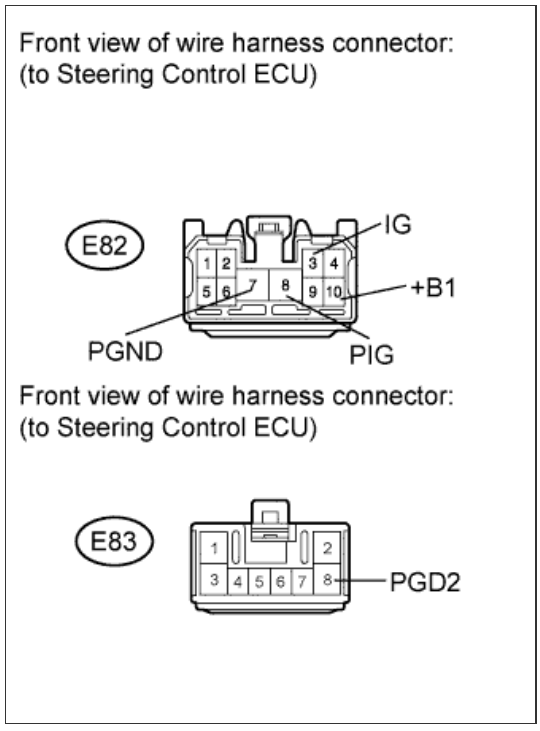
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E82-7 (PGND) - Body ground | Always | Below 1 Ω |
| E83-8 (PGD2) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E82-10 (+B1) - Body ground | Always | 11 to 14 V |
| E82-8 (PIG) - Body ground | Always | 11 to 14 V |
| E82-3 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE STEERING CONTROL ECU (Click here)

## DTC U1101 Lost Communication with Distance Control ECU

**for Preparation** Click here

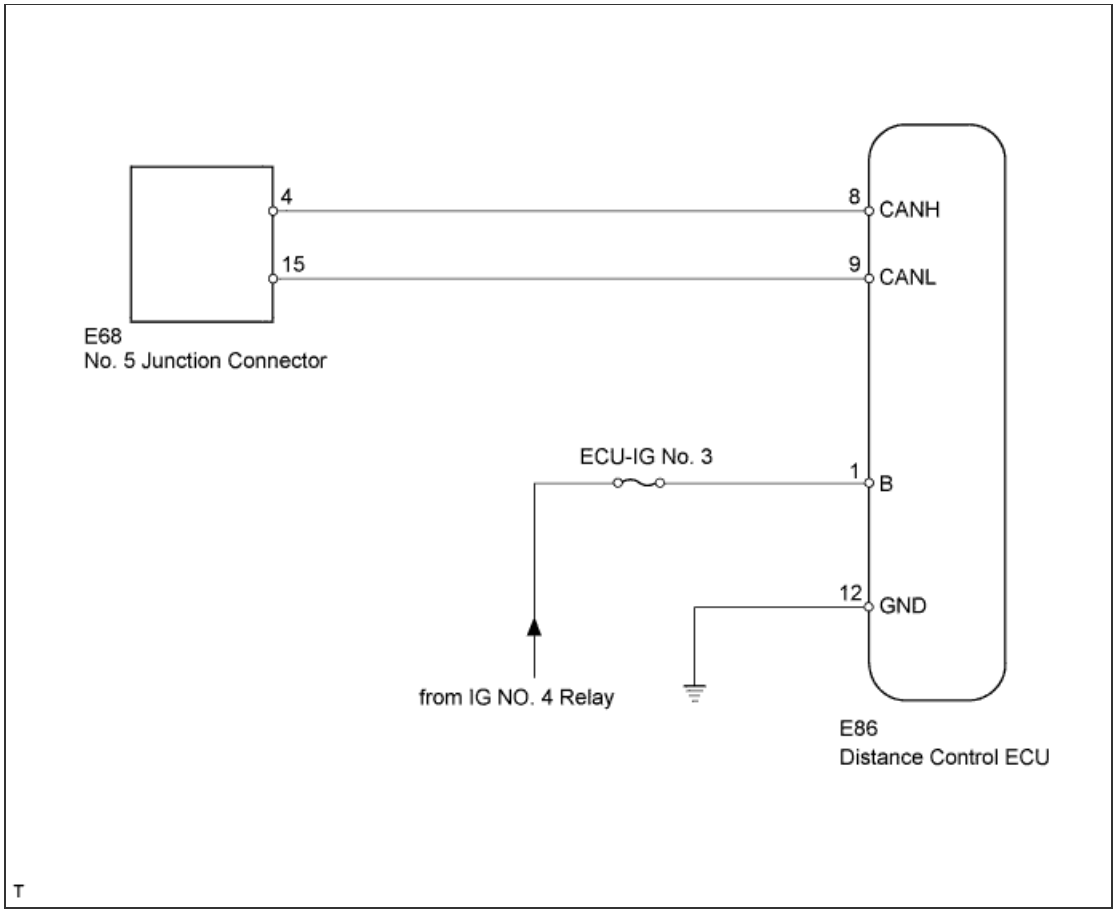
### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1101 | There is no communication from the distance control ECU. | • Power source circuit of distance control ECU assembly<br>• Distance control ECU assembly<br>• Distance control ECU assembly branch wire or connector |

**HINT:**

For vehicles with the dynamic radar cruise control system.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

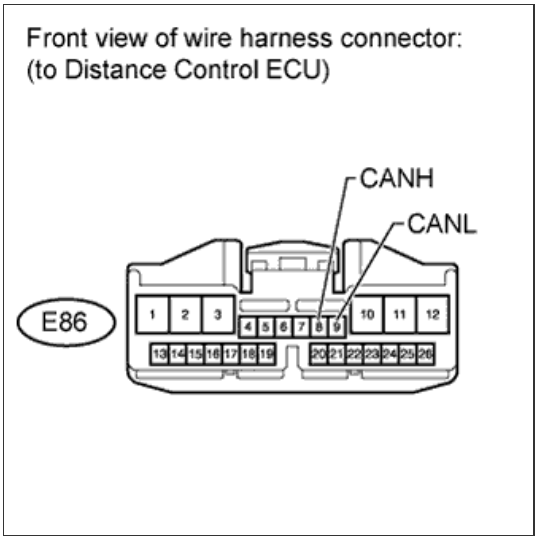
## 2.CHECK FOR OPEN IN CAN BUS WIRE (DISTANCE CONTROL ECU)

a. Disconnect the E86 distance control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E86-8 (CANH) - E86-9 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE DISTANCE CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (DISTANCE CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E86 distance control ECU connector.

c. Measure the resistance according to the value(s) in the table below.

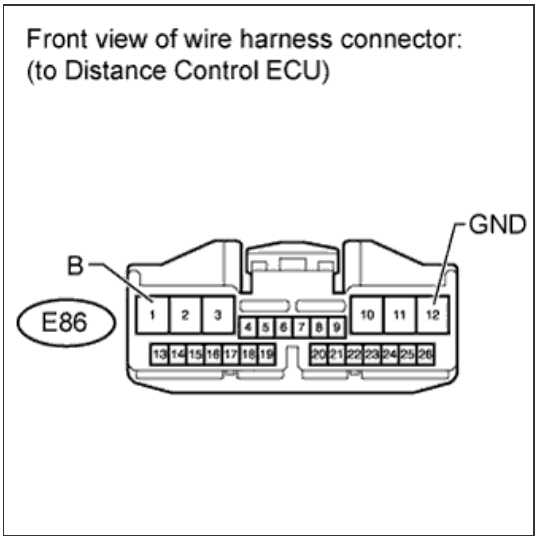
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E86-12 (GND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E86-1 (B) - Body ground | Always | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE DISTANCE CONTROL ECU ASSEMBLY (Click here)

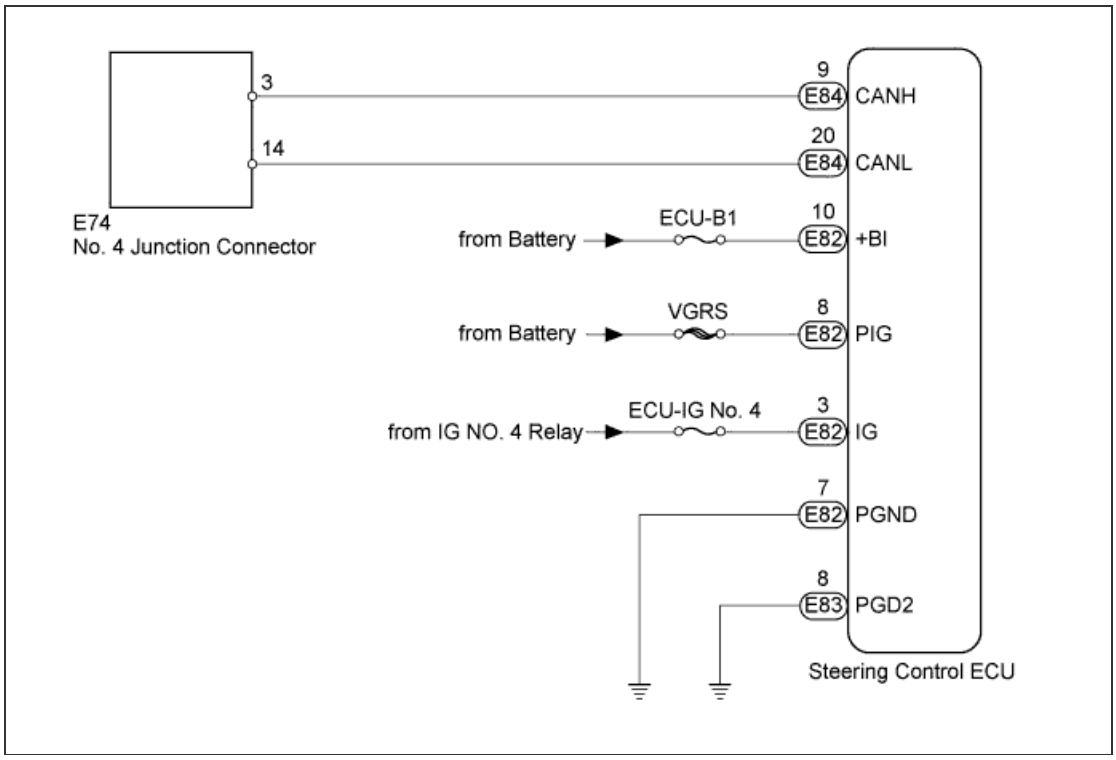
## DTC U0130 Lost Communication with Steering Effort Control Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0130 | There is no communication from the steering control ECU. | • Power source circuit of steering control ECU<br>• Steering control ECU CAN branch wire or connector<br>• Steering control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

**NEXT**

#### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (STEERING CONTROL ECU CAN BRANCH WIRE)

a. Disconnect the E84 steering control ECU connector.

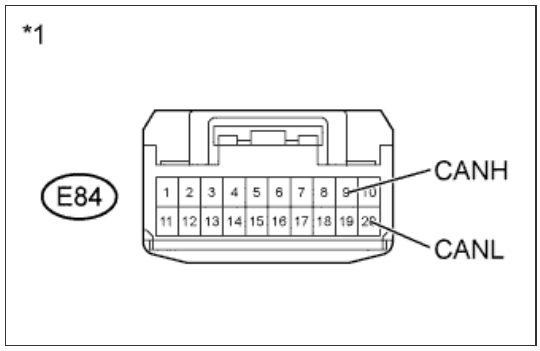
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E84-9 (CANH) - E84-20 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Steering Control ECU) |




NG → REPAIR OR REPLACE STEERING CONTROL ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (STEERING CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E82 and E83 steering control ECU connectors.

c. Measure the voltage according to the value(s) in the table below.

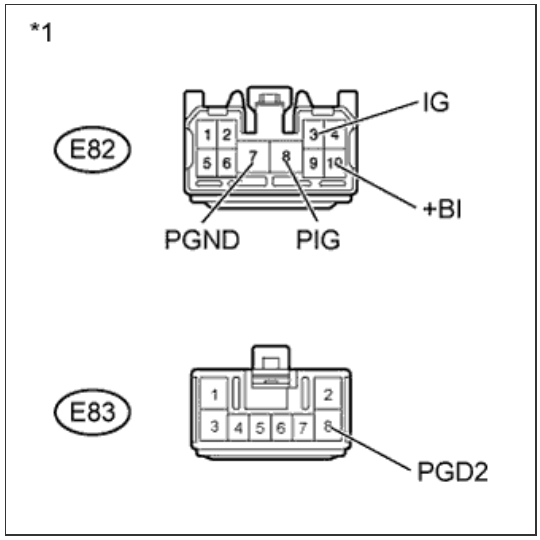
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E82-10 (+BI) - Body ground | Always | 11 to 14 V |
| E82-8 (PIG) - Body ground | Always | 11 to 14 V |
| E82-3 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E82-7 (PGND) - Body ground | Always | Below 1 Ω |
| E83-8 (PGD2) - Body ground | Always | Below 1 Ω |



**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Steering Control ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE STEERING CONTROL ECU (Click here)

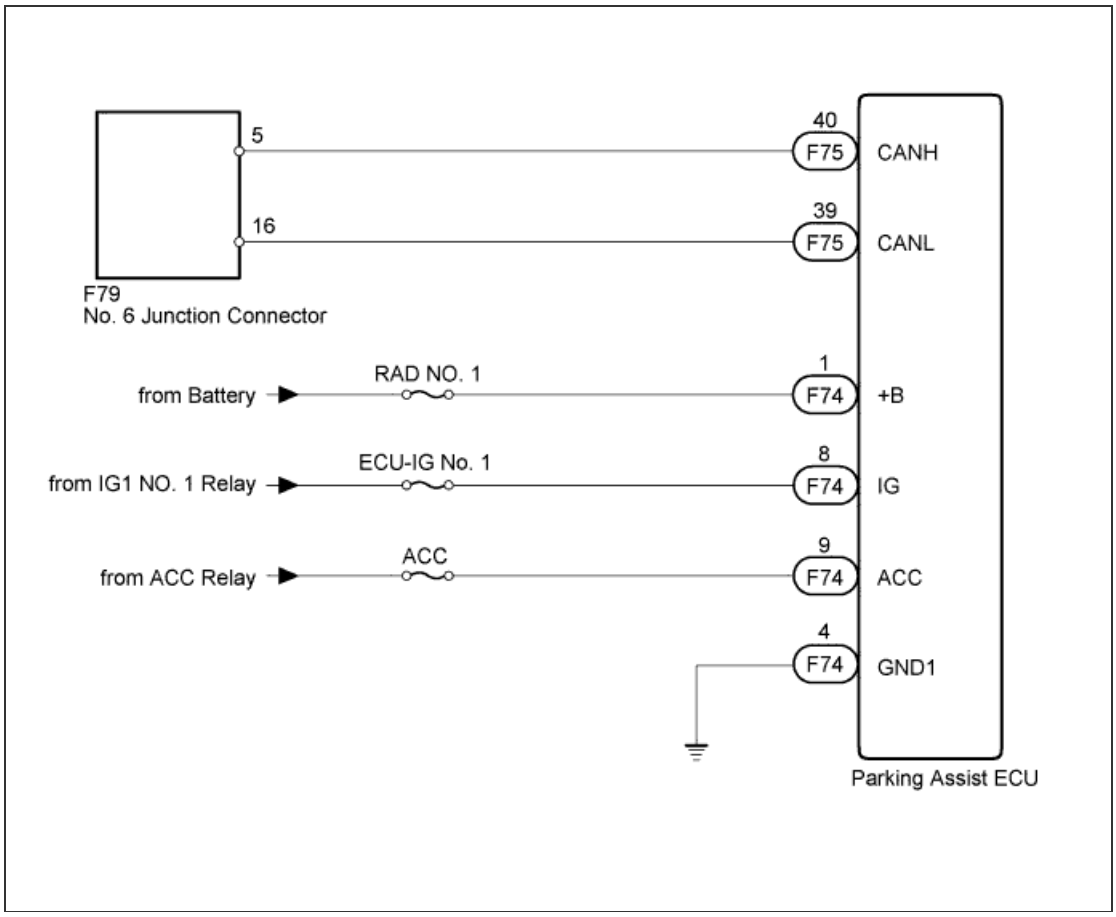
## DTC U110B Lost Communication with Parking Assist Control Module "B"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U110B | There is no communication from the parking assist ECU. | • Power source circuit of parking assist ECU<br>• Parking assist ECU CAN branch wire or connector<br>• Parking assist ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (PARKING ASSIST ECU CAN BRANCH WIRE)

a. Disconnect the F75 parking assist ECU connector.

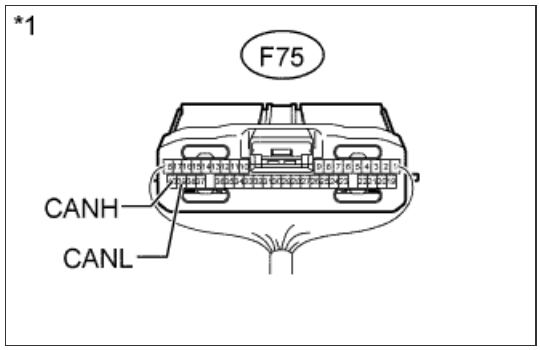
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F75-40 (CANH) - F75-39 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Parking Assist ECU) |




**NG** → **REPAIR OR REPLACE PARKING ASSIST ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)**

**OK**

## 4.CHECK HARNESS AND CONNECTOR (PARKING ASSIST ECU - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

**NOTICE:**

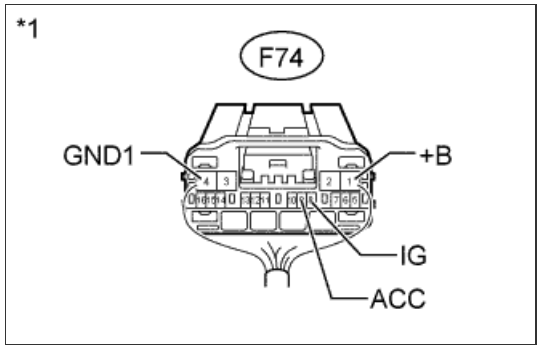
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Disconnect the F74 parking assist ECU connector.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F74-1 (+B) - Body ground | Always | 11 to 14 V |
| F74-9 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| F74-8 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| F74-4 (GND1) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Parking Assist ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE PARKING ASSIST ECU (Click here)

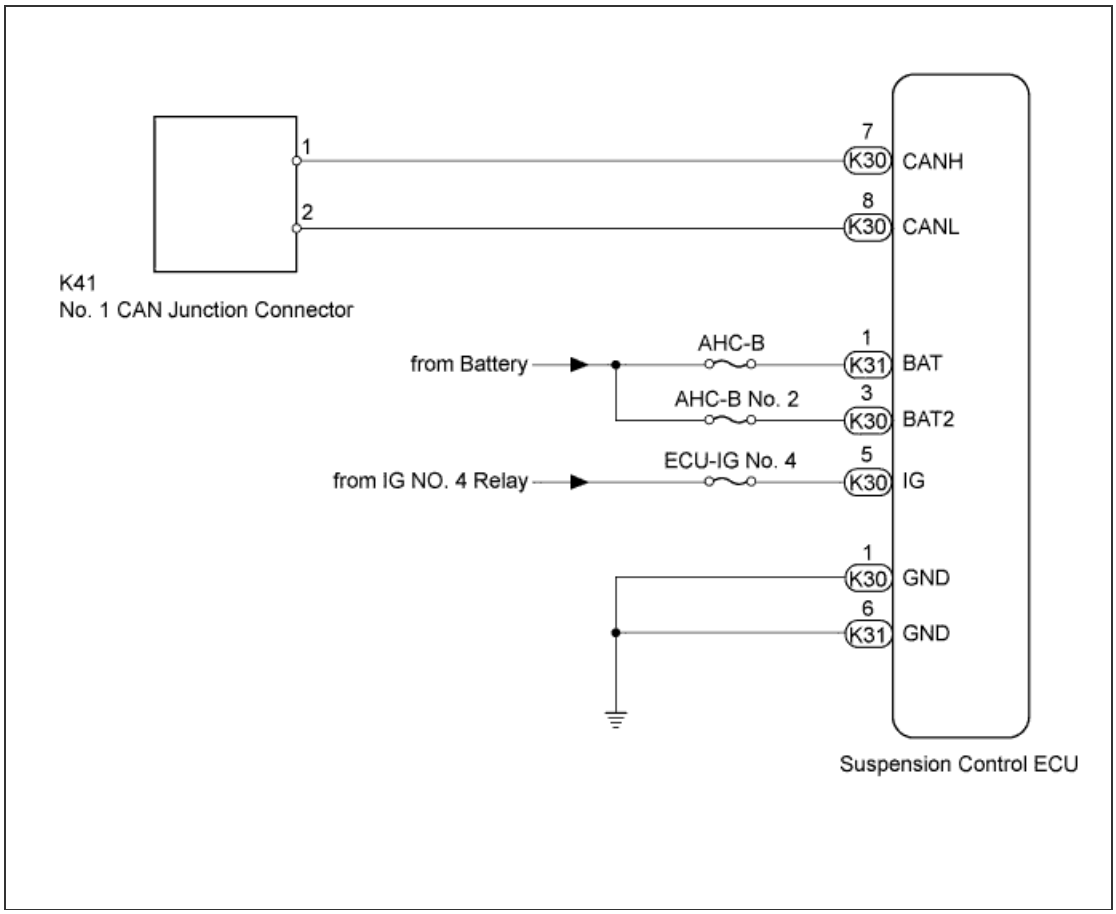
## DTC U0132 Lost Communication with Suspension Control ECU

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0132 | There is no communication with the suspension control ECU. | • Power source of suspension control ECU<br>• Suspension control ECU CAN branch wire or connector<br>• Suspension control ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (SUSPENSION CONTROL ECU CAN BRANCH WIRE)

a. Disconnect the K30 suspension control ECU connector.

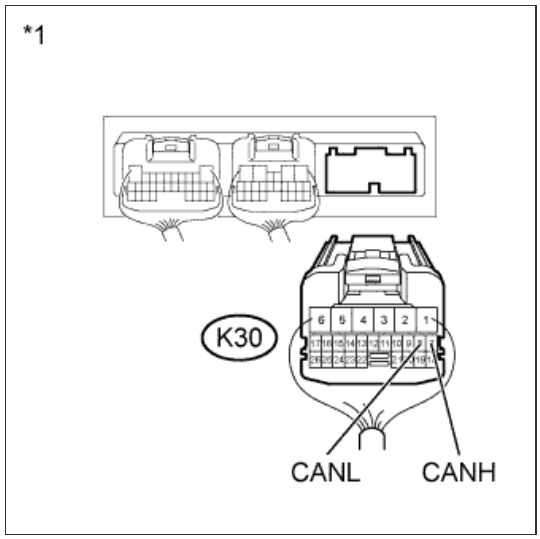
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Suspension Control ECU) |




**NG** → REPAIR OR REPLACE SUSPENSION CONTROL ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

**OK**

## 4.CHECK HARNESS AND CONNECTOR (SUSPENSION CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the K31 suspension control ECU connector.

c. Measure the voltage according to the value(s) in the table below.

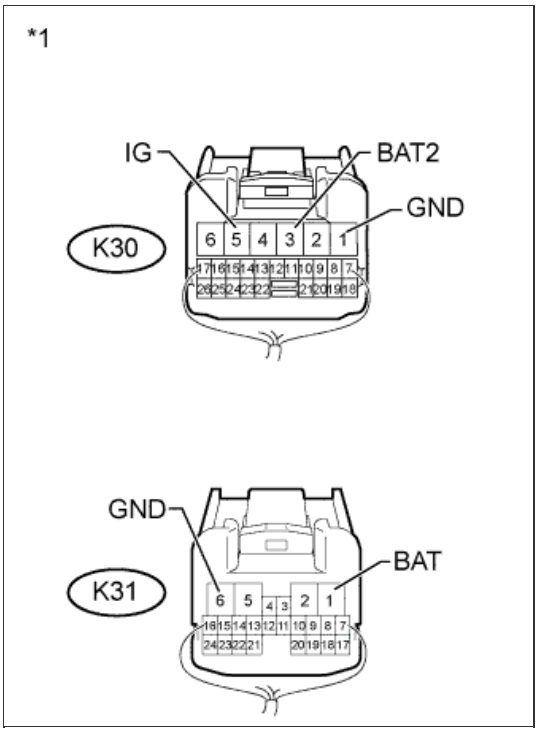
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K30-3 (BAT2) - Body ground | Always | 11 to 14 V |
| K31-1 (BAT) - Body ground | Always | 11 to 14 V |
| K30-5 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K30-1 (GND) - Body ground | Always | Below 1 Ω |
| K31-6 (GND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Suspension Control ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE SUSPENSION CONTROL ECU (Click here)

## DTC U1110 Lost Communication with Clearance Sonar Module

**for Preparation** Click here

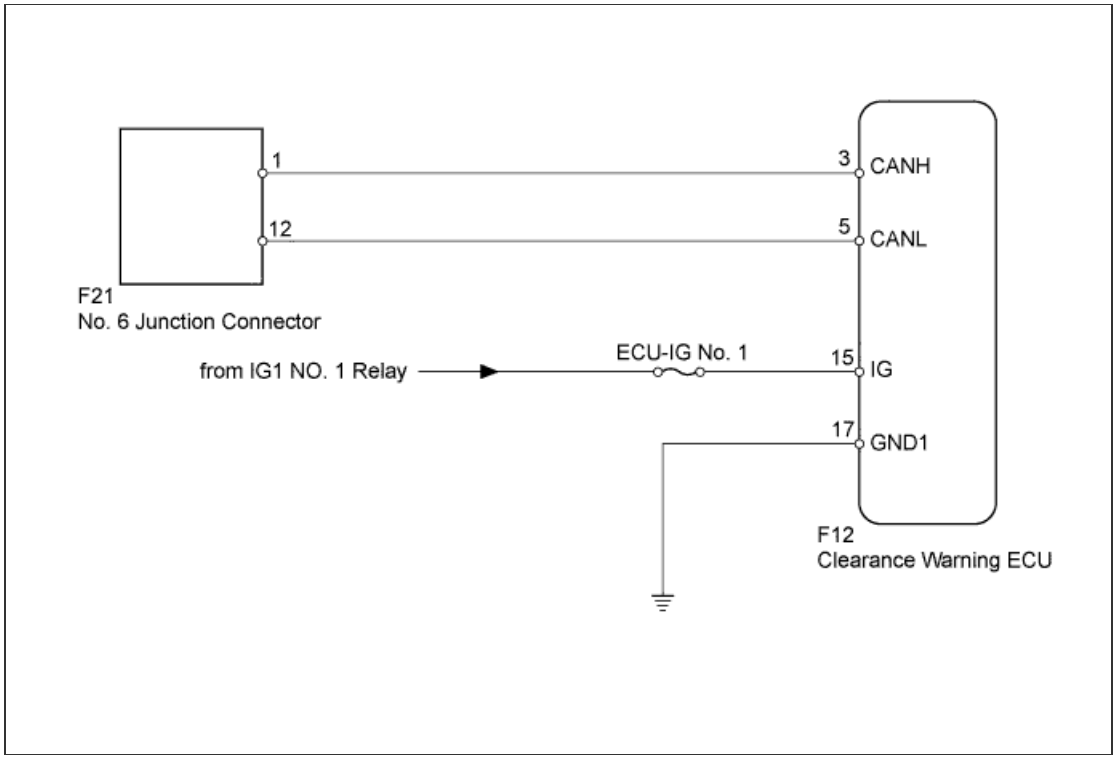
### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1110 | There is no communication from the clearance warning ECU. | • Power source circuit of clearance warning ECU<br>• Clearance warning ECU<br>• Clearance warning ECU branch wire or connector |

**HINT:**

For vehicles with the LEXUS parking assist-sensor system only.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

**2.CHECK FOR OPEN IN CAN BUS WIRE (CLEARANCE WARNING ECU BRANCH WIRE)**

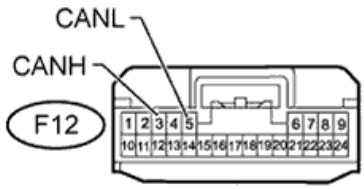
a. Disconnect the F12 clearance warning ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F12-3 (CANH) - F12-5 (CANL) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Clearance Warning ECU)




NG → REPAIR OR REPLACE CLEARANCE WARNING ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (CLEARANCE WARNING ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the F12 clearance warning ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

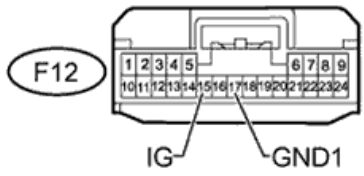
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F12-17 (GND1) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F12-15 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector:
(to Clearance Warning ECU)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE CLEARANCE WARNING ECU ASSEMBLY (Click here)

# DTC U0132 Lost Communication with Ride Level Control Module

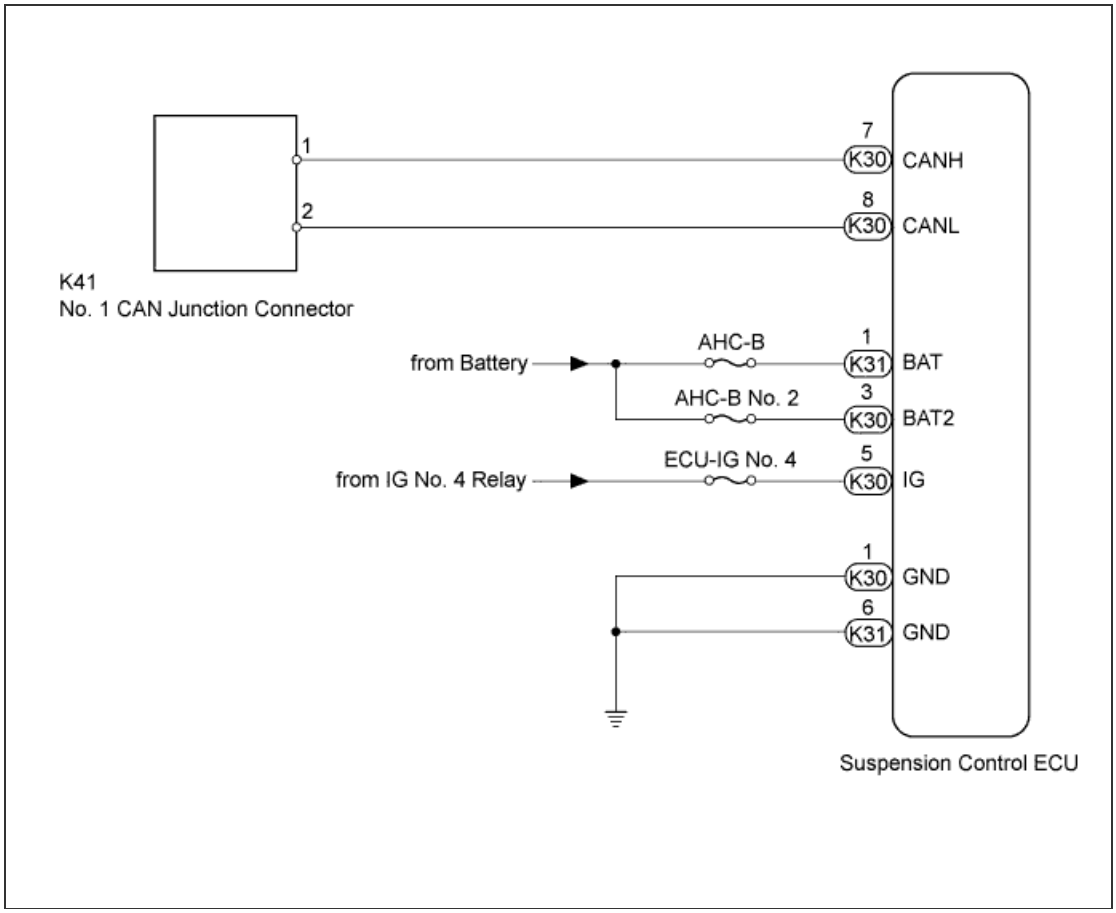
**for Preparation** Click here

## DESCRIPTION

If 2 or more DTCs are output during the DTC check, one side of the CAN branch wire may be open (One side of the CANH [branch wire] /CANL [branch wire] of the ECU and/or sensor is open).

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0132 | There is no communication from the suspension control ECU. | • Power source circuit of suspension control ECU<br>• One side of CAN branch wire of other systems<br>• Suspension control ECU<br>• Suspension control ECU branch wire or connector |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

## 2.CHECK FOR OPEN IN CAN BUS WIRE (SUSPENSION CONTROL ECU BRANCH WIRE)

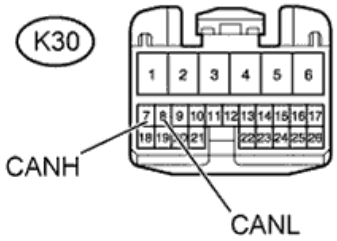
a. Disconnect the K30 suspension control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K30-7 (CANH) - K30-8 (CANL) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Suspension Control ECU)




NG → REPAIR OR REPLACE SUSPENSION CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (SUSPENSION CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the K30 and K31 suspension control ECU connectors.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

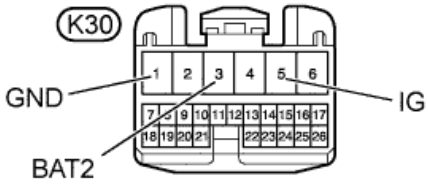
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| K30-1 (GND) - Body ground | Always | Below 1 Ω |
| K31-6 (GND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

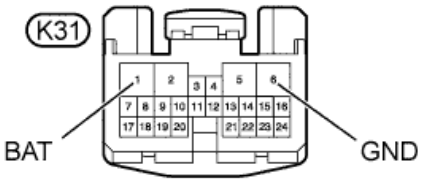
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| K31-1 (BAT) - Body ground | Always | 11 to 14 V |
| K30-3 (BAT2) - Body ground | Always | 11 to 14 V |
| K30-5 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

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

| REPLACE SUSPENSION CONTROL ECU (Click here) |
| --- |

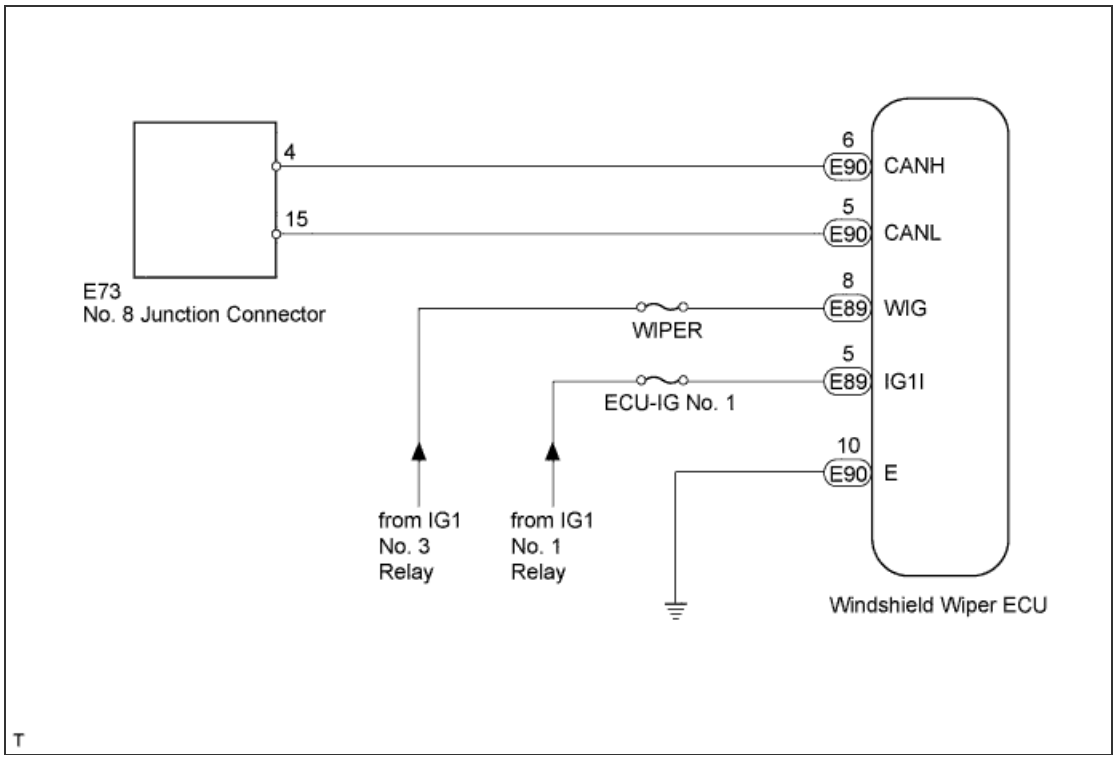
## DTC U1111 Lost Communication with Body No. 5 Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1111 | There is no communication from the windshield wiper ECU. | • Power source circuit of windshield wiper ECU<br>• Windshield wiper ECU<br>• Windshield wiper ECU main wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

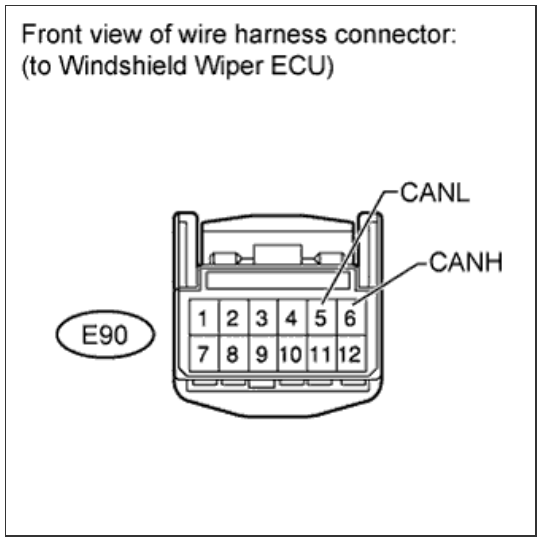
#### 2.CHECK FOR OPEN IN CAN BUS WIRE (WINDSHIELD WIPER ECU BRANCH WIRE)

a. Disconnect the E90 windshield wiper ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE WINDSHIELD WIPER ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

**3.CHECK HARNESS AND CONNECTOR (WINDSHIELD WIPER ECU - BATTERY AND BODY GROUND)**

a. 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).

b. Disconnect the E89 and E90 windshield wiper ECU connectors.

c. Measure the resistance according to the value(s) in the table below.

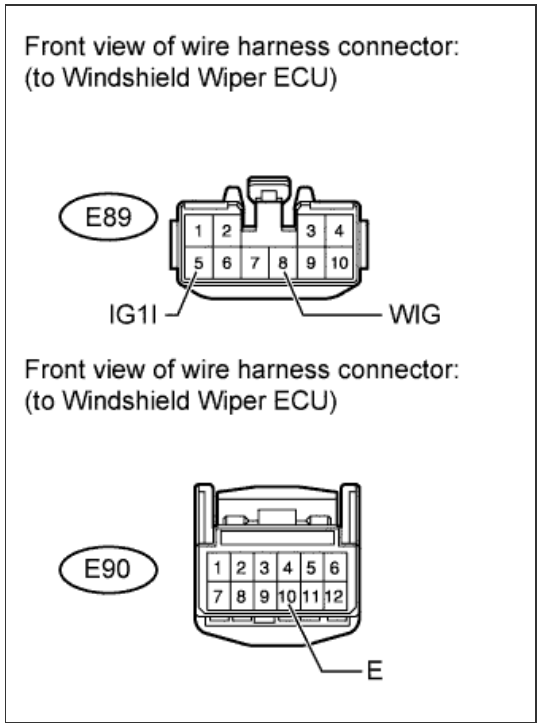
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E90-10 (E) - Body ground | Always | Below 1 Ω |

d. 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 |
| E89-8 (WIG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE WINDSHIELD WIPER ECU (Click here)

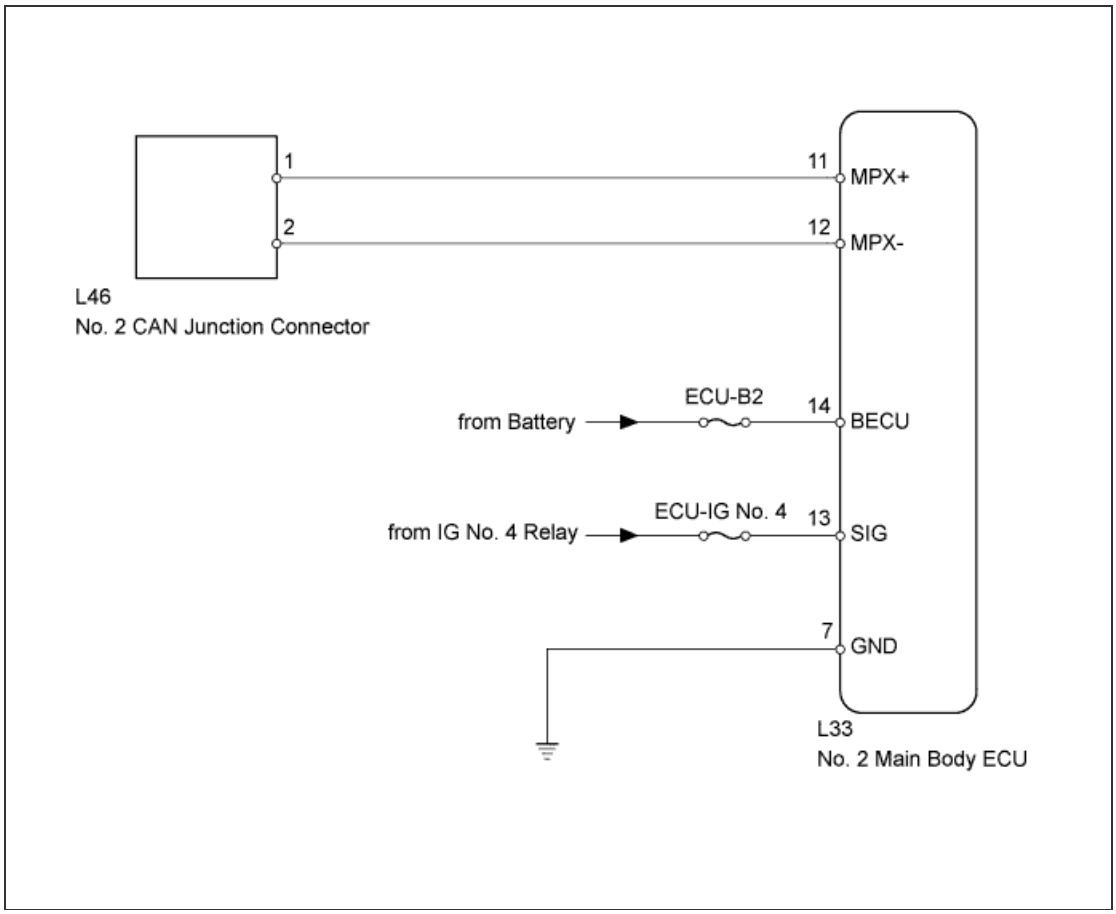
## DTC U0141 Lost Communication with Body Control Module "A"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0141 | There is no communication from the No. 2 main body ECU. | • Power source circuit of No. 2 main body ECU<br>• No. 2 main body ECU<br>• No. 2 main body ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

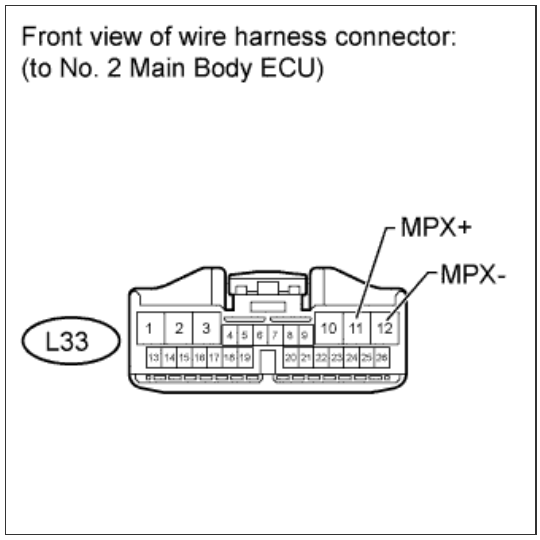
#### 2.CHECK FOR OPEN IN CAN BUS WIRE (REAR JUNCTION BLOCK BRANCH WIRE)

a. Disconnect the L33 No. 2 main body ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE NO. 2 MAIN BODY ECU BRANCH WIRE OR CONNECTOR (MPX+, MPX-)

OK

**3.CHECK HARNESS AND CONNECTOR (NO. 2 MAIN BODY ECU - BATTERY AND BODY GROUND)**

a. 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).

b. Disconnect the L33 No. 2 main body ECU connector.

c. Measure the resistance according to the value(s) in the table below.

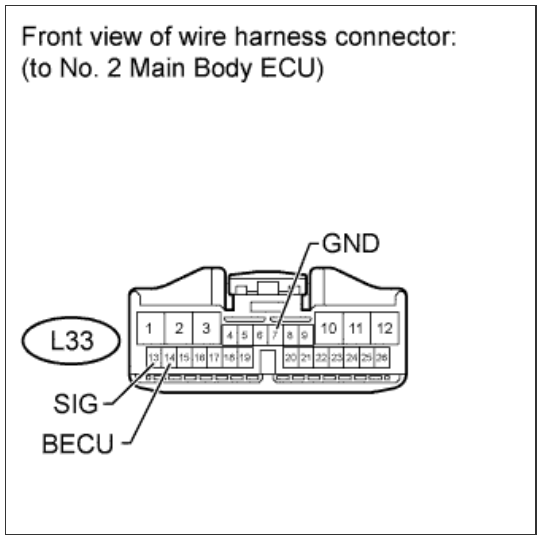
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-7 (GND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L33-14 (BECU) - Body ground | Always | 11 to 14 V |
| L33-13 (SIG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

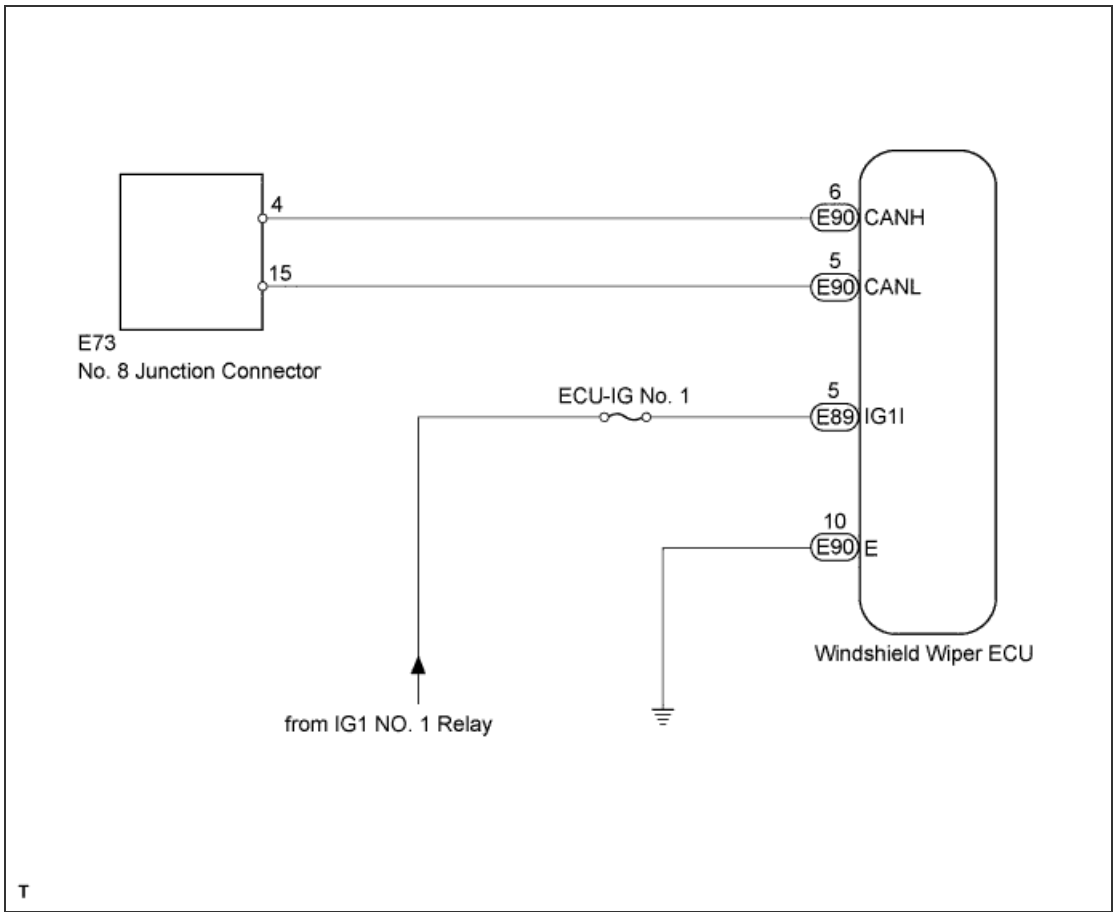
## DTC U1111 Lost Communication with Body No. 5 Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1111 | There is no communication from the windshield wiper ECU. | • Power source circuit of windshield wiper ECU<br>• Windshield wiper ECU CAN branch wire or connector<br>• Windshield wiper ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

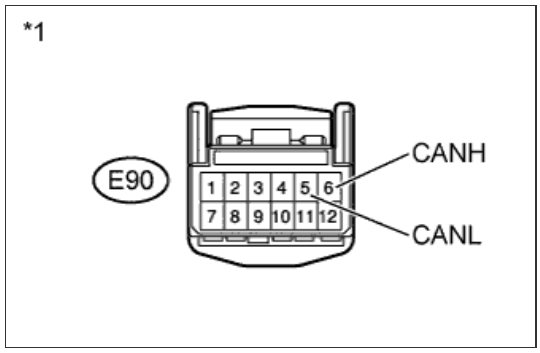
## 3.CHECK FOR OPEN IN CAN BUS WIRE (WINDSHIELD WIPER ECU CAN BRANCH WIRE)

a. Disconnect the E90 windshield wiper ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E90-6 (CANH) - E90-5 (CANL) | Engine switch off | 54 to 69 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Windshield Wiper ECU) |

NG → REPAIR OR REPLACE WINDSHIELD WIPER ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (WINDSHIELD WIPER ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E89 windshield wiper ECU connector.

c. Measure the voltage according to the value(s) in the table below.

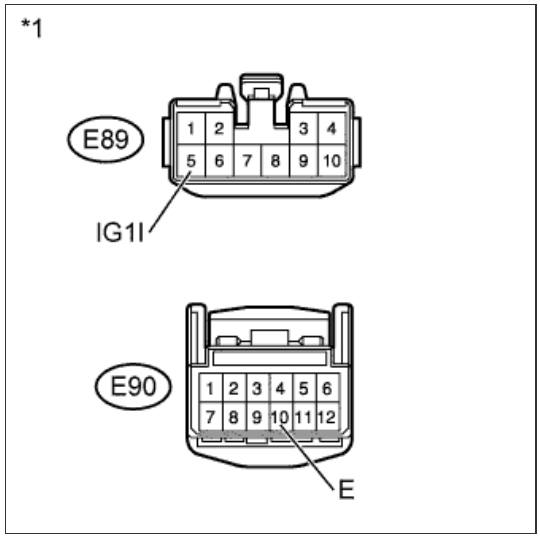
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E89-5 (IG1I) - Body ground | Engine switch on (IG) | 11 to 14 V |

d. 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 |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Windshield Wiper ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ↓

REPLACE WINDSHIELD WIPER ECU (Click here)

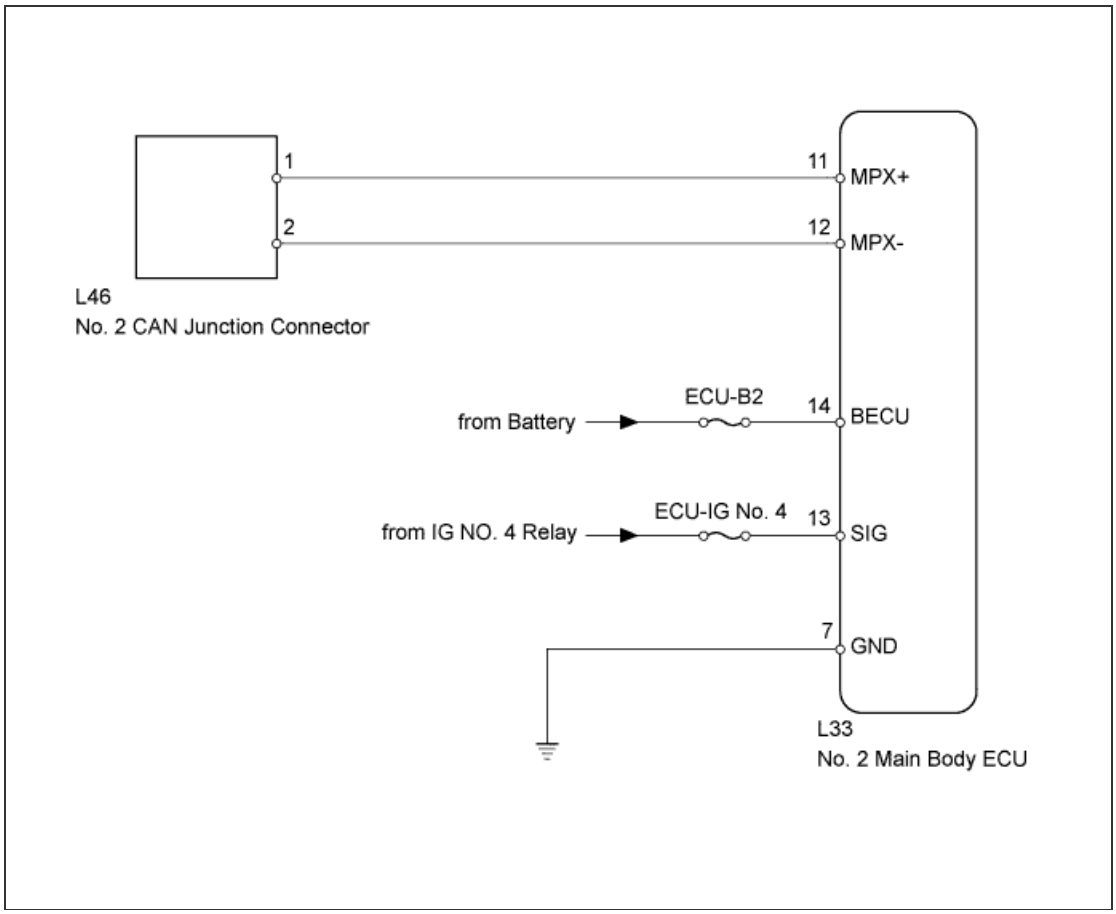
## DTC U0141 Lost Communication with Body Control Module "A"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0141 | There is no communication from the No. 2 main body ECU. | • Power source circuit of No. 2 main body ECU<br>• No. 2 main body ECU CAN branch wire or connector<br>• No. 2 main body ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (REAR JUNCTION BLOCK CAN BRANCH WIRE)

a. Disconnect the L33 No. 2 main body ECU connector.

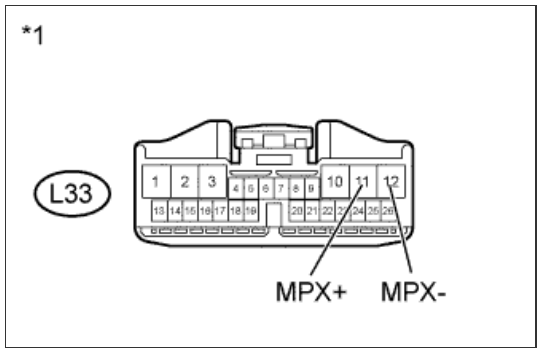
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| L33-11 (MPX+) - L33-12 (MPX-) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to No. 2 Main Body ECU) |




NG → REPAIR OR REPLACE NO. 2 MAIN BODY ECU CAN BRANCH WIRE OR CONNECTOR (MPX+, MPX-)

OK

## 4.CHECK HARNESS AND CONNECTOR (NO. 2 MAIN BODY ECU - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

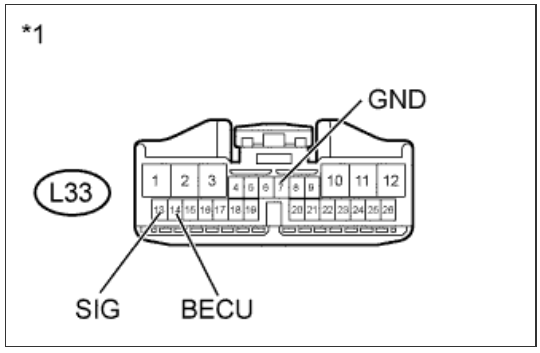
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| L33-14 (BECU) - Body ground | Always | 11 to 14 V |
| L33-13 (SIG) - 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 |
|---|---|---|
| L33-7 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to No. 2 Main Body ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE NO. 2 MAIN BODY ECU (Click here)

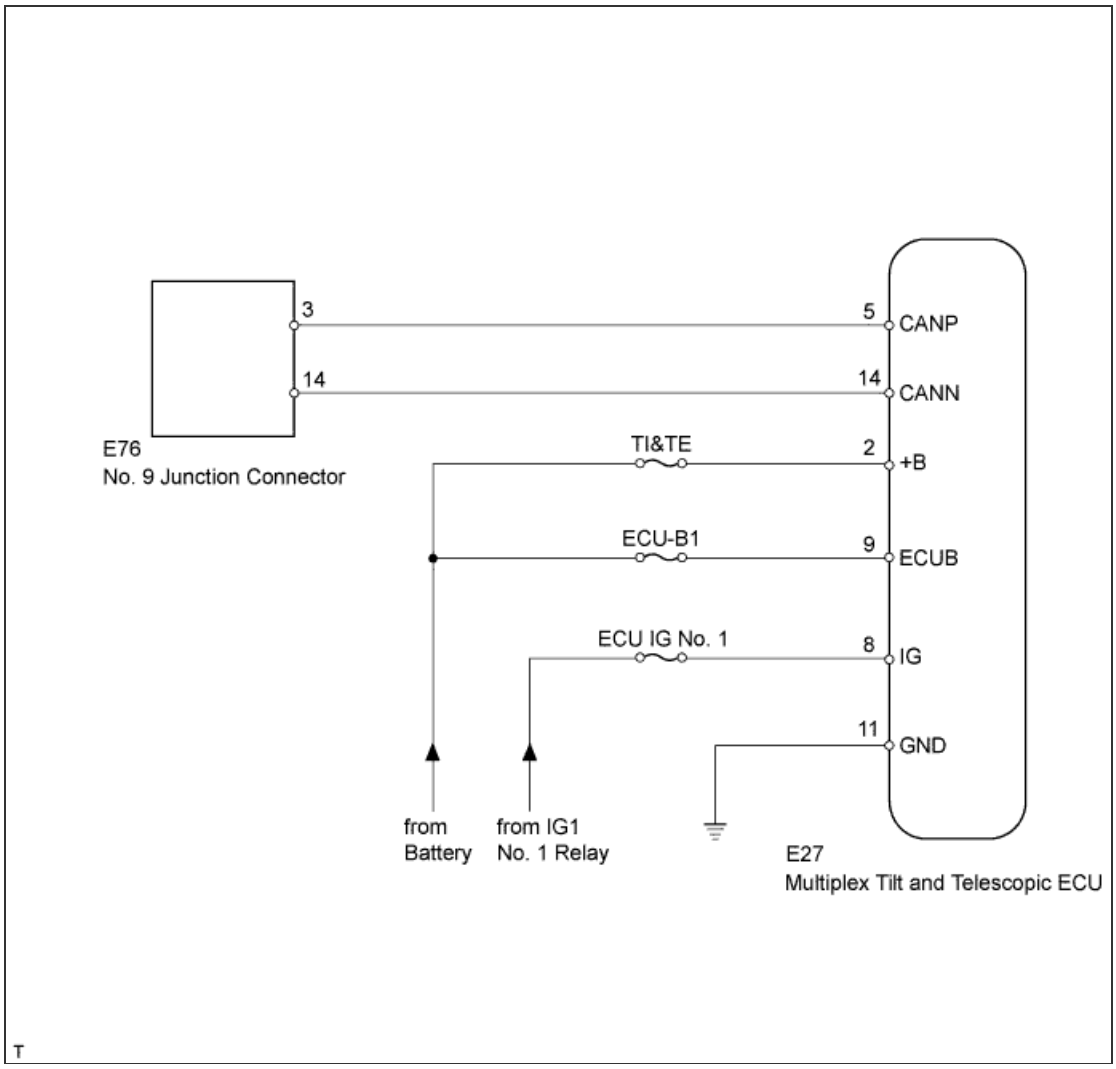
## DTC U1115 Lost Communication with Tilt and Telescopic Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1115 | There is no communication from the multiplex tilt and telescopic ECU. | • Power source circuit of multiplex tilt and telescopic ECU<br>• Multiplex tilt and telescopic ECU<br>• Multiplex tilt and telescopic ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

## 2.CHECK FOR OPEN IN CAN BUS WIRE (MULTIPLEX TILT AND TELESCOPIC ECU BRANCH WIRE)

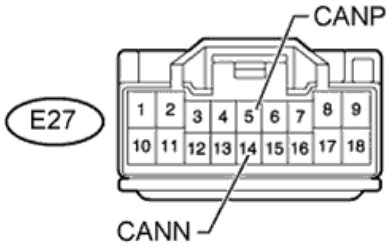
a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Multiplex Tilt and Telescopic ECU)




NG → REPAIR OR REPLACE MULTIPLEX TILT AND TELESCOPIC ECU BRANCH WIRE OR CONNECTOR (CANP, CANN)

OK

## 3.CHECK HARNESS AND CONNECTOR (MULTIPLEX TILT AND TELESCOPIC ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E27 multiplex tilt and telescopic ECU connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

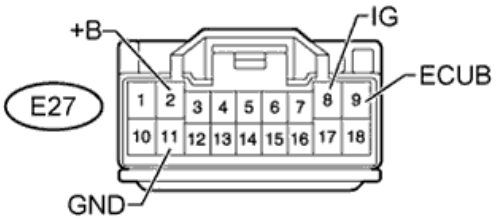
| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E27-11 (GND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E27-2 (+B) - Body ground | Always | 11 to 14 V |
| E27-9 (ECUB) - Body ground | Always | 11 to 14 V |
| E27-8 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

Front view of wire harness connector:
(to Multiplex Tilt and Telescopic ECU)




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MULTIPLEX TILT AND TELESCOPIC ECU (Click here)

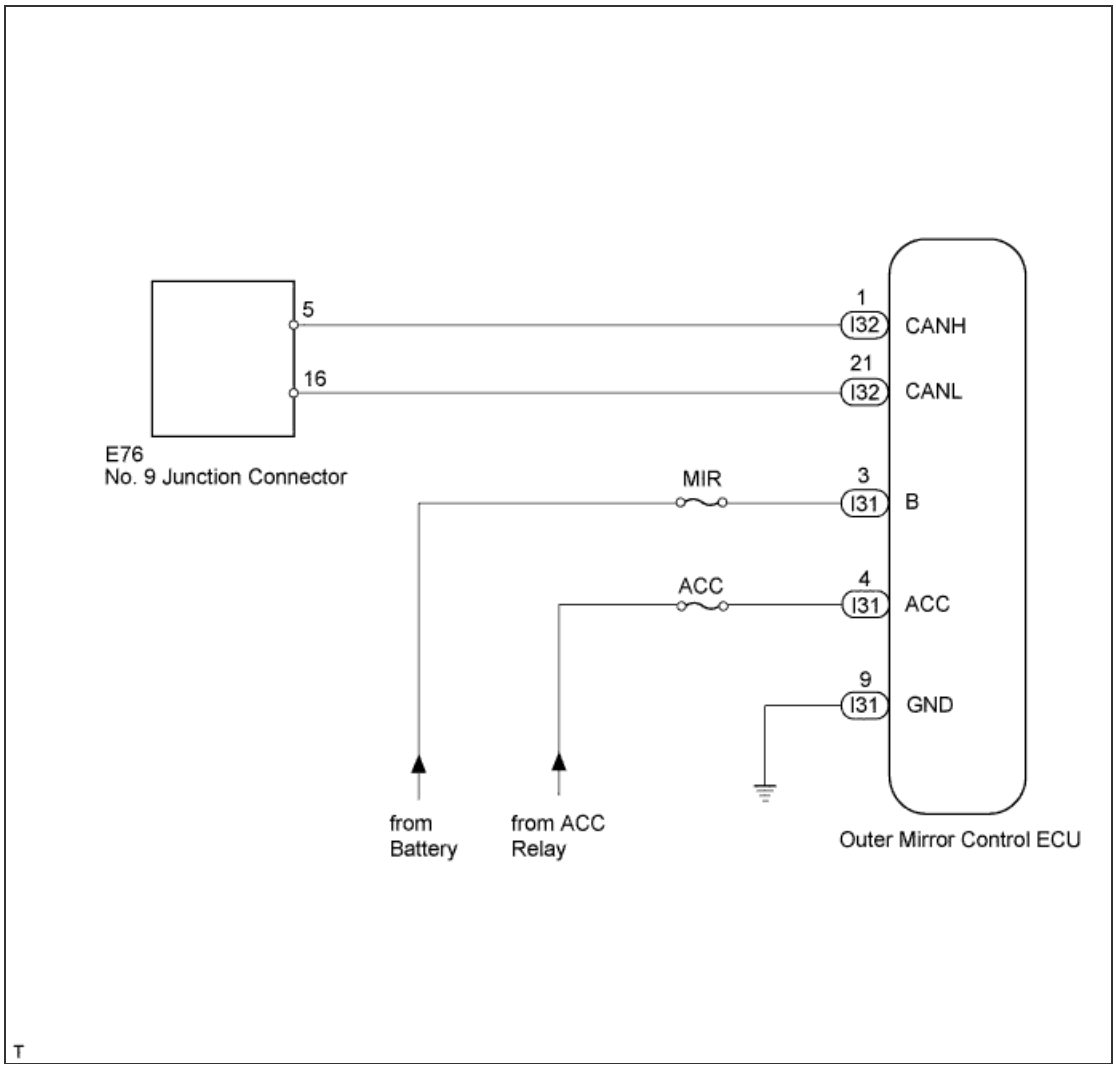
## DTC U0199 Lost Communication with "Door Control Module A"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0199 | There is no communication from the outer mirror control ECU. | • Power source circuit of outer mirror control ECU<br>• Outer mirror control ECU<br>• Outer mirror control ECU branch wire or connector |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

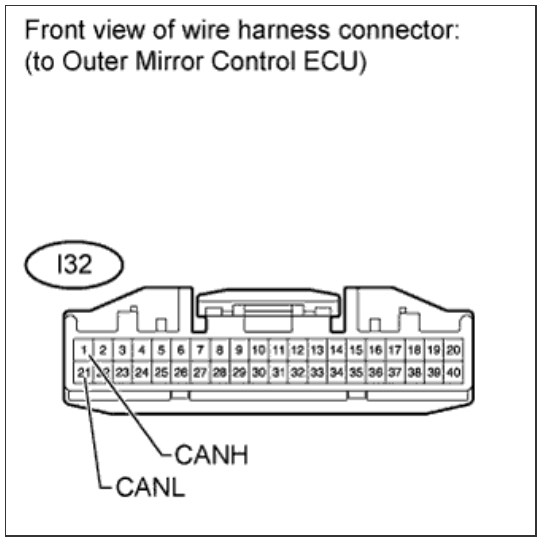
## 2.CHECK FOR OPEN IN CAN BUS WIRE (OUTER MIRROR CONTROL ECU BRANCH WIRE)

a. Disconnect the I32 outer mirror control ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I32-1 (CANH) - I32-21 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE OUTER MIRROR CONTROL ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (OUTER MIRROR CONTROL ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the I31 outer mirror control ECU connector.

c. Measure the resistance according to the value(s) in the table below.

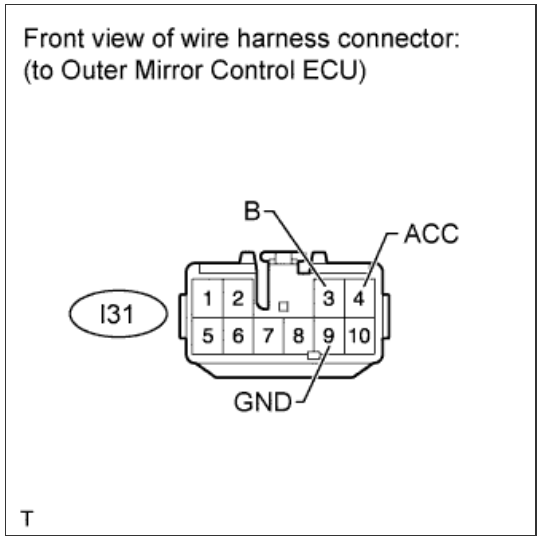
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I31-9 (GND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I31-3 (B) - Body ground | Always | 11 to 14 V |
| I31-4 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE OUTER MIRROR CONTROL ECU ASSEMBLY (Click here)

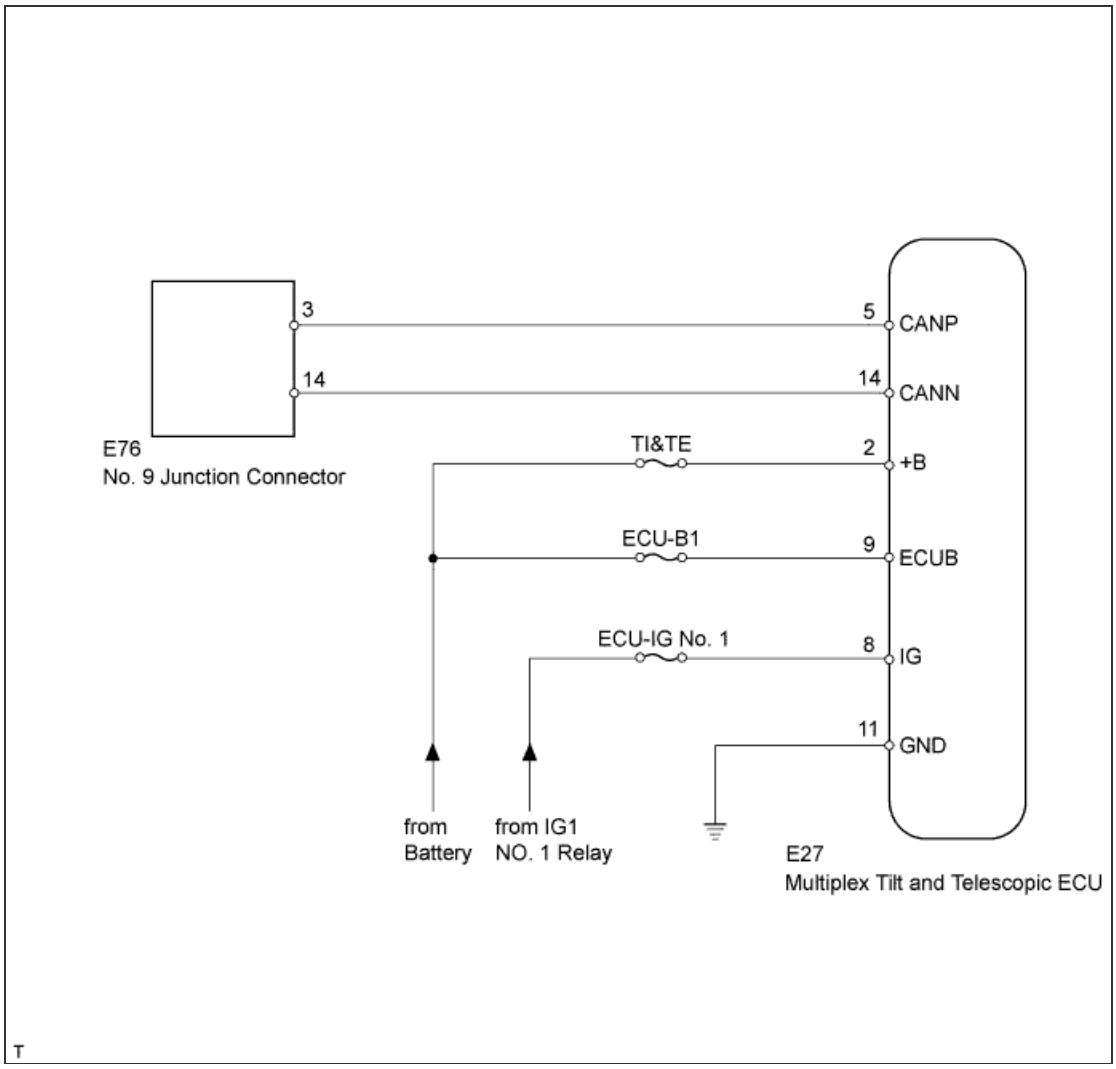
## DTC U1115 Lost Communication with Tilt and Telescopic Module

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1115 | There is no communication from the multiplex tilt and telescopic ECU. | • Power source circuit of multiplex tilt and telescopic ECU<br>• Multiplex tilt and telescopic ECU CAN branch wire or connector<br>• Multiplex tilt and telescopic ECU |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (MULTIPLEX TILT AND TELESCOPIC ECU CAN BRANCH WIRE)

a. Disconnect the E27 multiplex tilt and telescopic ECU connector.

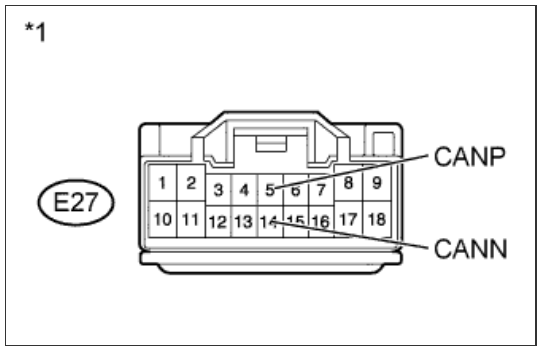
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E27-5 (CANP) - E27-14 (CANN) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Multiplex Tilt and Telescopic ECU) |




NG → REPAIR OR REPLACE MULTIPLEX TILT AND TELESCOPIC ECU CAN BRANCH WIRE OR CONNECTOR (CANP, CANN)

OK

## 4.CHECK HARNESS AND CONNECTOR (MULTIPLEX TILT AND TELESCOPIC ECU - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

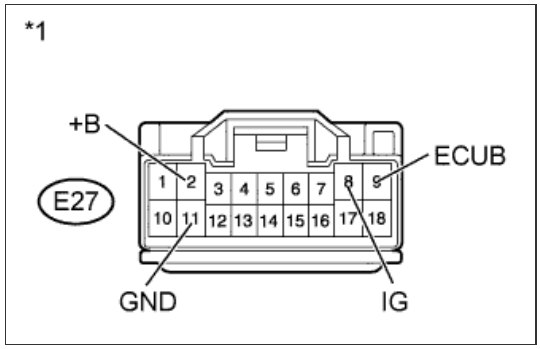
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E27-2 (+B) - Body ground | Always | 11 to 14 V |
| E27-9 (ECUB) - Body ground | Always | 11 to 14 V |
| E27-8 (IG) - 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 |
|---|---|---|
| E27-11 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Multiplex Tilt and Telescopic ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MULTIPLEX TILT AND TELESCOPIC ECU (Click here)

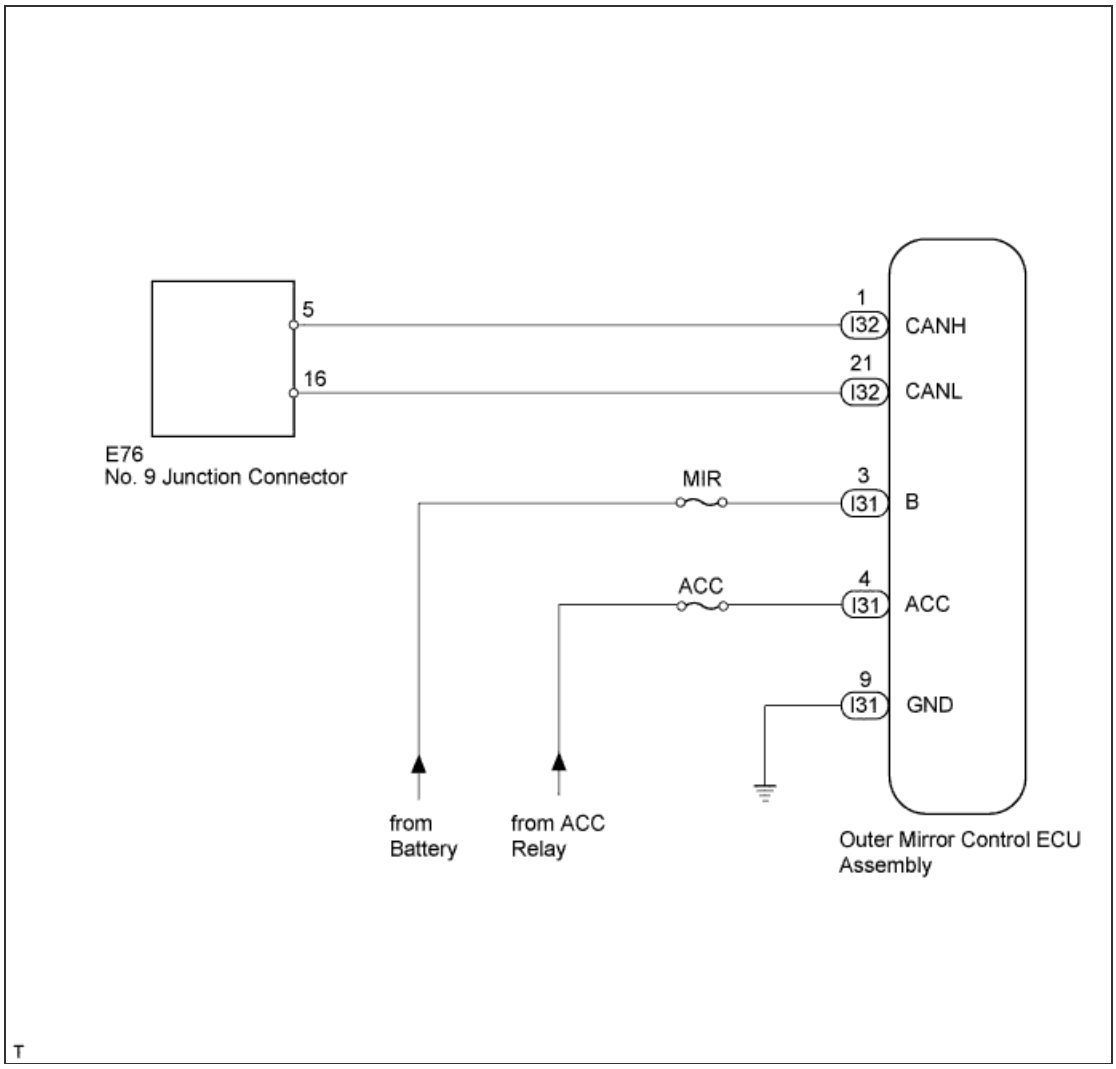
## DTC U0199 Lost Communication with "Door Control Module A"

**for Preparation** Click here

### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U0199 | There is no communication from the outer mirror control ECU assembly. | • Power source circuit of outer mirror control ECU assembly<br>• Outer mirror control ECU assembly CAN branch wire or connector<br>• Outer mirror control ECU assembly |

### WIRING DIAGRAM




### INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

#### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (OUTER MIRROR CONTROL ECU ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the I32 outer mirror control ECU assembly connector.

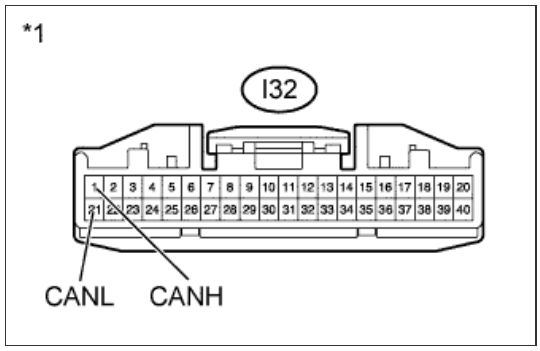
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| I32-1 (CANH) - I32-21 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Outer Mirror Control ECU Assembly) |




NG → REPAIR OR REPLACE OUTER MIRROR CONTROL ECU ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (OUTER MIRROR CONTROL ECU ASSEMBLY - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

**NOTICE:**

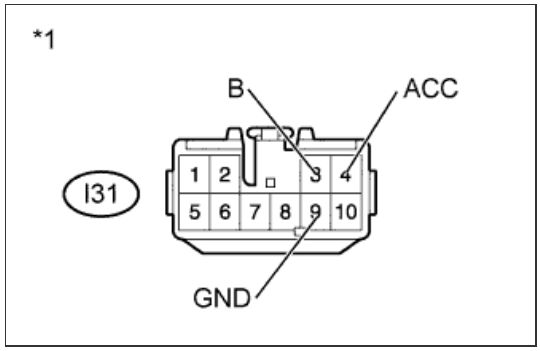
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Disconnect the I31 outer mirror control ECU assembly connector.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I31-3 (B) - Body ground | Always | 11 to 14 V |
| I31-4 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |



d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| I31-9 (GND) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Outer Mirror Control ECU Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE OUTER MIRROR CONTROL ECU ASSEMBLY (Click here)

## DTC U1126 Lost Communication with Parking Assist ECU

**for Preparation** Click here

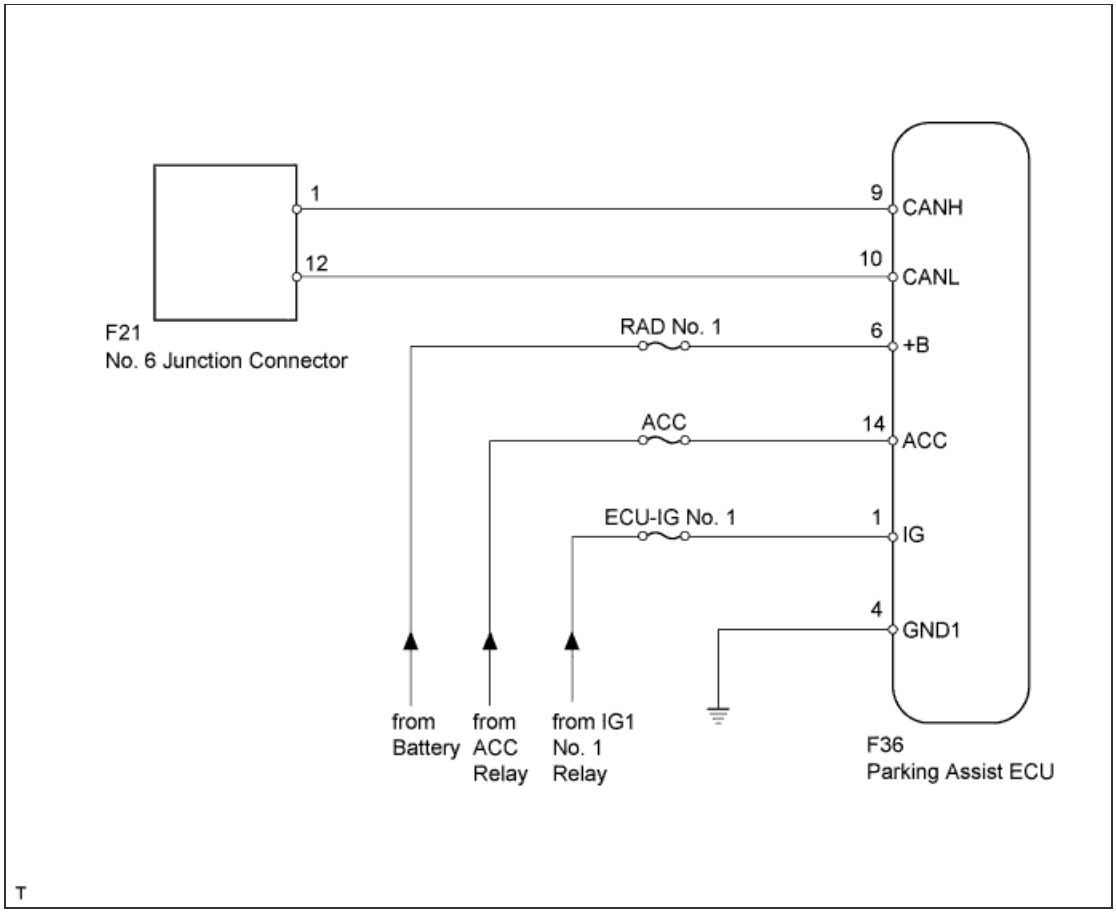
### DESCRIPTION

| DTC Code | DTC Detection Condition | Trouble Area |
|---|---|---|
| U1126 | There is no communication from the parking assist ECU. | • Power source circuit of parking assist ECU<br>• Parking assist ECU<br>• Parking assist ECU branch wire or connector |

**HINT:**

For vehicles with the parking assist monitor system only.

### WIRING DIAGRAM




### INSPECTION PROCEDURE

#### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

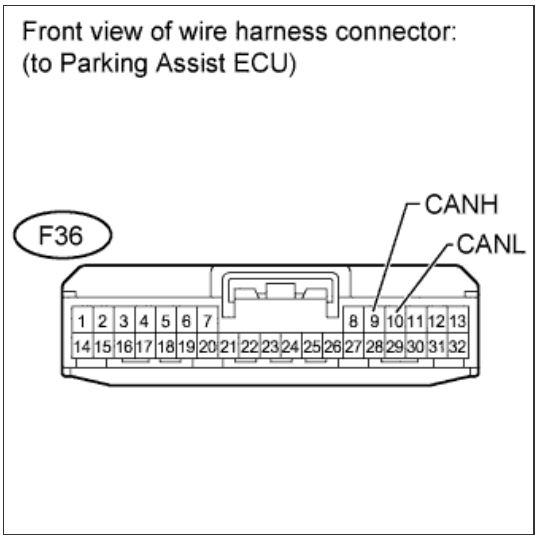
## 2.CHECK FOR OPEN IN CAN BUS WIRE (PARKING ASSIST ECU BRANCH WIRE)

a. Disconnect the F36 parking assist ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F36-9 (CANH) - F36-10 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE PARKING ASSIST ECU BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (PARKING ASSIST ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the F36 parking assist ECU connector.

c. Measure the resistance according to the value(s) in the table below.

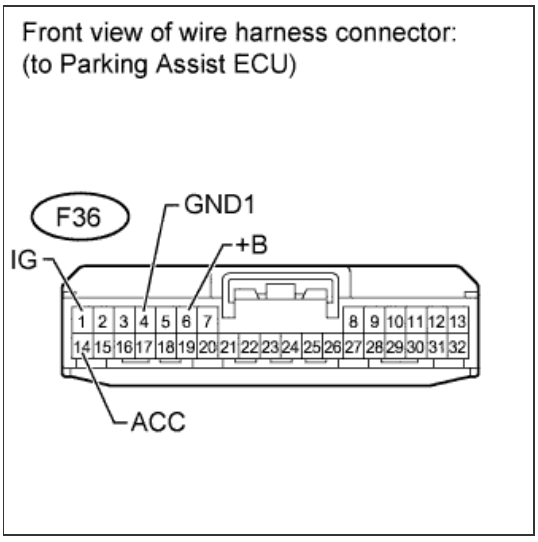
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F36-4 (GND1) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F36-6 (+B) - Body ground | Always | 11 to 14 V |
| F36-14 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| F36-1 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

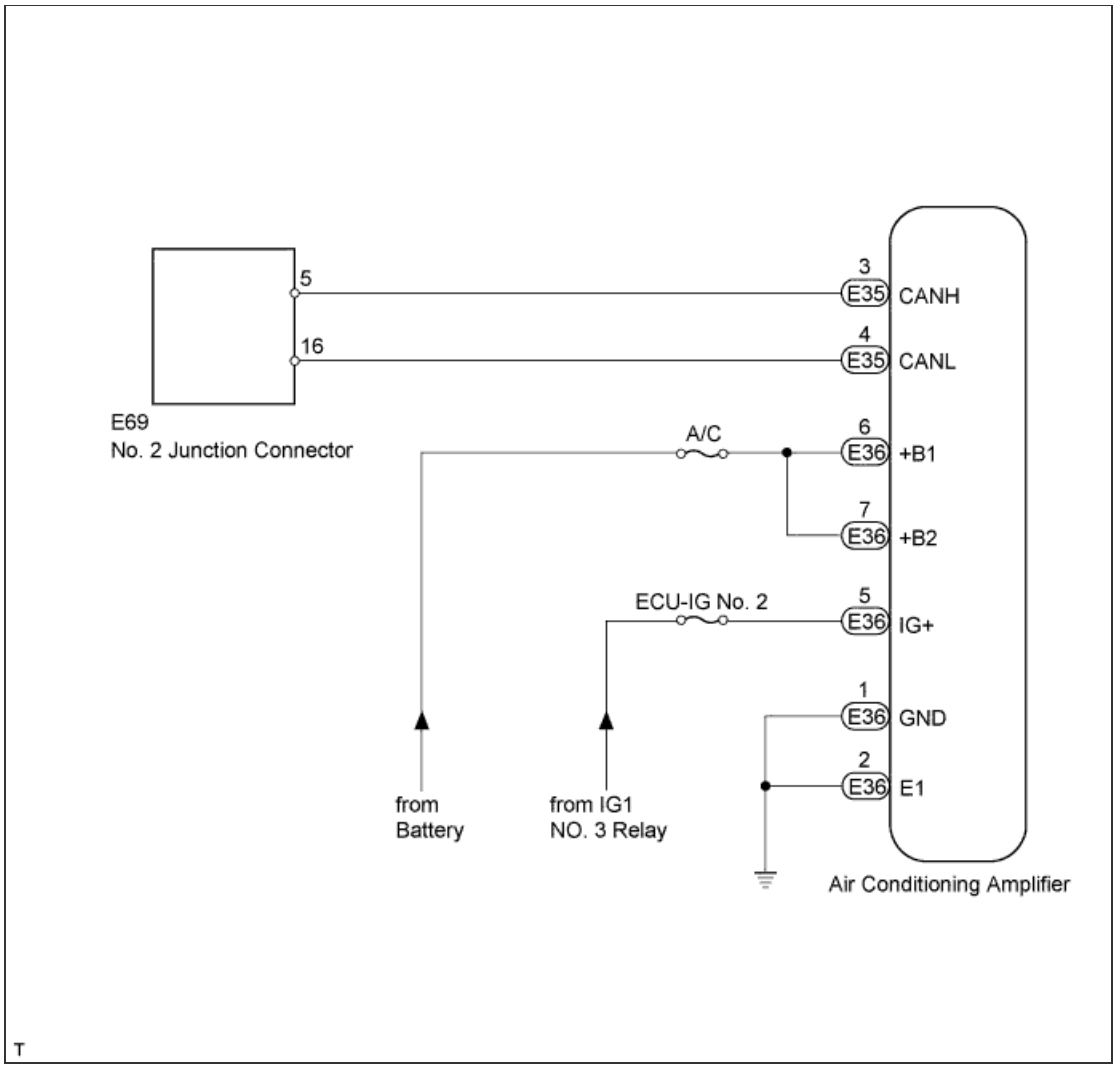
REPLACE PARKING ASSIST ECU (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Air Conditioning Amplifier Communication Stop Mode | When either condition below is met:<br>• "Air Conditioner" is not displayed on "Bus Check".<br>• "Air Conditioning Amplifier Communication Stop Mode" in "DTC Combination Table" applies. | • Power source or inside air conditioning amplifier<br>• Air conditioning amplifier branch wire or connector<br>• Air conditioning amplifier |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

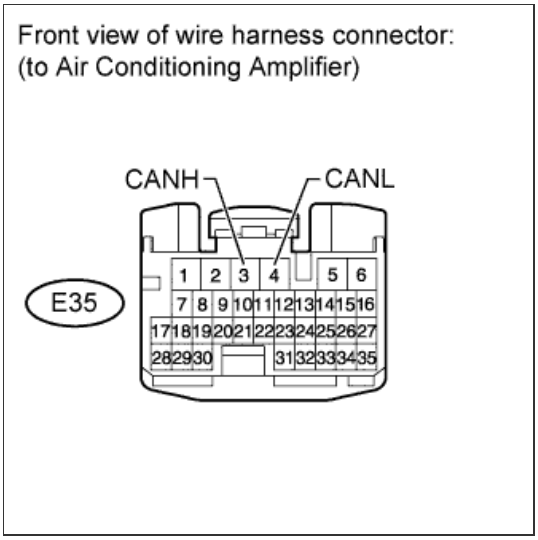
## 2.CHECK FOR OPEN IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER BRANCH WIRE)

a. Disconnect the E35 air conditioning amplifier connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE AIR CONDITIONING AMPLIFIER BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E36 air conditioning amplifier connector.

c. Measure the resistance according to the value(s) in the table below.

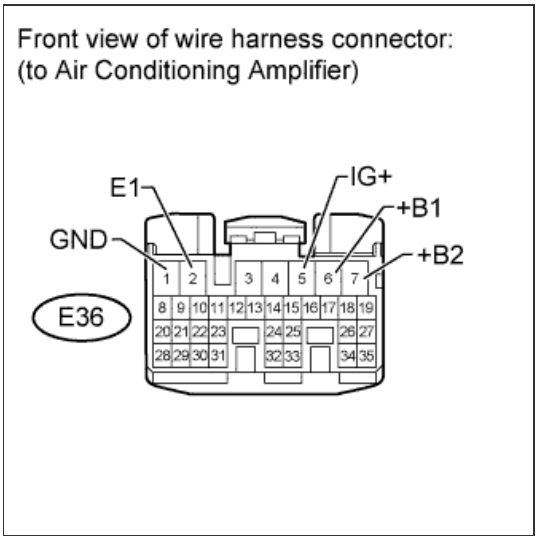
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-1 (GND) - Body ground | Always | Below 1 Ω |
| E36-2 (E1) - Body ground | | |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E36-6 (+B1) - Body ground | Always | 11 to 14 V |
| E36-7 (+B2) - Body ground | | |
| E36-5 (IG+) - Body | Engine switch on | |



| | | |
|---|---|---|
| ground | (IG) | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

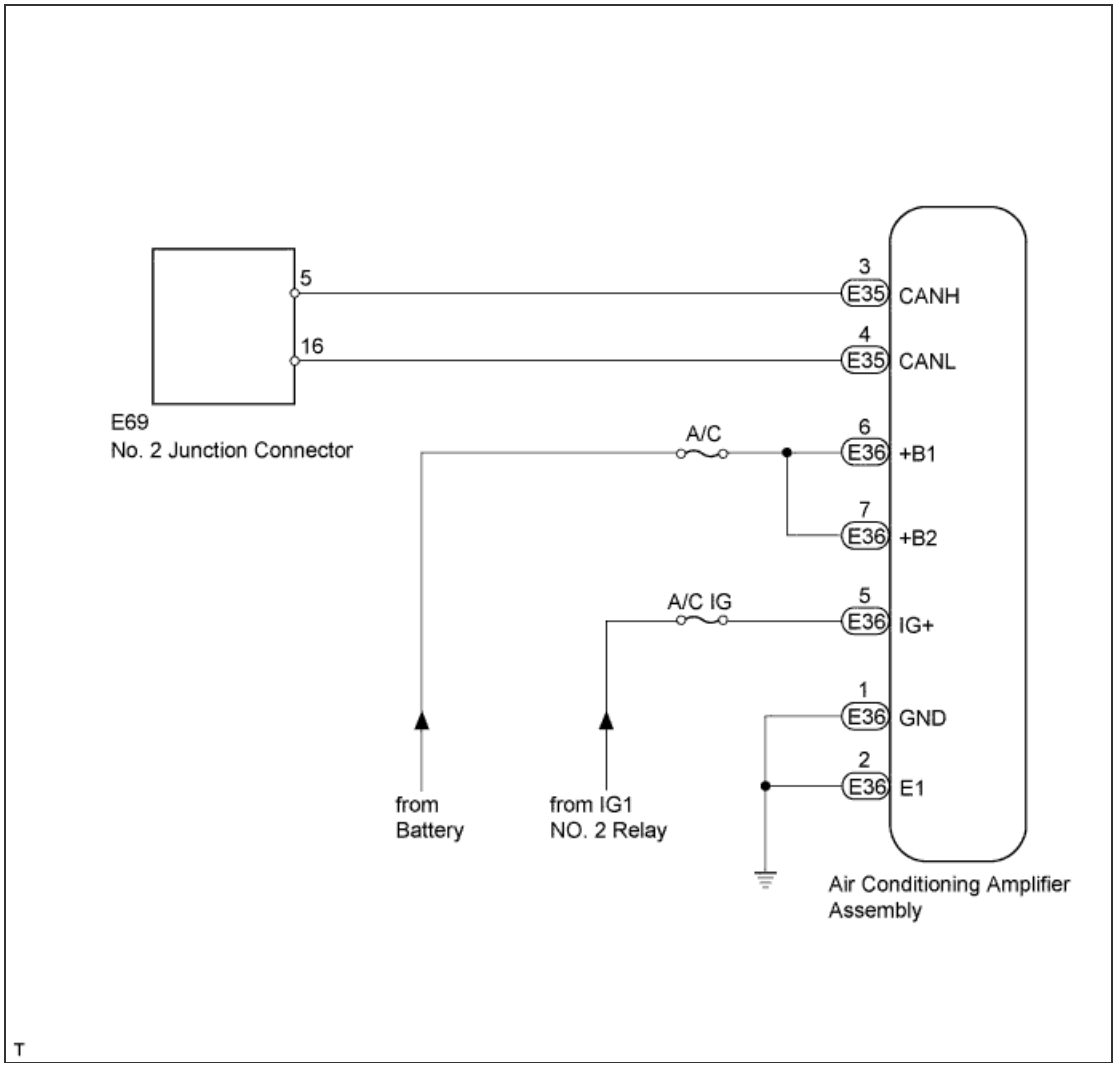
REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Air Conditioning Amplifier Communication Stop Mode | When either condition below is met:<br>• "Air Conditioning Amplifier" is not displayed on "CAN Bus Check".<br>• Applies to "Air Conditioning Amplifier Communication Stop Mode" in "DTC Combination Table". | • Power source or inside air conditioning amplifier assembly<br>• Air conditioning amplifier assembly<br>• Air conditioning amplifier assembly CAN branch wire or connector |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

**NEXT**

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the E35 air conditioning amplifier assembly connector.

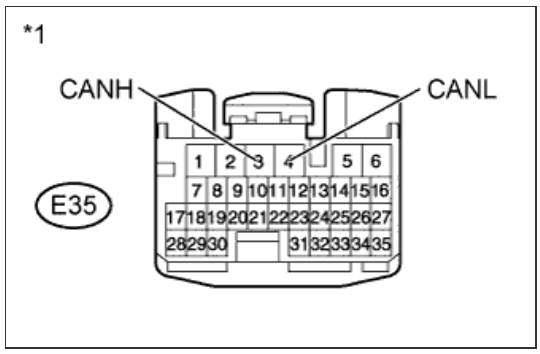
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Air Conditioning Amplifier Assembly) |




**NG** → **REPAIR OR REPLACE AIR CONDITIONING AMPLIFIER CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)**

**OK**

## 4.CHECK HARNESS AND CONNECTOR (AIR CONDITIONING AMPLIFIER ASSEMBLY - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

**NOTICE:**

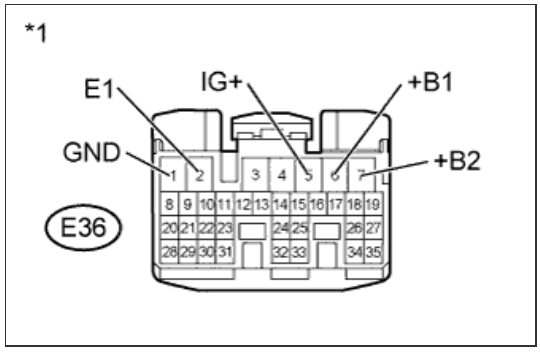
When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Disconnect the E36 air conditioning amplifier assembly connector.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-6 (+B1) - Body ground | Always | 11 to 14 V |
| E36-7 (+B2) - Body ground | Always | 11 to 14 V |



| | | |
|---|---|---|
| E36-5 (IG+) - Body ground | Engine switch on (IG) | 11 to 14 V |

d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E36-1 (GND) - Body ground | Always | Below 1 Ω |
| E36-2 (E1) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Air Conditioning Amplifier Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

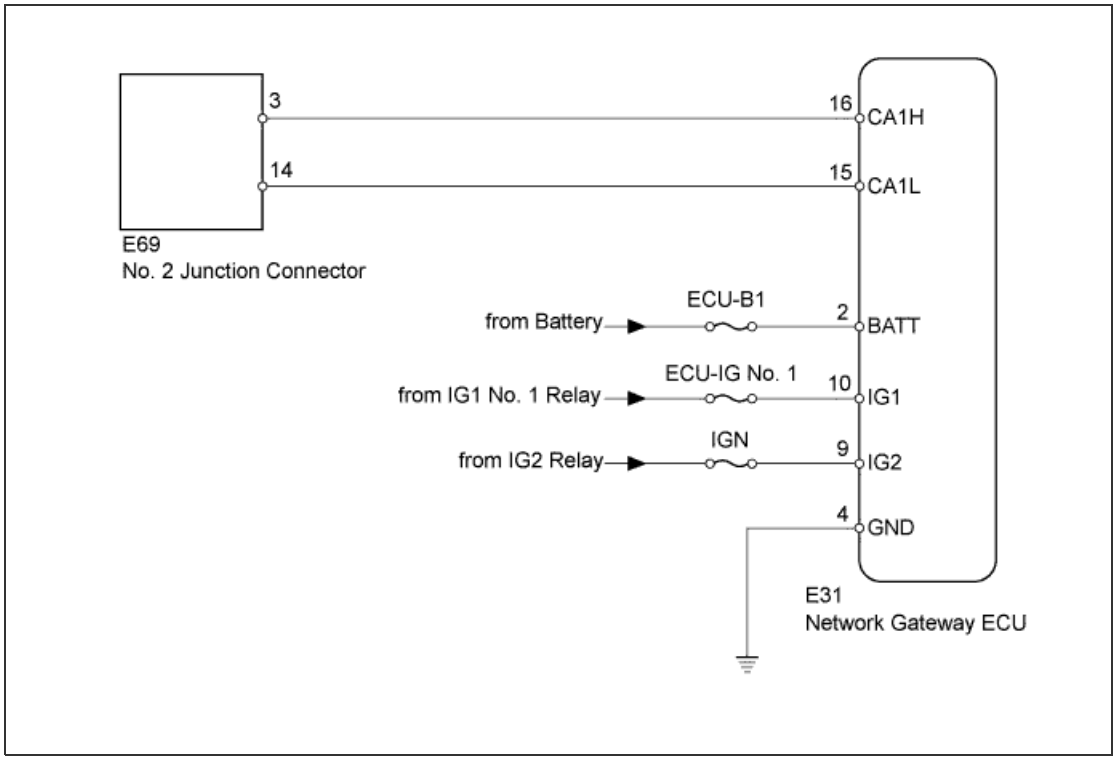
REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Gateway ECU Communication Stop Mode | When either condition below is met:<br>• "CAN Gateway" is not displayed on "Bus Check".<br>• "Gateway Communication Stop Mode" in "DTC Combination Table" applies. | • Power source or inside network gateway ECU<br>• Network gateway ECU main wire or connector<br>• Network gateway ECU |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

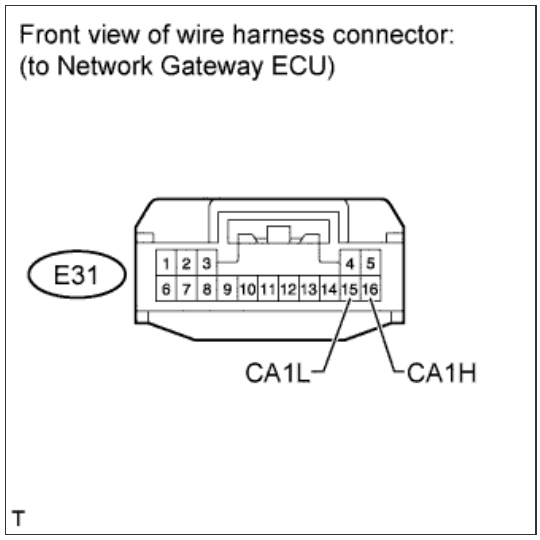
### 2.CHECK FOR OPEN IN CAN BUS WIRE (NETWORK GATEWAY ECU BRANCH WIRE)

a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE NETWORK GATEWAY ECU BRANCH WIRE OR CONNECTOR (CA1H, CA1L)

OK

## 3.CHECK HARNESS AND CONNECTOR (NETWORK GATEWAY ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the E31 network gateway ECU connector.

c. Measure the resistance according to the value(s) in the table below.

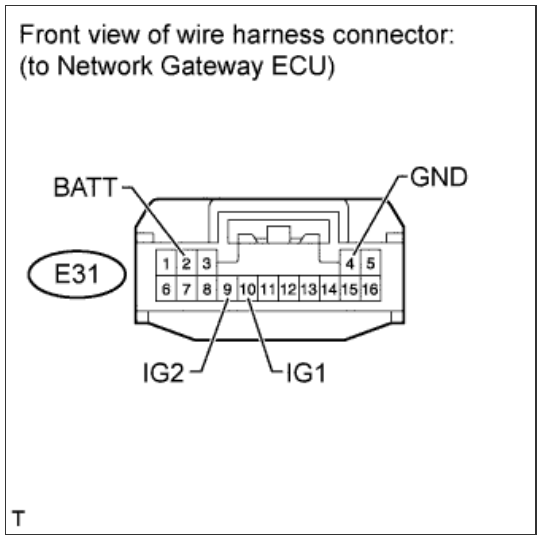
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E31-4 (GND) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-2 (BATT) - Body ground | Always | 11 to 14 V |
| E31-10 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |
| E31-9 (IG2) - Body ground | | |




NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

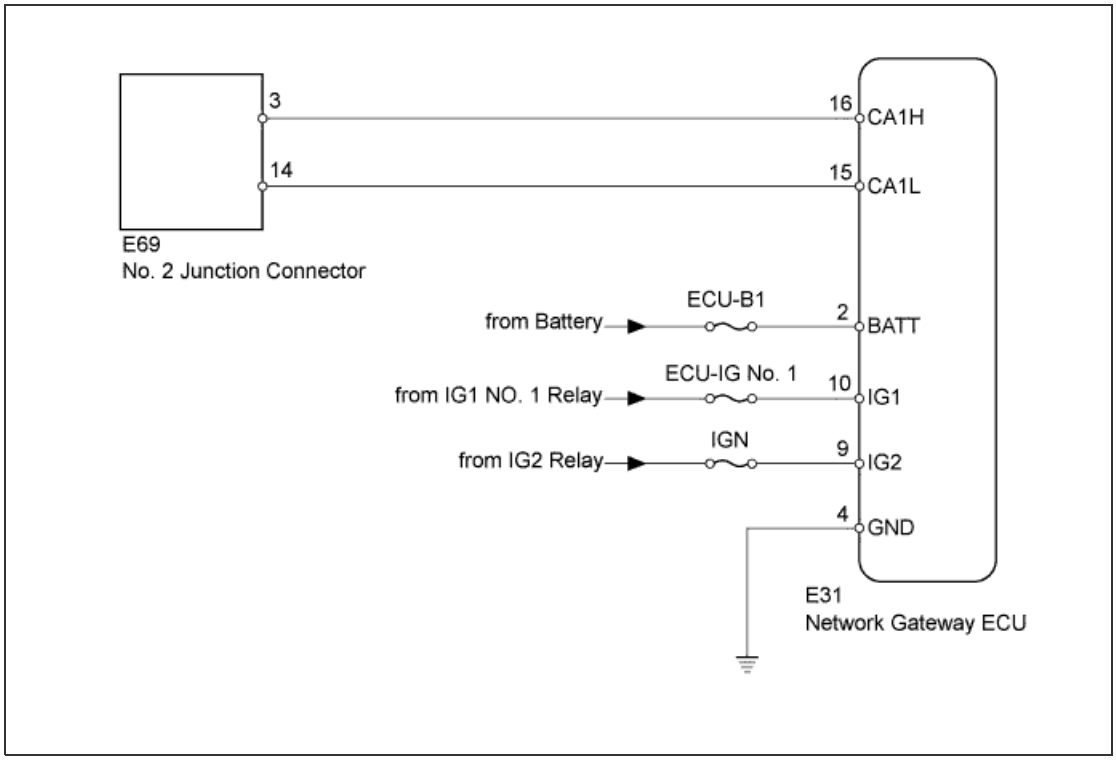
REPLACE NETWORK GATEWAY ECU (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Gateway ECU Communication Stop Mode | When either condition below is met:<br>• "CAN Gateway" is not displayed on "CAN Bus Check".<br>• Applies to "Gateway Communication Stop Mode" in "DTC Combination Table". | • Power source or inside network gateway ECU<br>• Network gateway ECU CAN branch wire or connector<br>• Network gateway ECU |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

**NEXT**

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (NETWORK GATEWAY ECU CAN BRANCH WIRE)

a. Disconnect the E31 network gateway ECU connector.

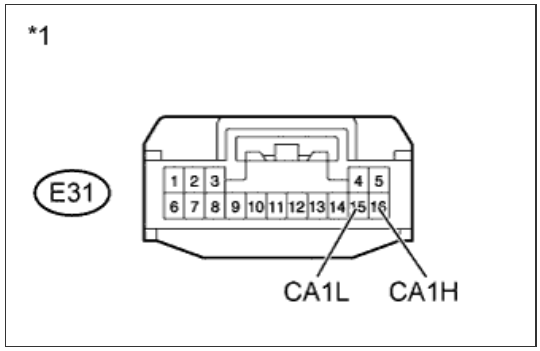
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Network Gateway ECU) |




NG → REPAIR OR REPLACE NETWORK GATEWAY ECU CAN BRANCH WIRE OR CONNECTOR (CA1H, CA1L)

OK

## 4.CHECK HARNESS AND CONNECTOR (NETWORK GATEWAY ECU - BATTERY AND BODY GROUND)

a. 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).

b. Measure the voltage according to the value(s) in the table below.

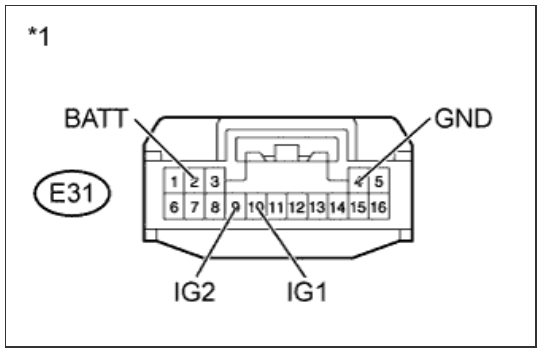
**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E31-2 (BATT) - Body ground | Always | 11 to 14 V |
| E31-10 (IG1) - Body ground | Engine switch on (IG) | 11 to 14 V |
| E31-9 (IG2) - 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 |
|---|---|---|
| E31-4 (GND) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Network Gateway ECU) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

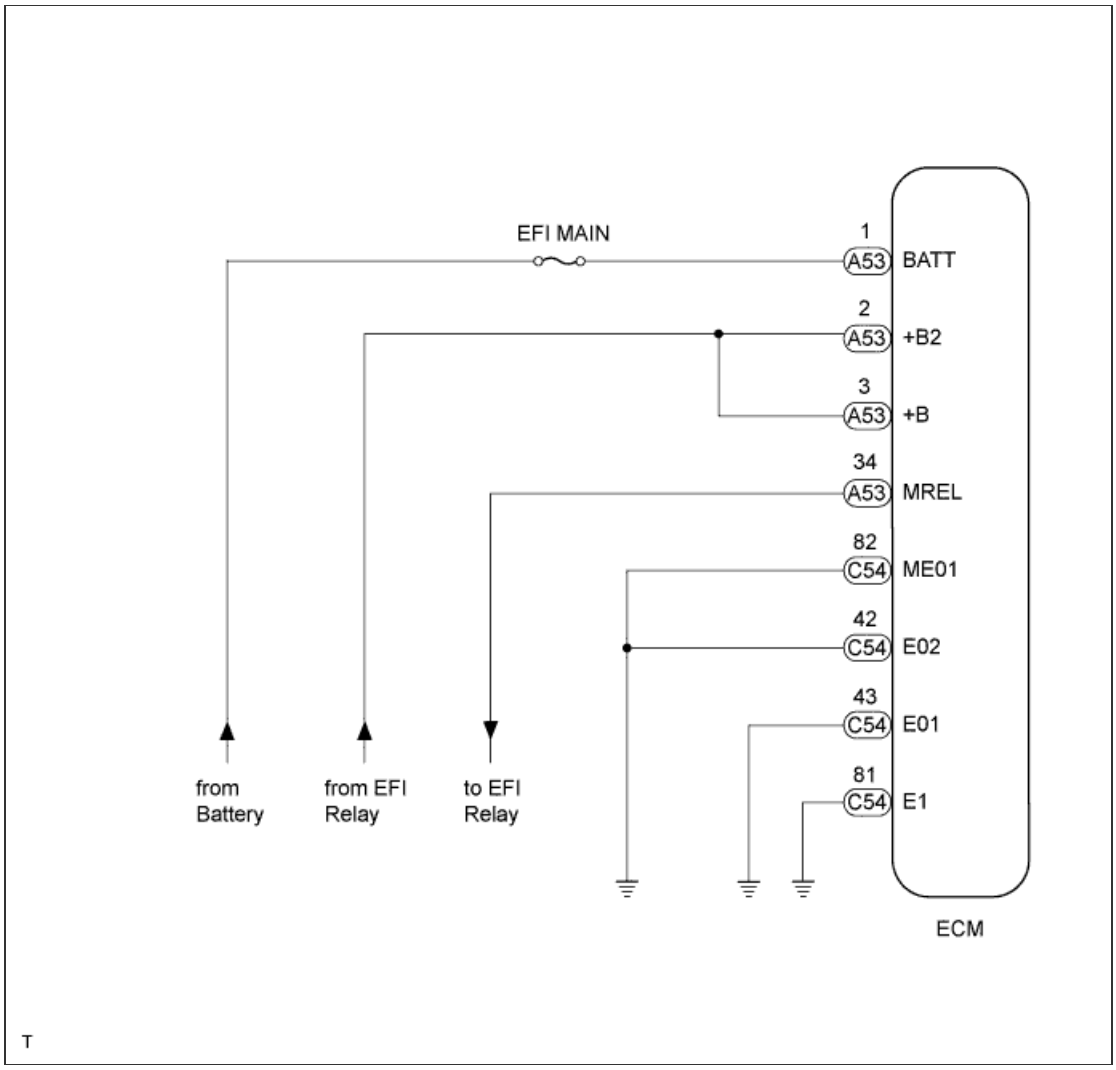
REPLACE NETWORK GATEWAY ECU (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| ECM Communication Stop Mode | When either condition below is met:<br>• Engine is not displayed on "Bus Check".<br>• "ECM Communication Stop Mode" in "DTC Combination Table" applies. | • Power source or ECM<br>• ECM main wire or connector<br>• ECM |

## WIRING DIAGRAM

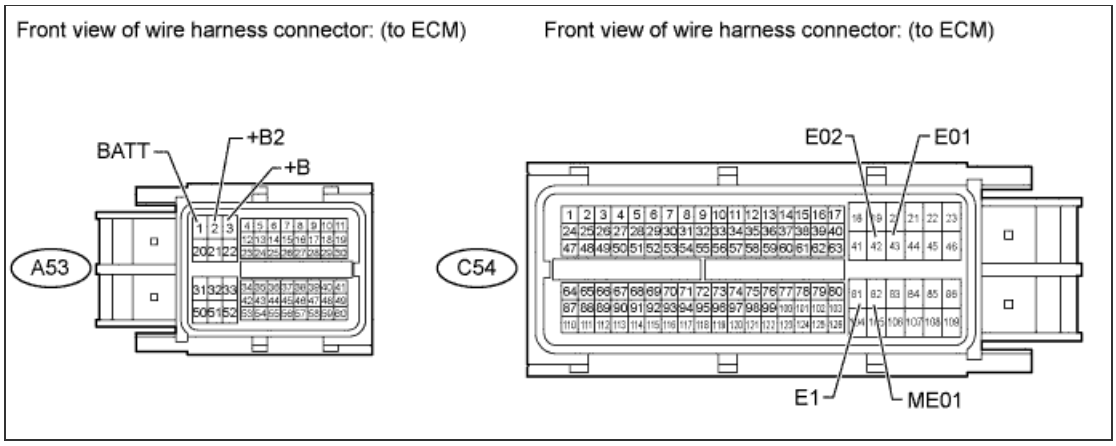



## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.CHECK HARNESS AND CONNECTOR (ECM - BATTERY AND BODY GROUND)




a. Disconnect the A53 and C54 ECU connectors.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| C54-81 (E1) - Body ground | Always | Below 1 Ω |
| C54-42 (E02) - Body ground | | |
| C54-43 (E01) - Body ground | | |
| C54-82 (ME01) - Body ground | | |

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A53-1 (BATT) - Body ground | Always | 11 to 14 V |
| A53-2 (+B2) - Body ground | Battery positive (+) voltage applied to terminal MREL | |
| A53-3 (+B) - Body ground | Battery positive (+) voltage applied to terminal MREL | |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

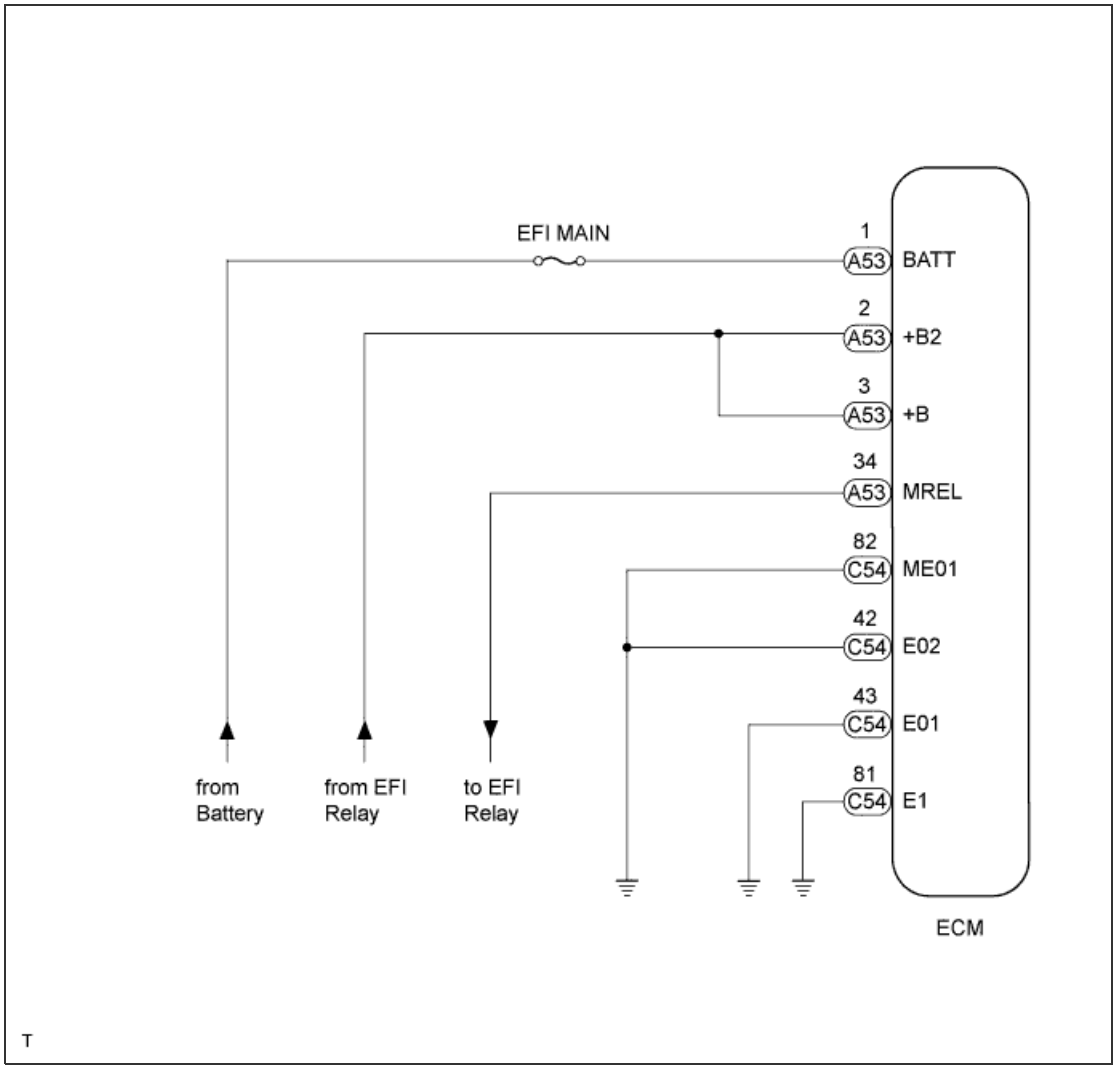
REPLACE ECM (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| ECM Communication Stop Mode | When either condition below is met:<br>• "ECM (Engine)" is not displayed on "CAN Bus Check".<br>• Applies to "ECM Communication Stop Mode" in "DTC Combination Table". | • Power source or ECM<br>• ECM |

## WIRING DIAGRAM



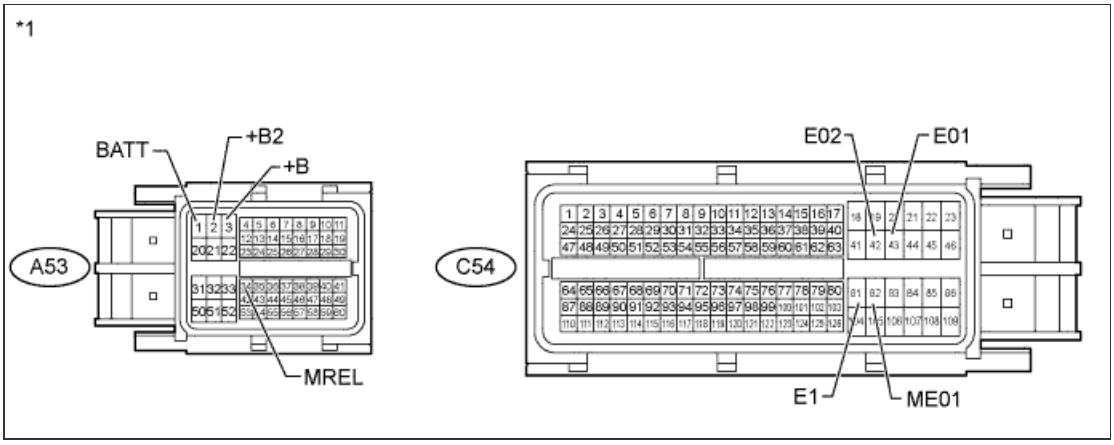

## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

### 1.CHECK HARNESS AND CONNECTOR (ECM - BATTERY AND BODY GROUND)

a. Disconnect the A53 and C54 ECM connectors.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Front view of wire harness connector (to ECM) | - | - |

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| A53-1 (BATT) - Body ground | Always | 11 to 14 V |
| A53-2 (+B2) - Body ground | When battery positive (+) voltage is applied to terminal A53-34 (MREL) | 11 to 14 V |
| A53-3 (+B) - Body ground | When battery positive (+) voltage is applied to terminal A53-34 (MREL) | 11 to 14 V |

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| C54-81 (E1) - Body ground | Always | Below 1 Ω |
| C54-42 (E02) - Body ground | Always | Below 1 Ω |
| C54-43 (E01) - Body ground | Always | Below 1 Ω |
| C54-82 (ME01) - Body ground | Always | Below 1 Ω |

**Result**

| Result | Proceed to |
|---|---|
| OK (for 1UR-FE) | A |
| OK (for 3UR-FE) | B |
| NG | C |

B → REPLACE ECM (Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A

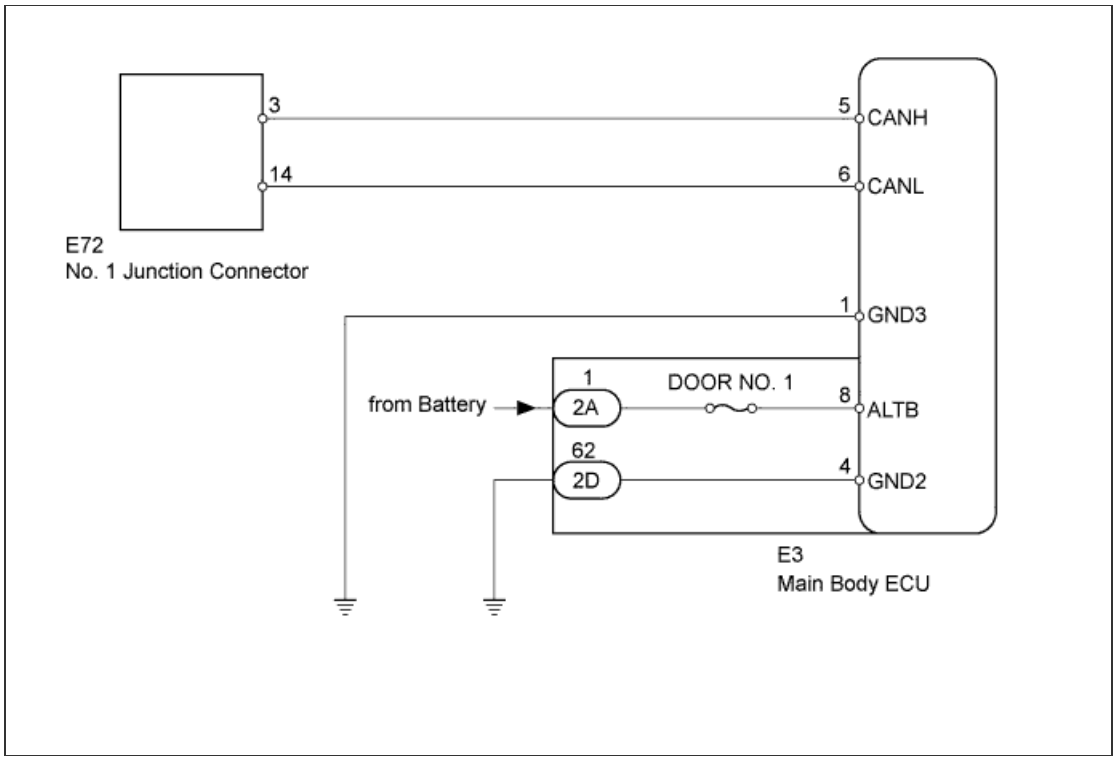
REPLACE ECM (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Main Body ECU Communication Stop Mode | When either condition below is met:<br>• "Main Body" is not displayed on "Bus Check".<br>• "Main Body ECU Communication Stop Mode" in "DTC Combination Table" applies. | • Power source or inside main body ECU<br>• Main body ECU branch wire or connector<br>• Main body ECU |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

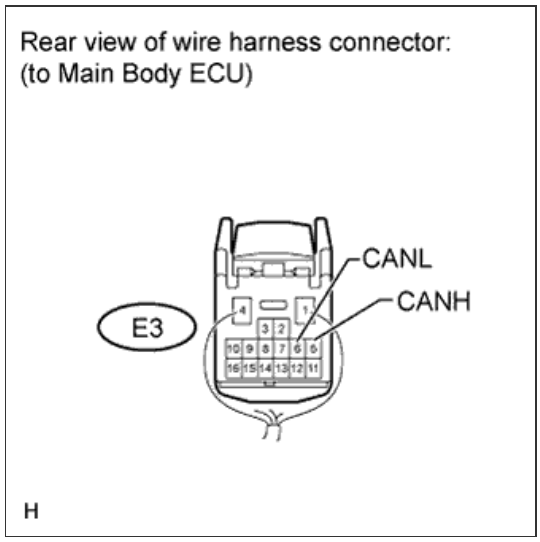
### 2.CHECK FOR OPEN IN CAN BUS WIRE (MAIN BODY ECU BRANCH WIRE)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-5 (CANH) - E3-6 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

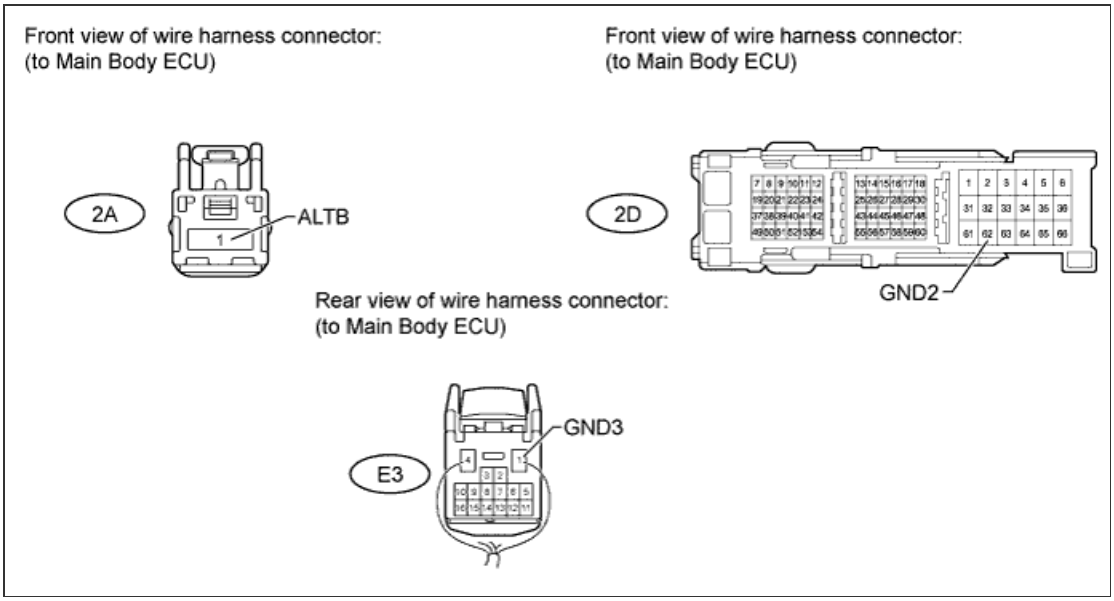
## 3.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the 2A and 2D main body ECU (cowl side junction block LH) connectors.




c. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |

| | | |
|---|---|---|
| E3-1 (GND3) - Body ground | Always | Below 1 Ω |

e. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2A-1 (ALTB) - Body ground | Always | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

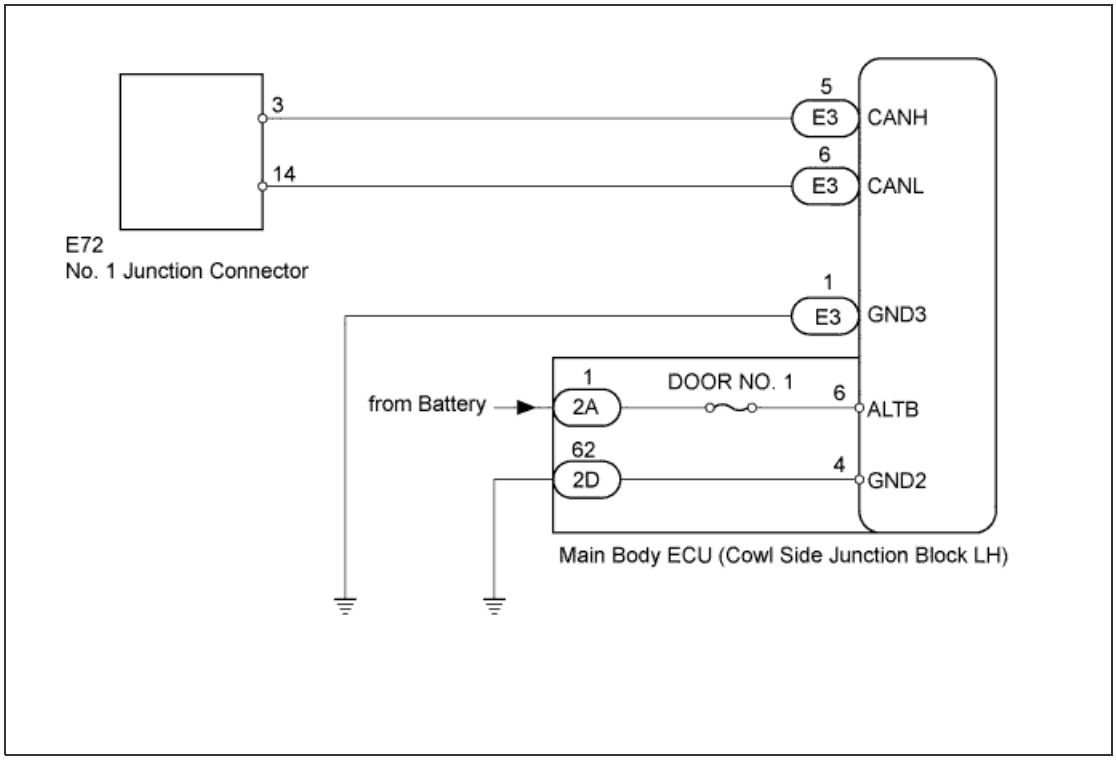
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Main Body ECU Communication Stop Mode | When either condition below is met:<br>• "Main Body" is not displayed on "CAN Bus Check".<br>• Applies to "Main Body ECU Communication Stop Mode" in "DTC Combination Table" | • Power source or inside main body ECU (cowl side junction block LH)<br>• Main body ECU (cowl side junction block LH) branch wire or connector<br>• Main body ECU (cowl side junction block LH) |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

**NEXT**

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

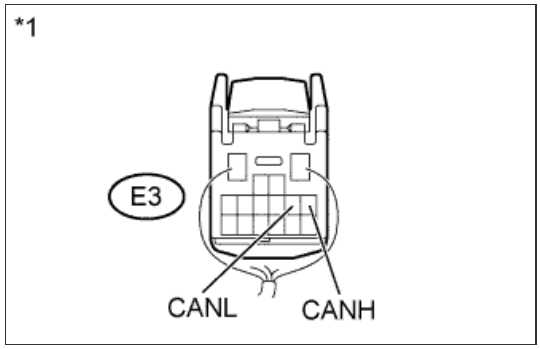
### 3.CHECK FOR OPEN IN CAN BUS WIRE (MAIN BODY ECU CAN BRANCH WIRE)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-5 (CANH) - E3-6 (CANL) | Engine switch off | 54 to 69 Ω |




**Text in Illustration**

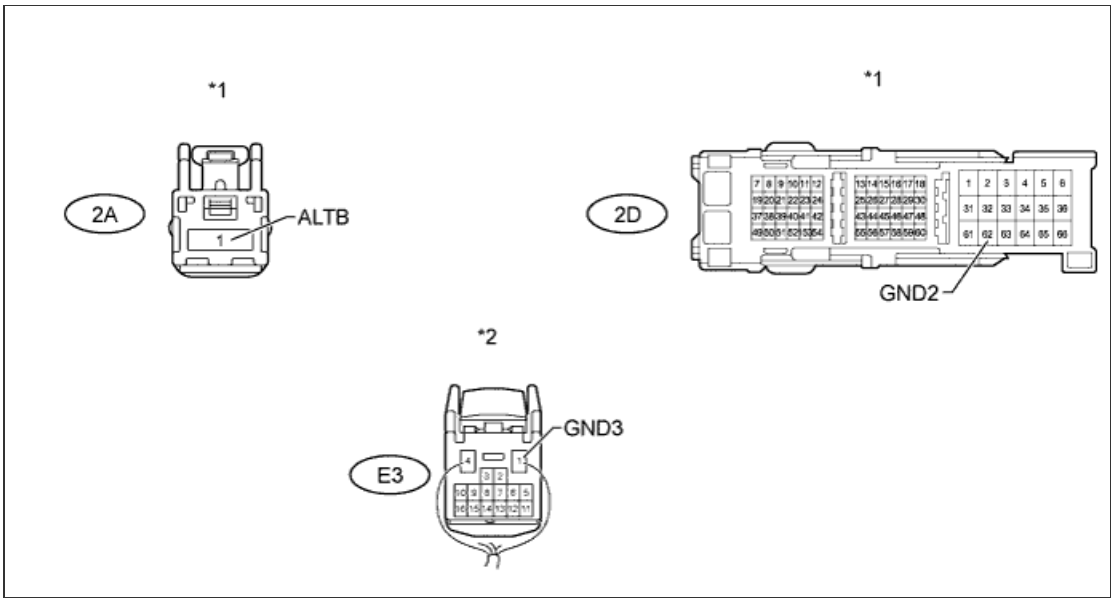
| | |
|---|---|
| *1 | Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) |

NG → REPAIR OR REPLACE MAIN BODY ECU CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

### 4.CHECK HARNESS AND CONNECTOR (MAIN BODY ECU - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.




**Text in Illustration**

| | | | |
|---|---|---|---|
| *1 | Front view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) | *2 | Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) |

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

b. Disconnect the 2A, 2D and E3 main body ECU (cowl side junction block LH) connectors.

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2A-1 (ALTB) - Body ground | Always | 11 to 14 V |

d. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| 2D-62 (GND2) - Body ground | Always | Below 1 Ω |
| E3-1 (GND3) - Body ground | Always | Below 1 Ω |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

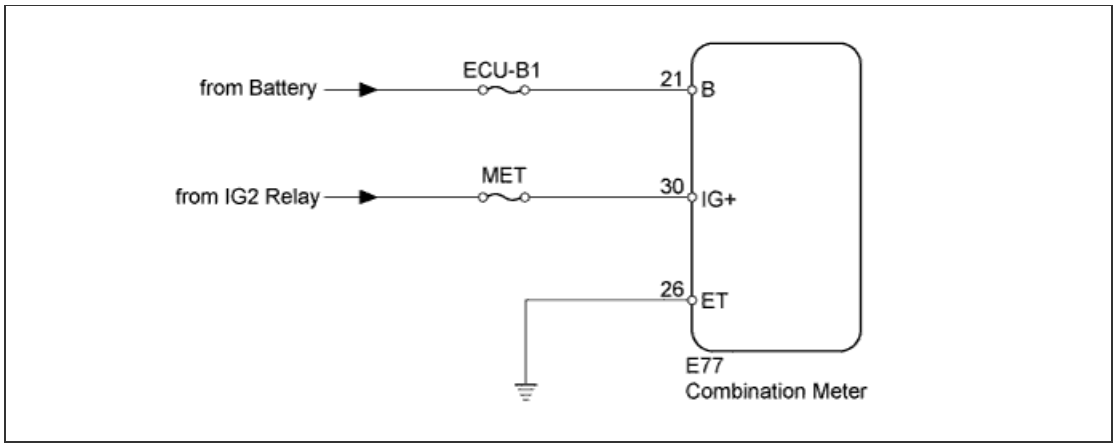
OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Combination Meter ECU Communication Stop Mode | When either condition below is met:<br>• "Combination Meter" is not displayed on "Bus Check".<br>• "Combination Meter ECU Communication Stop Mode" in "DTC Combination Table" applies. | • Power source or inside combination meter<br>• Combination meter |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.CHECK HARNESS AND CONNECTOR (COMBINATION METER - BATTERY AND BODY GROUND)

a. Disconnect the E77 combination meter connector.

b. Measure the resistance according to the value(s) in the table below.

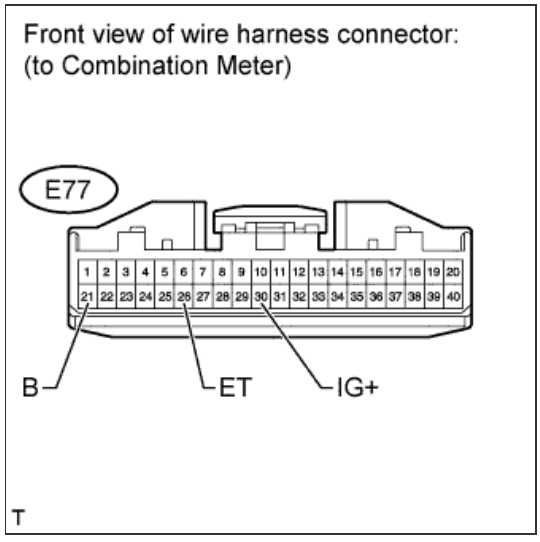
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E77-26 (ET) - Body ground | Always | Below 1 Ω |

c. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-21 (B) - Body ground | Always | 11 to 14 V |
| E77-30 (IG+) - Body ground | Engine switch on (IG) | 11 to 14 V |



NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

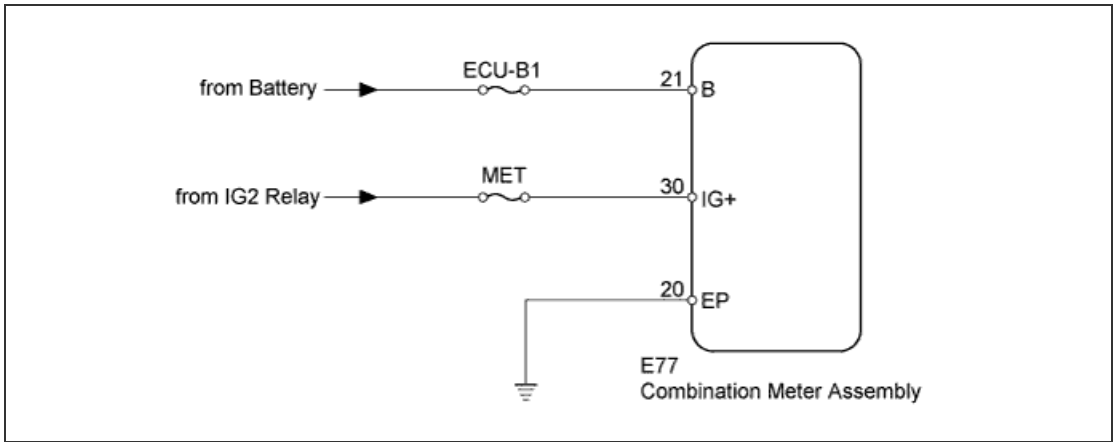
REPLACE COMBINATION METER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Combination Meter ECU Communication Stop Mode | When either condition below is met:<br>• "Combination Meter" is not displayed on "CAN Bus Check".<br>• Applies to "Combination Meter ECU Communication Stop Mode" in "DTC Combination Table". | • Power source or inside combination meter assembly<br>• Combination meter assembly |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

### 1.CHECK HARNESS AND CONNECTOR (COMBINATION METER ASSEMBLY - BATTERY AND BODY GROUND)

a. Disconnect the E77 combination meter assembly connector.

b. Measure the voltage according to the value(s) in the table below.

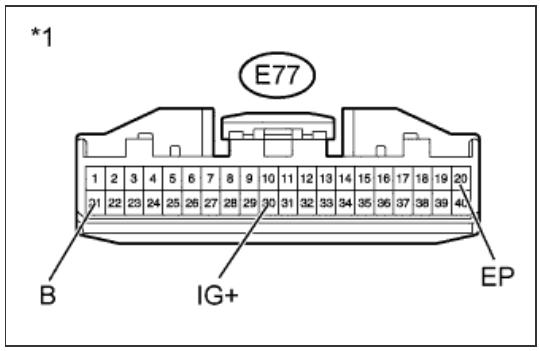
**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-21 (B) - Body ground | Always | 11 to 14 V |
| E77-30 (IG+) - 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 |
|---|---|---|
| E77-20 (EP) - Body ground | Always | Below 1 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Combination Meter Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

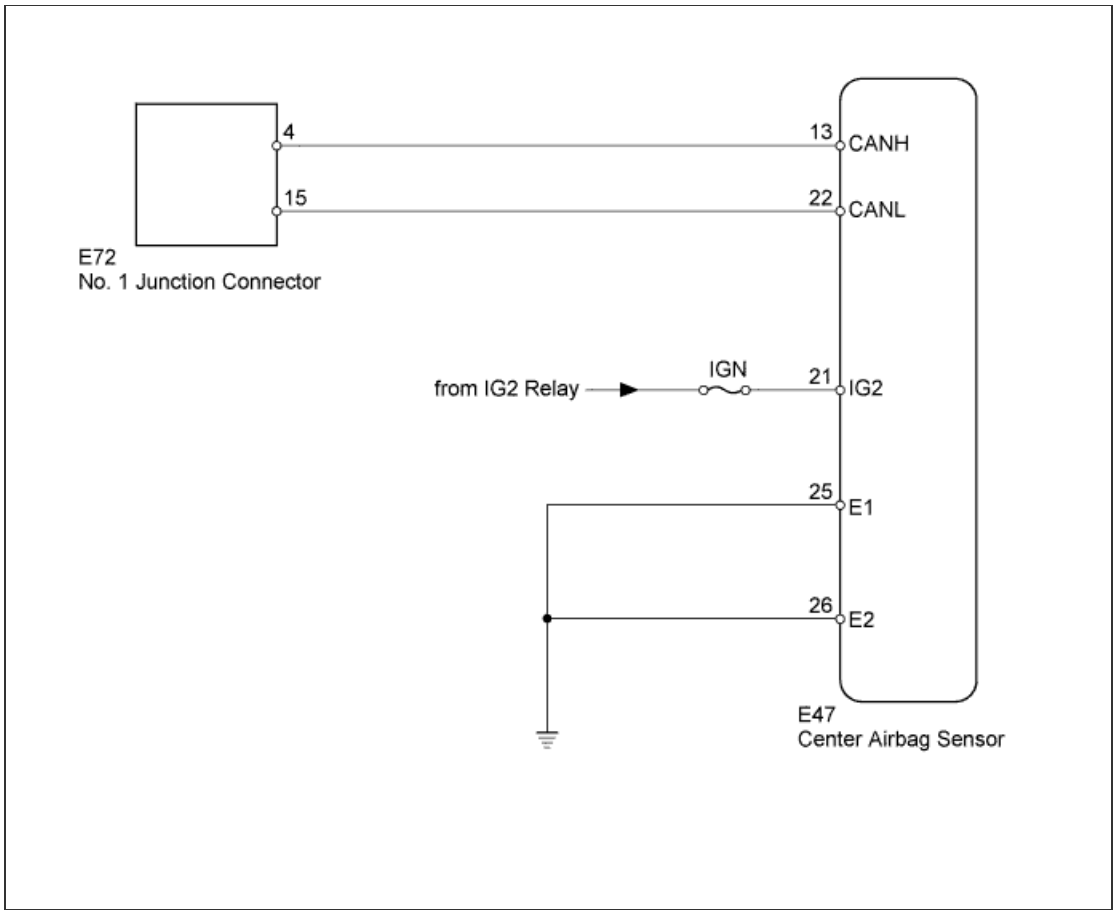
REPLACE COMBINATION METER ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Center Airbag Sensor Communication Stop Mode | When either condition below is met:<br>• "SRS Airbag" is not displayed on "Bus Check".<br>• "Center Airbag Sensor Communication Stop Mode" in "DTC Combination Table" applies. | • Power source or center airbag sensor<br>• Center airbag sensor branch wire or connector<br>• Center airbag sensor assembly |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

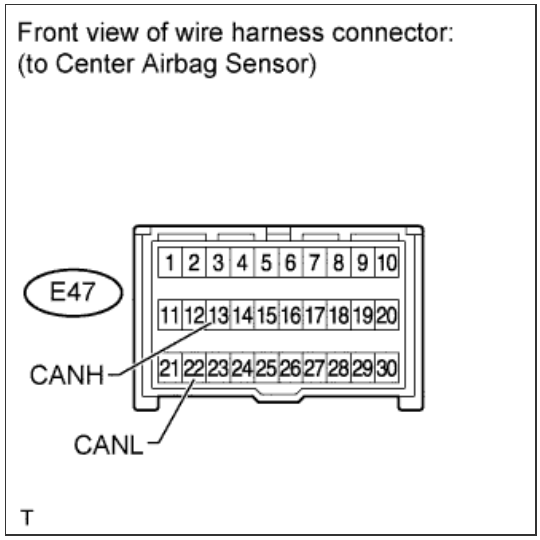
## 2.CHECK FOR OPEN IN CAN BUS WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE CENTER AIRBAG SENSOR BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (CENTER AIRBAG SENSOR - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

**NOTICE:**

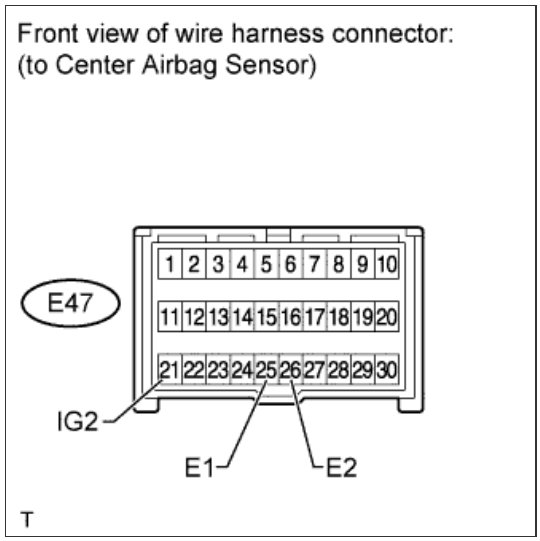
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

b. Disconnect the E47 center airbag sensor connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E47-25 (E1) - Body ground | Always | Below 1 Ω |
| E47-26 (E2) - Body ground | | |




d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-21 (IG2) - Body ground | Engine switch on (IG) | 11 to 14 V |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

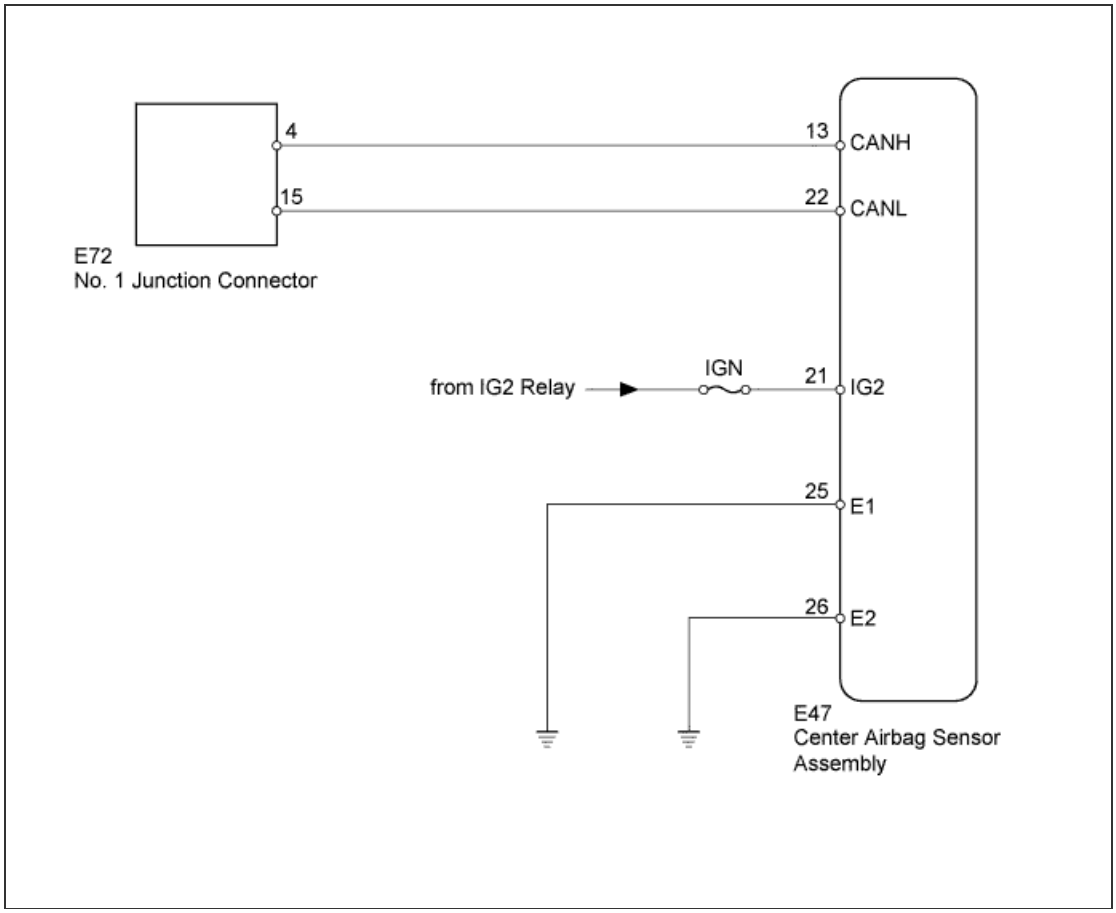
REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Center Airbag Sensor Communication Stop Mode | When either condition below is met:<br>• "Airbag" is not displayed on "CAN Bus Check".<br>• Applies to "Center Airbag Sensor Communication Stop Mode" in "DTC Combination Table". | • Power source or center airbag sensor assembly<br>• Center airbag sensor assembly CAN branch wire or connector<br>• Center airbag sensor assembly |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

- **Inspect the fuses for circuits related to this system before performing the following inspection procedure.**
- **The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the Precaution in the SRS (Click here).**

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (CENTER AIRBAG SENSOR ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the E47 center airbag sensor assembly connector ( Click here).

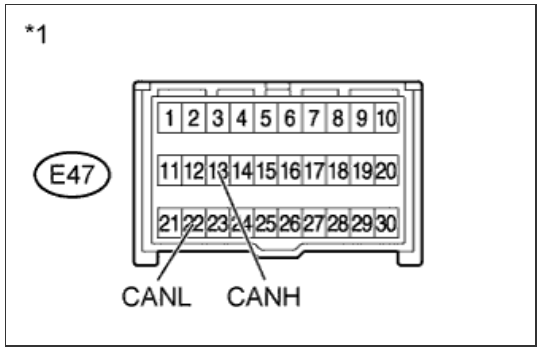
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Center Airbag Sensor Assembly) |




NG → REPAIR OR REPLACE CENTER AIRBAG SENSOR ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (CENTER AIRBAG SENSOR ASSEMBLY - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

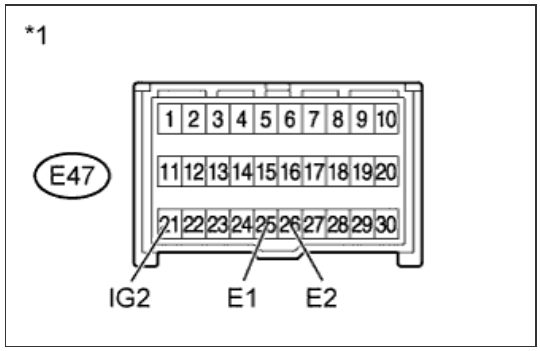
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-21 (IG2) - 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 |
|---|---|---|
| E47-25 (E1) - Body ground | Always | Below 1 Ω |

| | | |
|---|---|---|
| E47-26 (E2) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Center Airbag Sensor Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

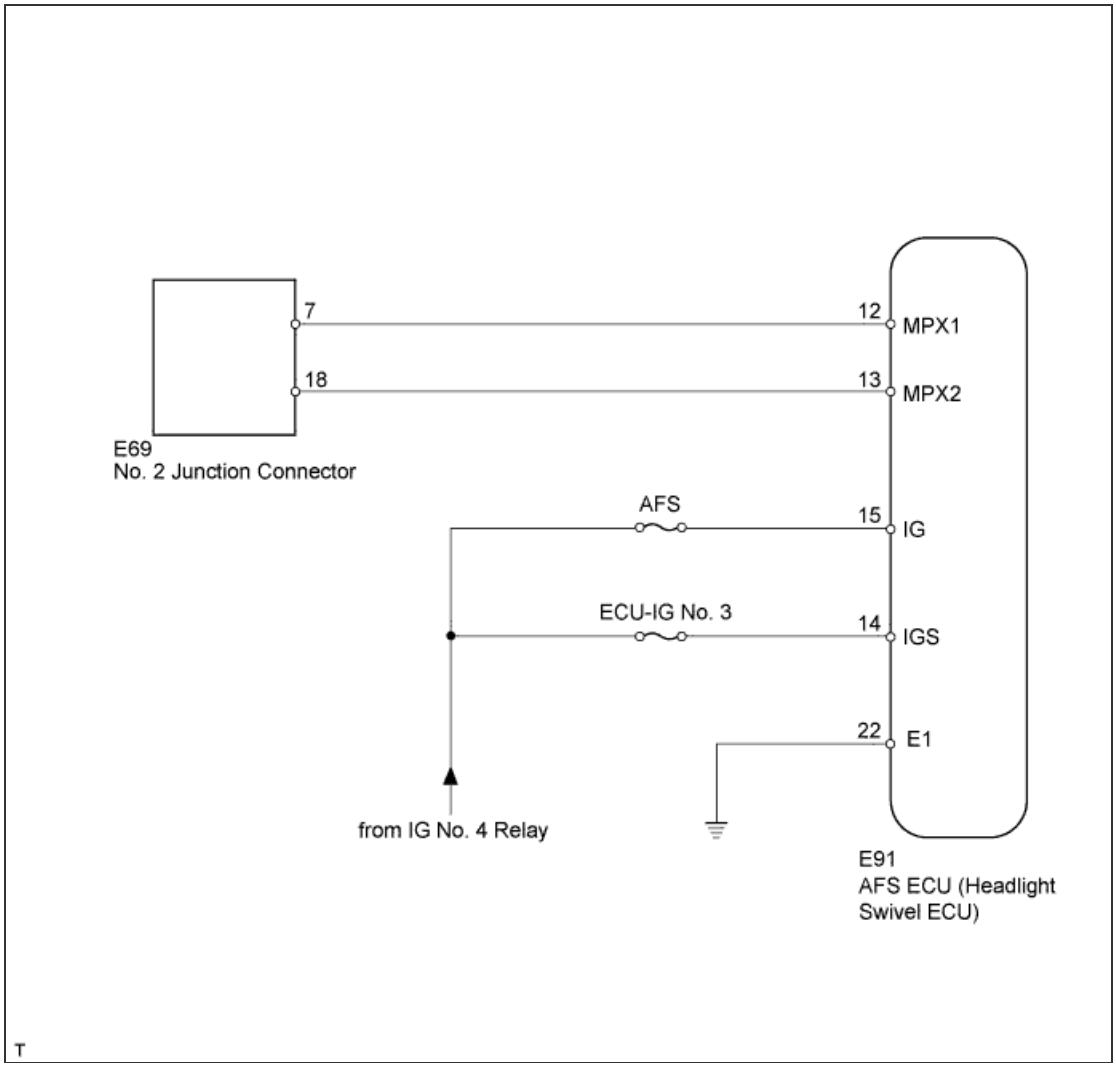
REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| AFS ECU Communication Stop Mode | When either condition below is met:<br>• "AFS/HL AutoLeveling" is not displayed on "Bus Check".<br>• Applies to "AFS ECU Communication Stop Mode" in "DTC Combination Table". | • Power source or inside AFS ECU (headlight swivel ECU assembly)<br>• AFS ECU (headlight swivel ECU assembly) branch wire or connector<br>• AFS ECU (headlight swivel ECU assembly) |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and branch wire.

**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).

**NEXT**

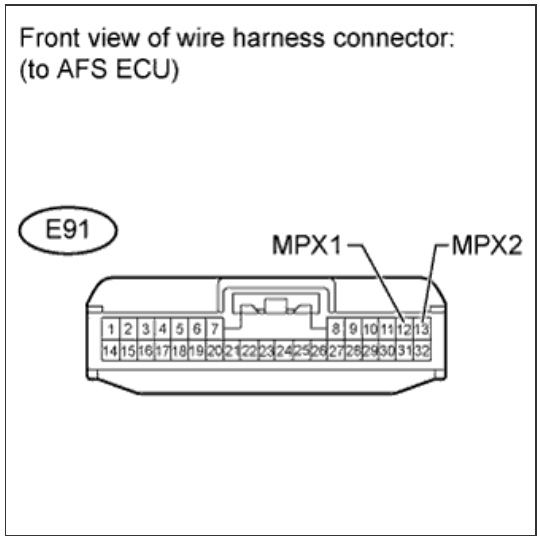
**2.CHECK FOR OPEN IN CAN BUS WIRE (AFS ECU BRANCH WIRE)**

a. Disconnect the E91 AFS ECU (headlight swivel ECU) connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | Engine switch off | 54 to 69 Ω |




**NG** → **REPAIR OR REPLACE AFS ECU BRANCH WIRE OR CONNECTOR (MPX1, MPX2)**

**OK**

**3.CHECK HARNESS AND CONNECTOR (AFS ECU - BATTERY AND BODY GROUND)**

a. 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).

b. Disconnect the E91 AFS ECU (headlight swivel ECU) connector.

c. Measure the resistance according to the value(s) in the table below.

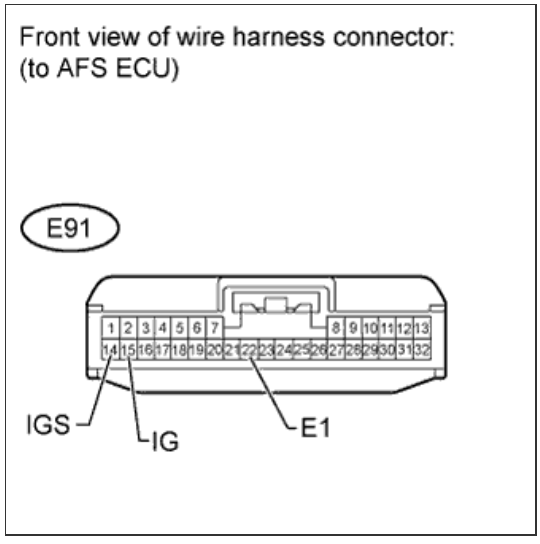
**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| E91-22 (E1) - Body ground | Always | Below 1 Ω |

d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-15 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |
| E91-14 (IGS) - Body ground | Engine switch on (IG) | 11 to 14 V |




**NG** → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

**OK**

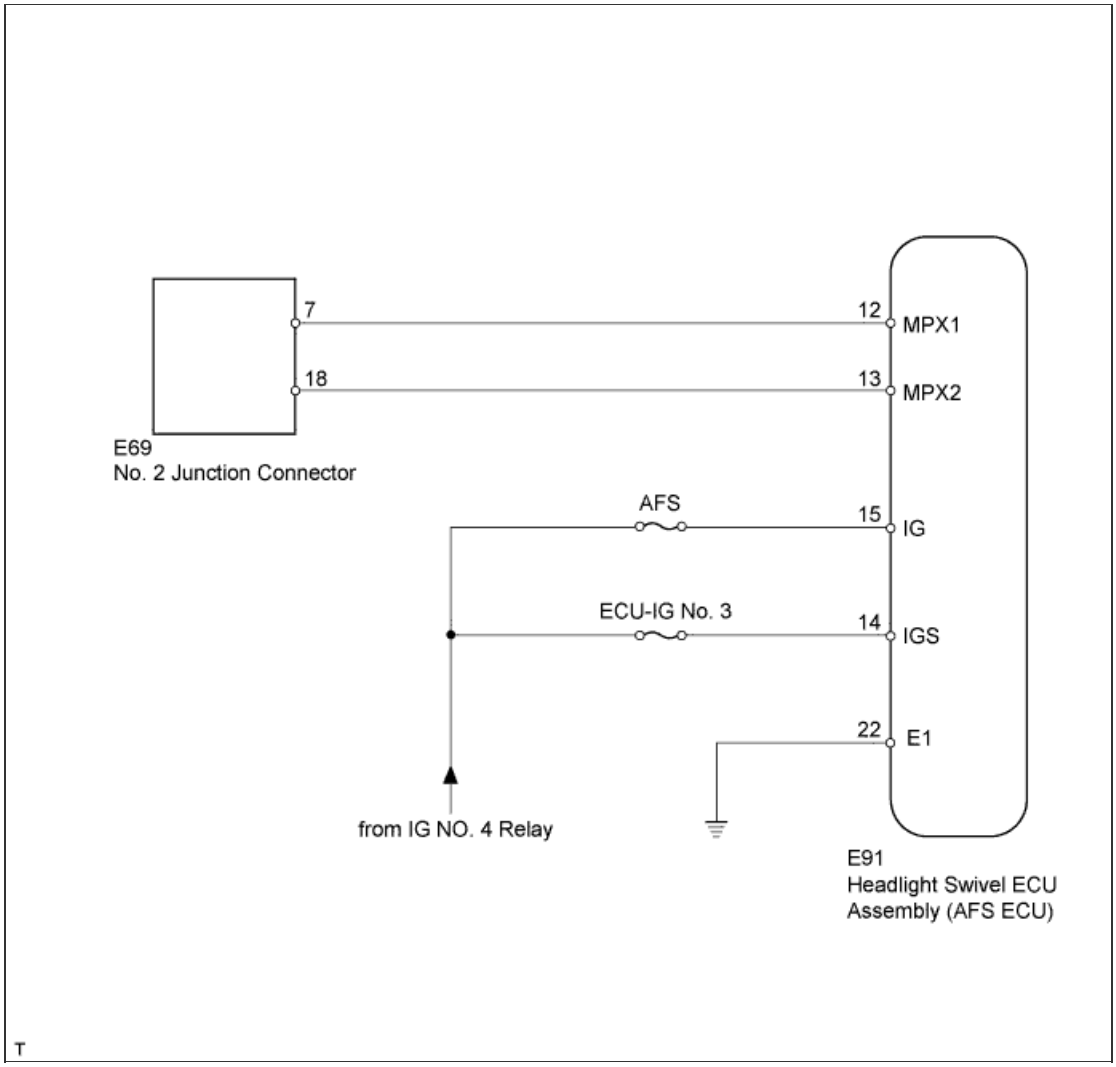
**REPLACE AFS ECU (HEADLIGHT SWIVEL ECU ASSEMBLY) (Click here)**

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| AFS ECU Communication Stop Mode | When either condition below is met:<br>• "Headlight swivel (AFS)" is not displayed on "CAN Bus Check".<br>• Applies to "AFS ECU Communication Stop Mode" in "DTC Combination Table". | • Power source or inside headlight swivel ECU assembly (AFS ECU)<br>• Headlight swivel ECU assembly (AFS ECU) CAN branch wire or connector<br>• Headlight swivel ECU assembly (AFS ECU) |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

**NEXT**

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (AFS ECU CAN BRANCH WIRE)

a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

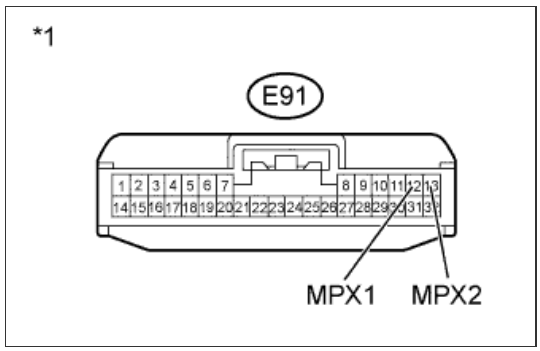
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Headlight Swivel ECU Assembly [AFS ECU]) |




**NG** → **REPAIR OR REPLACE AFS ECU CAN BRANCH WIRE OR CONNECTOR (MPX1, MPX2)**

**OK**

## 4.CHECK HARNESS AND CONNECTOR (AFS ECU - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

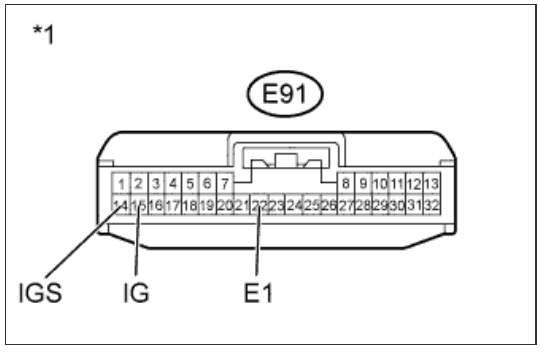
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-15 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |
| 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 |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector<br>(to Headlight Swivel ECU Assembly [AFS ECU]) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

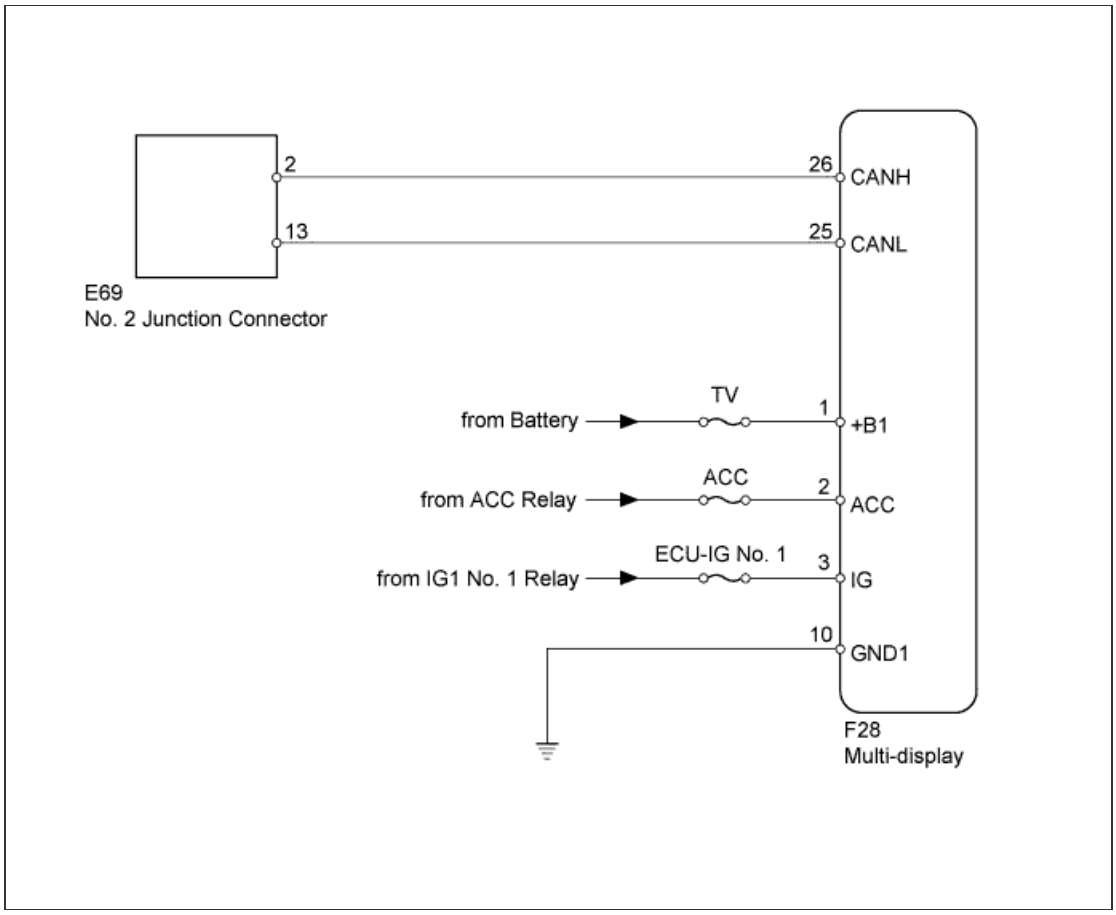
REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) ( Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Display and Navigation Assembly Communication Stop Mode | When either condition below is met:<br>• "AVN" is not displayed on "Bus Check".<br>• "Display and Navigation Assembly Communication Stop Mode" in "DTC Combination Table" applies. | • Power source or inside multi-display<br>• Multi-display branch wire or connector<br>• Multi-display |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

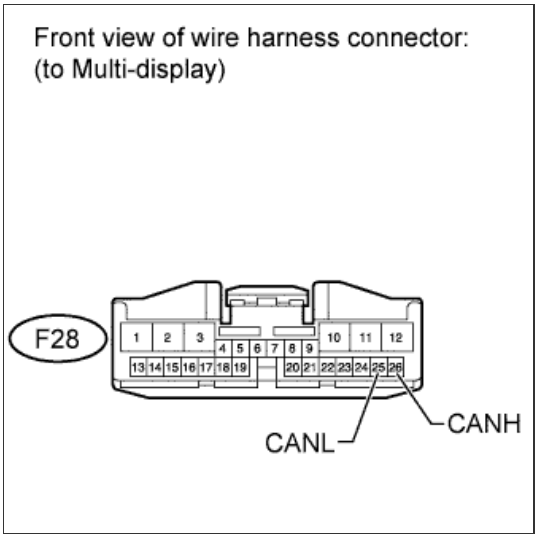
## 2.CHECK FOR OPEN IN CAN BUS WIRE (MULTI-DISPLAY BRANCH WIRE)

a. Disconnect the F28 multi-display connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F28-26 (CANH) - F28-25 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE MULTI-DISPLAY BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (MULTI-DISPLAY - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

**NOTICE:**

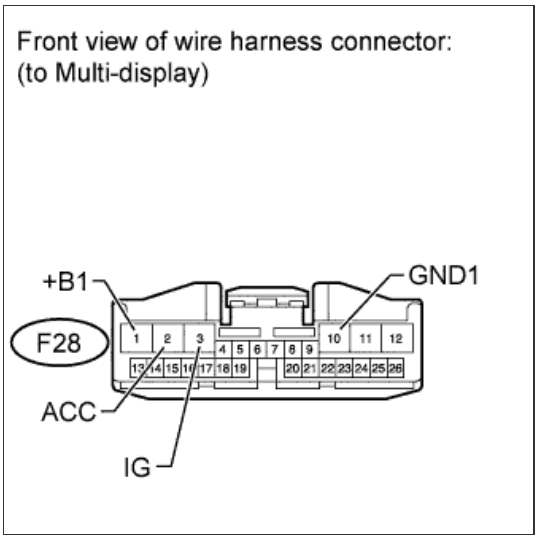
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

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 |
|---|---|---|
| F28-10 (GND1) - Body ground | Always | Below 1 Ω |




d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F28-1 (+B1) - Body ground | Always | 11 to 14 V |
| F28-2 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| F28-3 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |

| | |
|---|---|
| NG | C |

B → REPLACE MULTI-DISPLAY (Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A

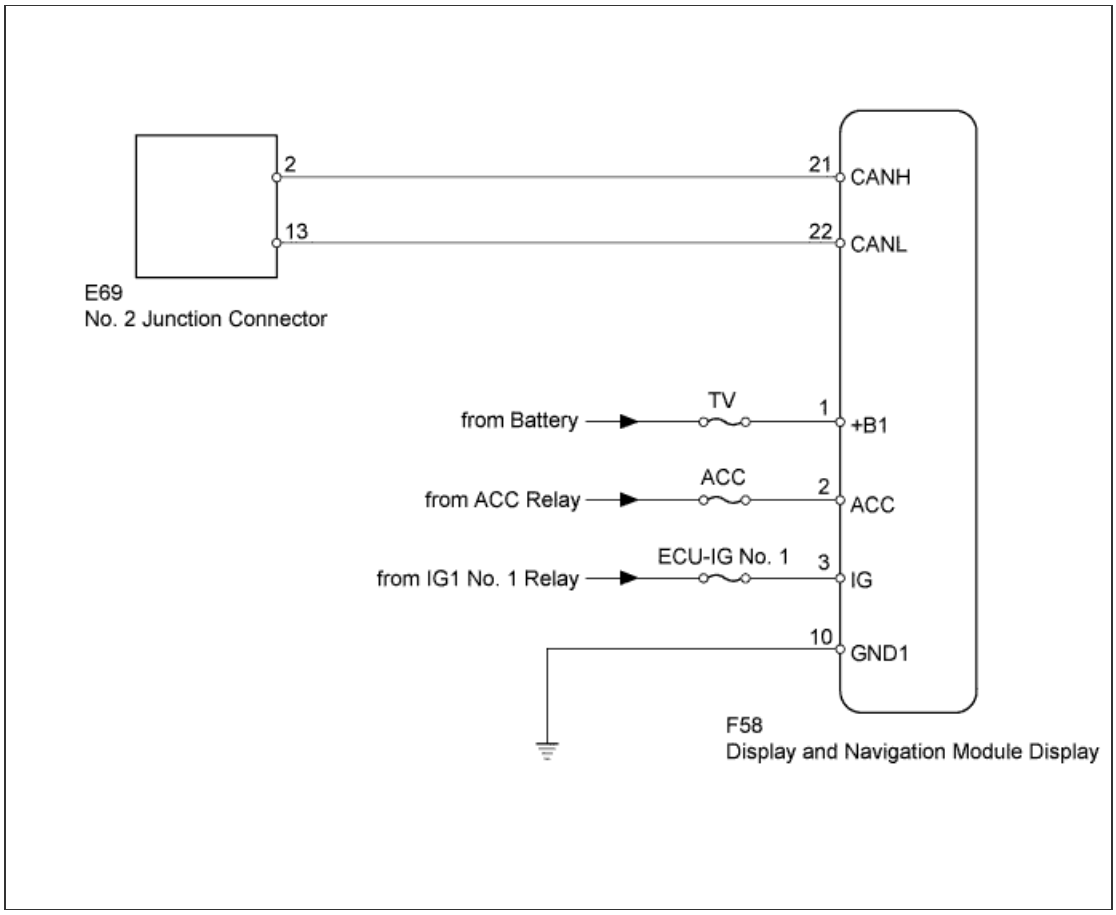
REPLACE MULTI-DISPLAY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Display and Navigation Assembly Communication Stop Mode | When either condition below is met:<br>• "AVN1" is not displayed on "Bus Check".<br>• "Display and Navigation Assembly Communication Stop Mode" in "DTC Combination Table" applies. | • Power source or inside display and navigation module display<br>• Display and navigation module display branch wire or connector<br>• Display and navigation module display |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

## 2.CHECK FOR OPEN IN CAN BUS WIRE (DISPLAY AND NAVIGATION MODULE DISPLAY BRANCH WIRE)

a. Disconnect the F58 display and navigation module display connector.

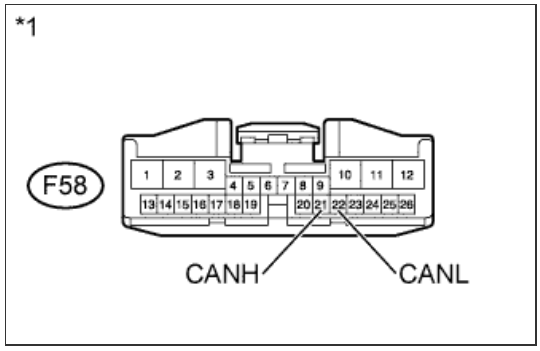
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F58-21 (CANH) - F58-22 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Display and Navigation Module Display) |




NG → REPAIR OR REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 3.CHECK HARNESS AND CONNECTOR (DISPLAY AND NAVIGATION MODULE DISPLAY - BATTERY AND BODY GROUND)

a. 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).

b. Disconnect the F58 display and navigation module display connector.

c. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F58-10 (GND1) - Body ground | Always | Below 1 Ω |

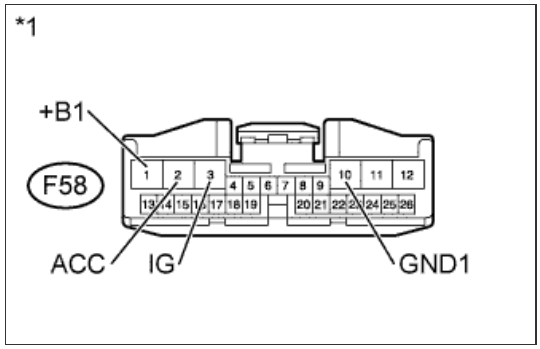
d. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F58-1 (+B1) - Body ground | Always | 11 to 14 V |
| F58-2 (ACC) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| F58-3 (IG) - Body ground | Engine switch on (IG) | 11 to 14 V |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Display and Navigation Module Display) |




**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK | |

| | |
|---|---|
| (w/o Navigation System) | B |
| NG | C |

B → REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

C → REPAIR OR REPLACE HARNESS OR CONNECTOR

A

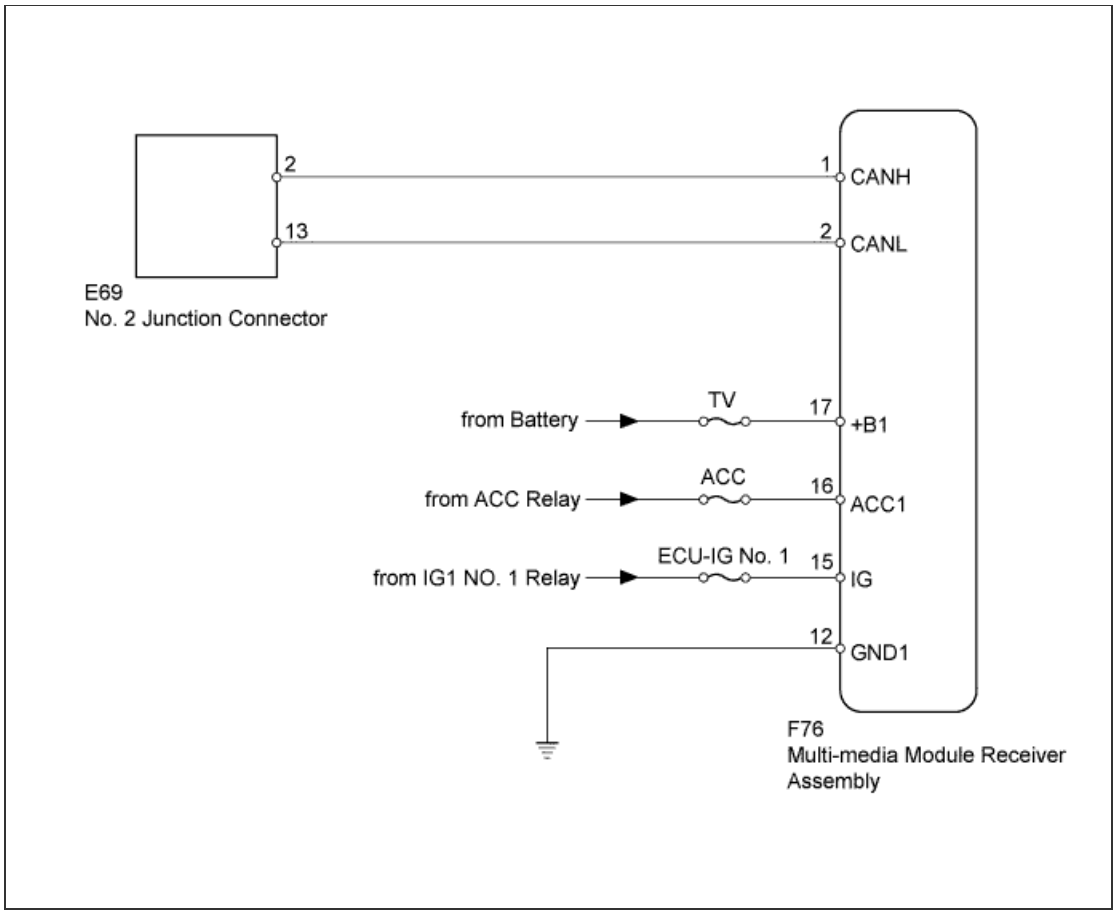
REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

**for Preparation** Click here

## DESCRIPTION

| Detection Item | Symptom | Trouble Area |
|---|---|---|
| Multi-media Module Receiver Assembly Communication Stop Mode | When either condition below is met:<br>• "Display and Navigation (AVN)" is not displayed on "CAN Bus Check".<br>• Applies to "Multi-media Module Receiver Assembly Communication Stop Mode" in "DTC Combination Table". | • Power source or inside multi-media module receiver assembly<br>• Multi-media module receiver assembly CAN branch wire or connector<br>• Multi-media module receiver assembly |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**NOTICE:**

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

## 3.CHECK FOR OPEN IN CAN BUS WIRE (MULTI-MEDIA MODULE RECEIVER ASSEMBLY CAN BRANCH WIRE)

a. Disconnect the F76 multi-media module receiver assembly connector.

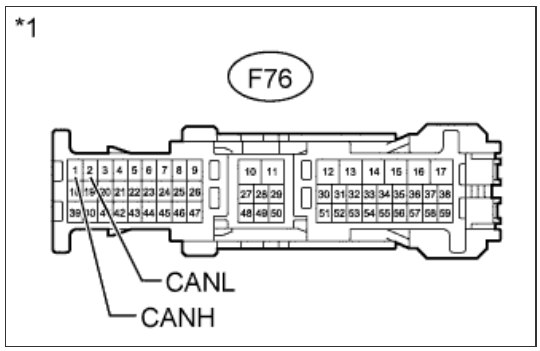
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F76-1 (CANH) - F76-2 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Multi-media Module Receiver Assembly) |




NG → REPAIR OR REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY CAN BRANCH WIRE OR CONNECTOR (CANH, CANL)

OK

## 4.CHECK HARNESS AND CONNECTOR (MULTI-MEDIA MODULE RECEIVER ASSEMBLY - BATTERY AND BODY GROUND)

a. Connect the cable to the negative (-) battery terminal.

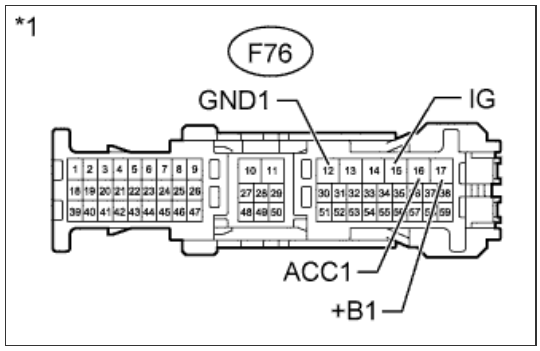
**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Measure the voltage according to the value(s) in the table below.

**Standard Voltage:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| F76-17 (+B1) - Body ground | Always | 11 to 14 V |
| F76-16 (ACC1) - Body ground | Engine switch on (ACC) | 11 to 14 V |
| F76-15 (IG) - 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 |
|---|---|---|
| F76-12 (GND1) - Body ground | Always | Below 1 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Multi-media Module Receiver Assembly) |

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

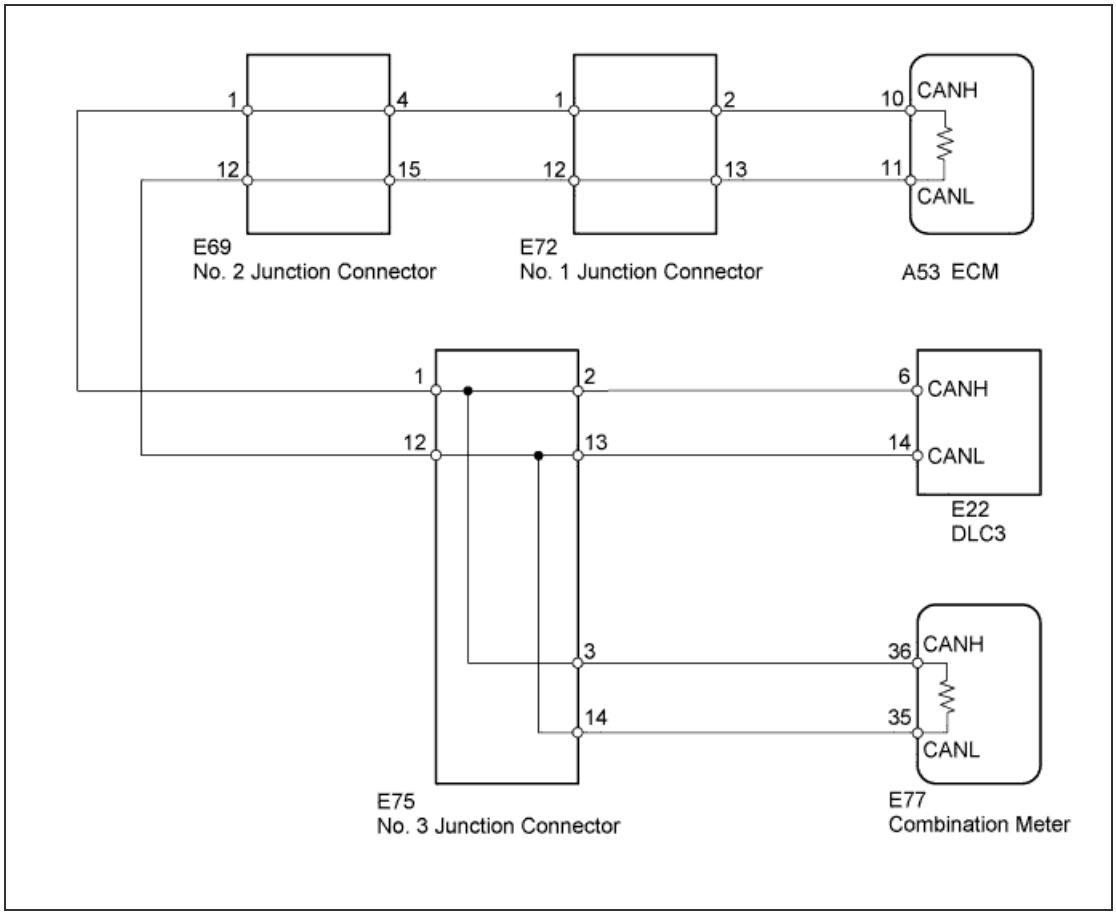
**for Preparation** Click here

## DESCRIPTION

There may be an open circuit in the CAN main wire and/or DLC3 branch wire when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is 69 Ω or higher.

| Symptom | Trouble Area |
|---|---|
| Resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is 69 Ω or higher. | • CAN main wire and connector<br>• DLC3 branch wire or connector<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector<br>• ECM<br>• Combination meter |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

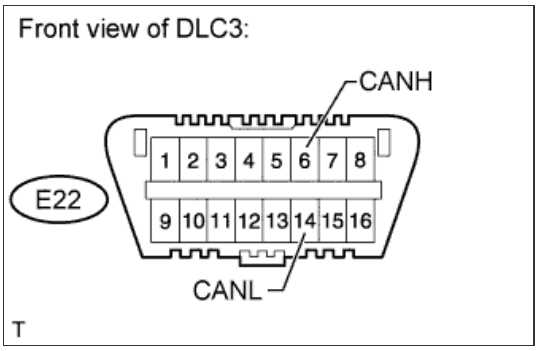
NEXT

## 2.CHECK DLC3

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω | OK |
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 132 Ω or higher | NG |




**NOTICE:**

When the measured value is 132 Ω or higher and a CAN communication system diagnostic trouble code is output, there may be a fault besides disconnection of the DLC3 branch wire. For that reason, troubleshooting should be performed again from "How to Proceed with Troubleshooting" (Click here) after repairing the trouble area.

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

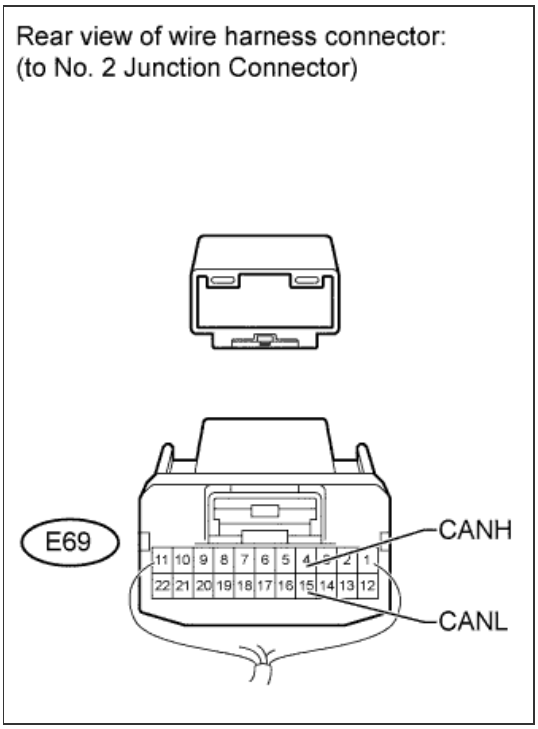
## 3.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - ECM)

a. Disconnect the E69 No. 2 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-4 (CANH) - E69-15 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 5

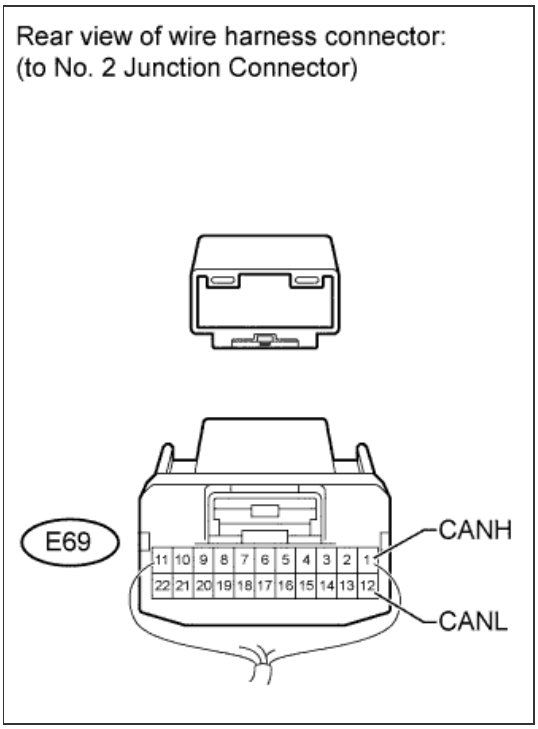
OK

## 4.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - COMBINATION METER)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-1 (CANH) - E69-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 10

OK

REPLACE NO. 2 JUNCTION CONNECTOR

5.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

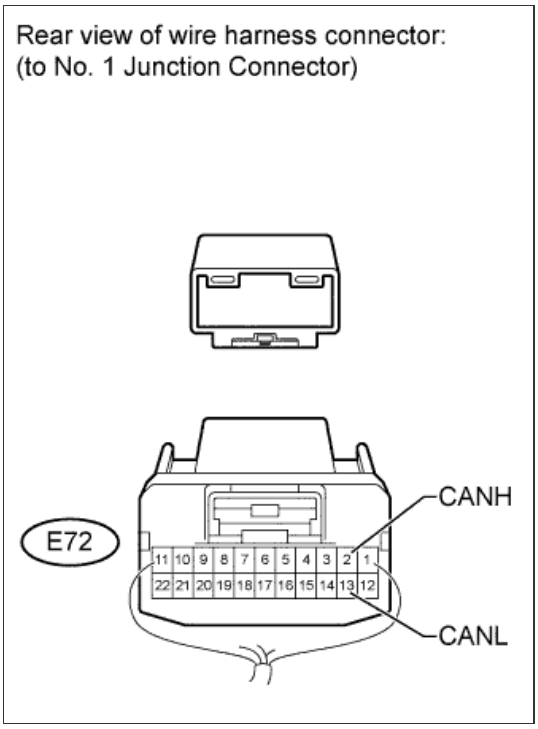
6.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

a. Disconnect the E72 No. 1 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 8

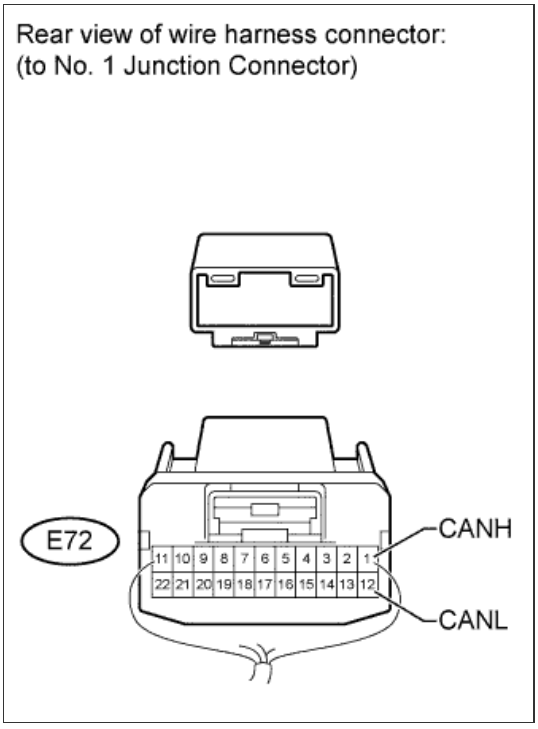
OK

**7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-1 (CANH) - E72-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

REPLACE NO. 1 JUNCTION CONNECTOR

**8.CONNECT CONNECTOR**

a. Reconnect the E72 No. 1 junction connector connector.

NEXT

## 9.CHECK FOR OPEN IN CAN BUS MAIN WIRE (ECM - NO. 1 JUNCTION CONNECTOR)

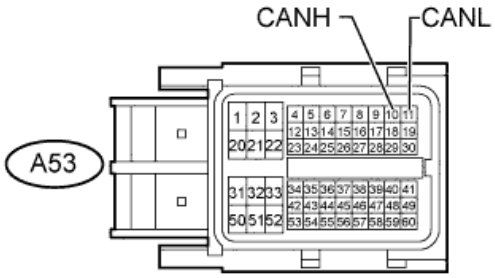
a. Disconnect the A53 ECM connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A53-10 (CANH) - A53-11 (CANL) | Engine switch off | 108 to 132 Ω |

Front view of wire harness connector:
(to ECM)




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (ECM - NO. 1 JUNCTION CONNECTOR)

OK

REPLACE ECM (Click here)

## 10.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

## 11.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

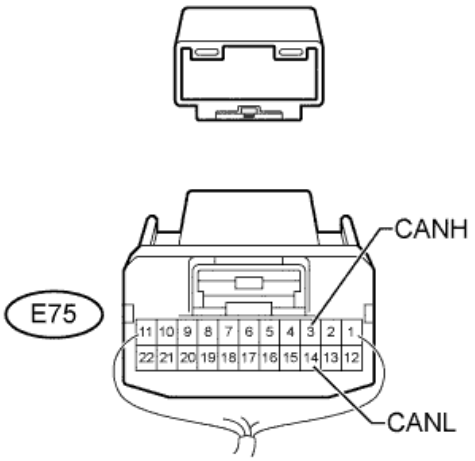
a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 108 to 132 Ω |

Rear view of wire harness connector:
(to No. 3 Junction Connector)



NG → Go to step 13

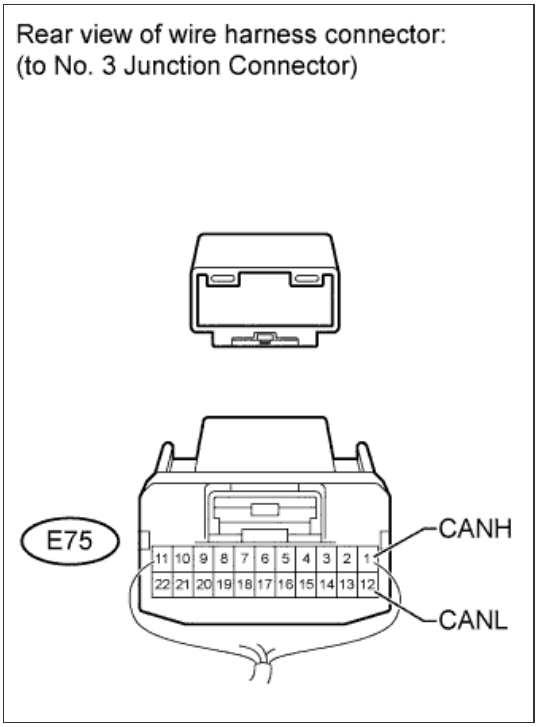
OK

## 12.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E75-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

REPLACE NO. 3 JUNCTION CONNECTOR

## 13.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

## 14.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER - NO. 3 JUNCTION CONNECTOR)

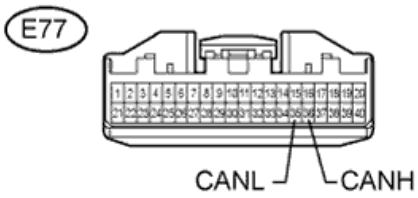
a. Disconnect the E77 combination meter connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-36 (CANH) - E77-35 (CANL) | Engine switch off | 108 to 132 Ω |

Front view of wire harness connector:
(to Combination Meter)




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (COMBINATION METER - NO. 3 JUNCTION CONNECTOR)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

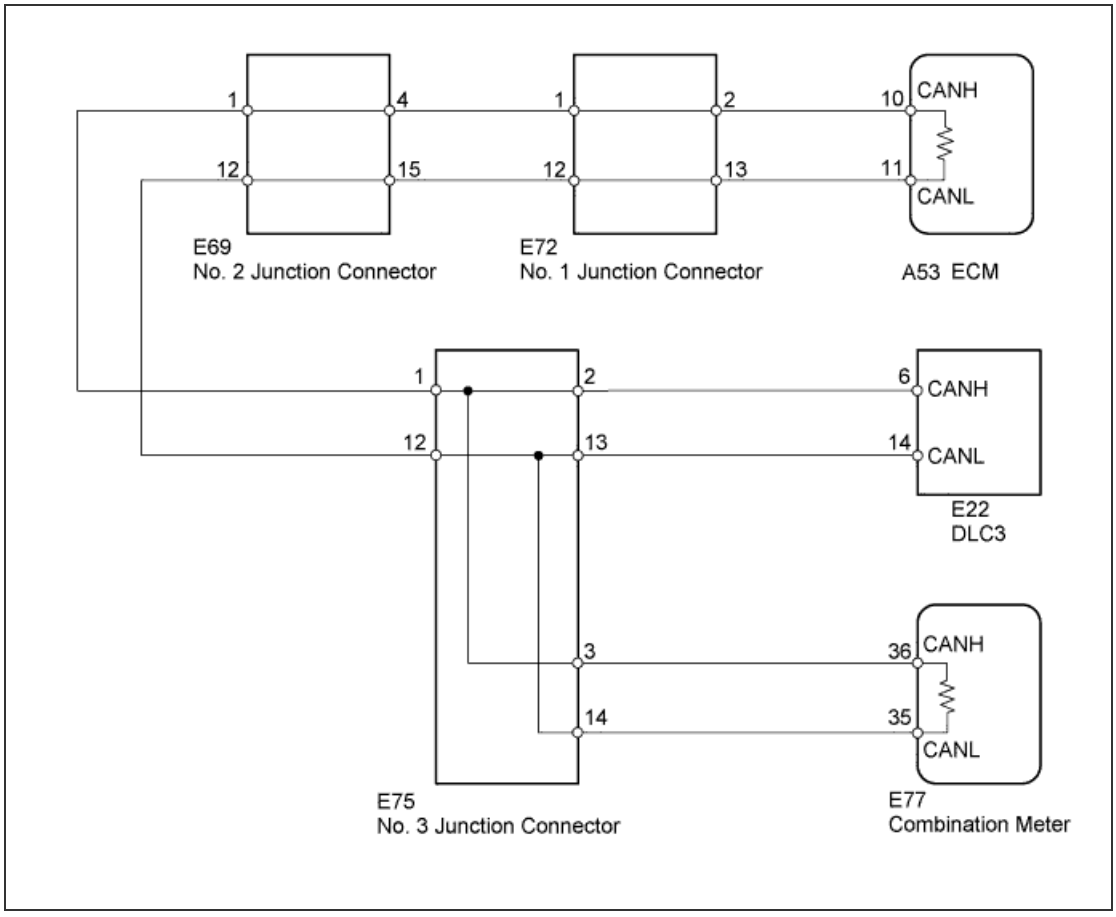
**for Preparation** Click here

## DESCRIPTION

There may be an open circuit in the CAN main wire and/or DLC3 branch wire when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is 69 Ω or higher.

| Symptom | Trouble Area |
|---|---|
| Resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is 69 Ω or higher. | • CAN main wire and connector<br>• DLC3 branch wire or connector<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector<br>• ECM<br>• Combination meter |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

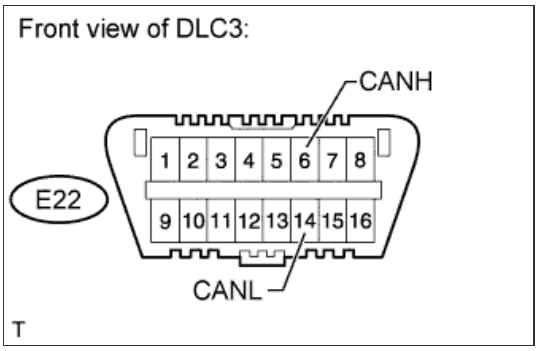
NEXT

## 2.CHECK DLC3

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω | OK |
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 132 Ω or higher | NG |




**NOTICE:**

When the measured value is 132 Ω or higher and a CAN communication system diagnostic trouble code is output, there may be a fault besides disconnection of the DLC3 branch wire. For that reason, troubleshooting should be performed again from "How to Proceed with Troubleshooting" (Click here) after repairing the trouble area.

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

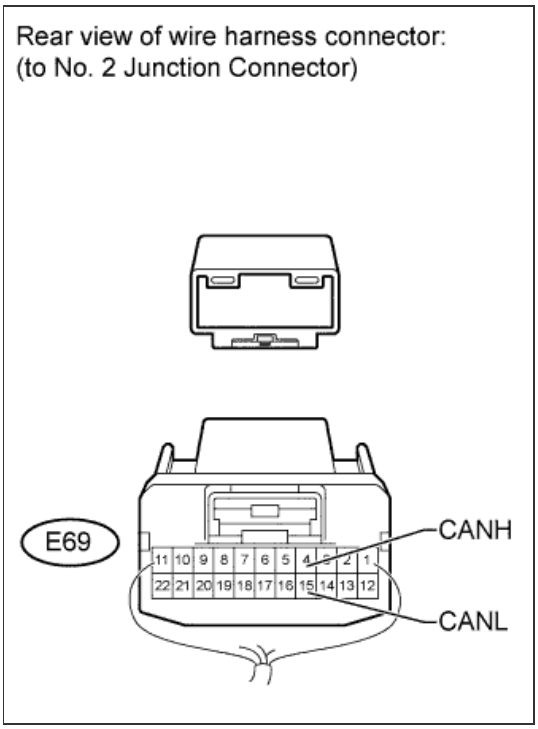
## 3.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - ECM)

a. Disconnect the E69 No. 2 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-4 (CANH) - E69-15 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 5

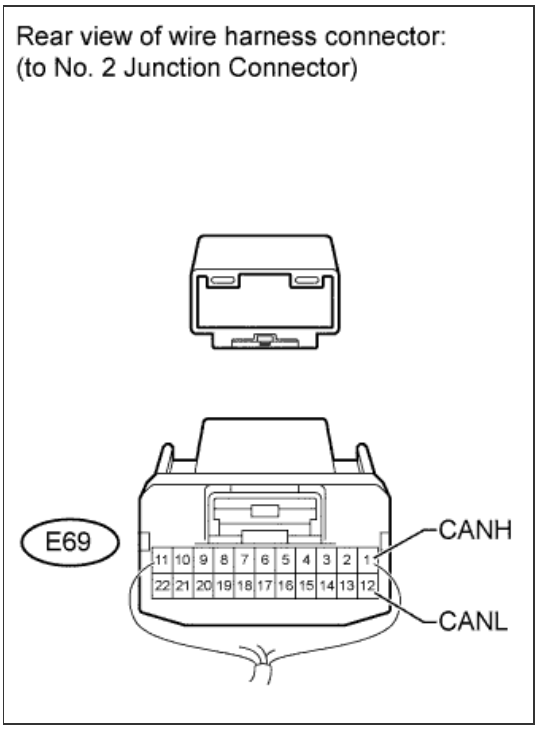
OK

## 4.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - COMBINATION METER)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-1 (CANH) - E69-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 10

OK

REPLACE NO. 2 JUNCTION CONNECTOR

5.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

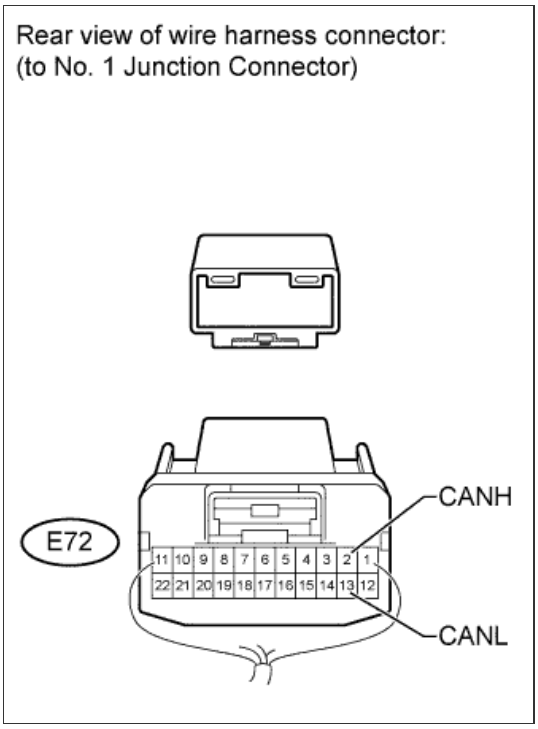
6.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

a. Disconnect the E72 No. 1 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 8

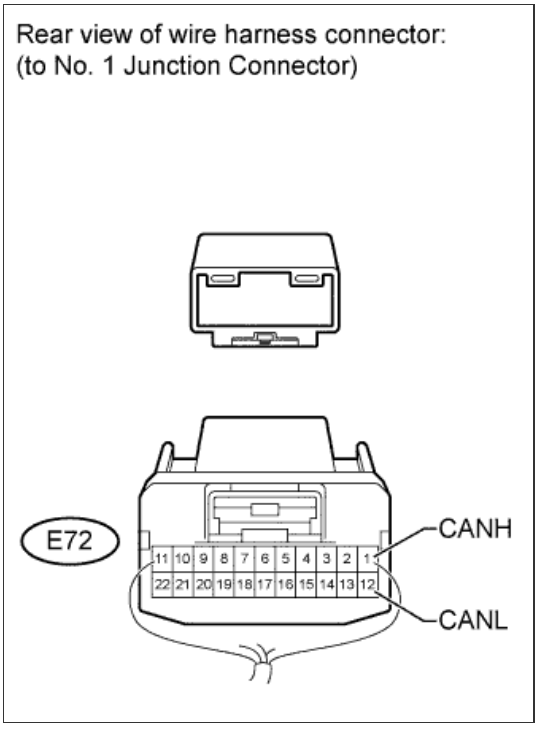
OK

**7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-1 (CANH) - E72-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

REPLACE NO. 1 JUNCTION CONNECTOR

**8.CONNECT CONNECTOR**

a. Reconnect the E72 No. 1 junction connector connector.

NEXT

## 9.CHECK FOR OPEN IN CAN BUS MAIN WIRE (ECM - NO. 1 JUNCTION CONNECTOR)

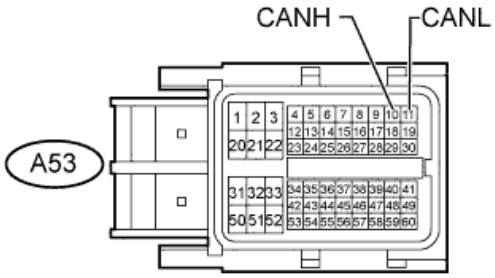
a. Disconnect the A53 ECM connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A53-10 (CANH) - A53-11 (CANL) | Engine switch off | 108 to 132 Ω |

Front view of wire harness connector:
(to ECM)




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (ECM - NO. 1 JUNCTION CONNECTOR)

OK

REPLACE ECM (Click here)

## 10.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

## 11.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

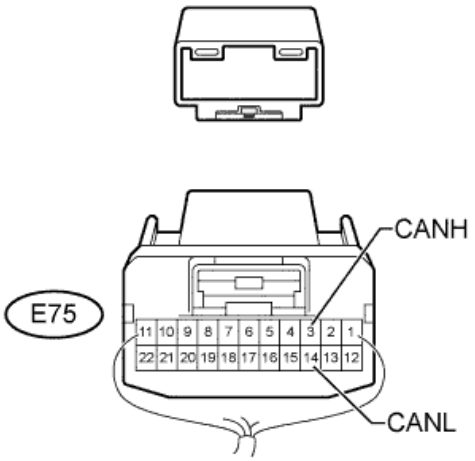
a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 108 to 132 Ω |

Rear view of wire harness connector:
(to No. 3 Junction Connector)



NG → Go to step 13

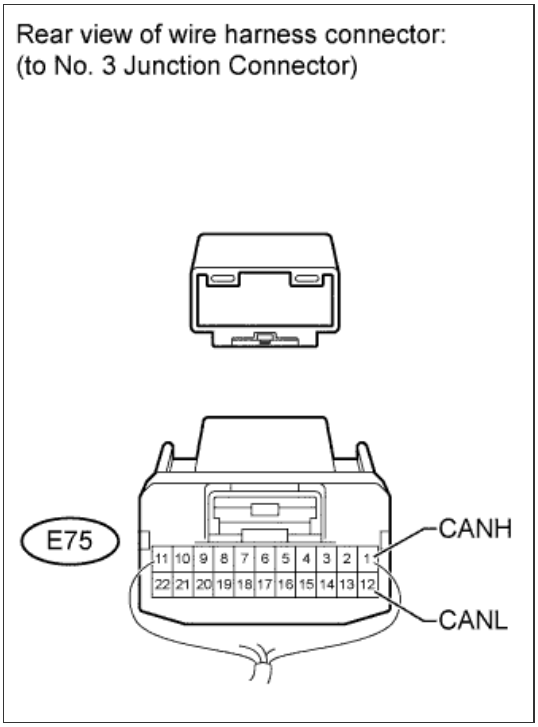
OK

## 12.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E75-12 (CANL) | Engine switch off | 108 to 132 Ω |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

REPLACE NO. 3 JUNCTION CONNECTOR

## 13.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

## 14.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER - NO. 3 JUNCTION CONNECTOR)

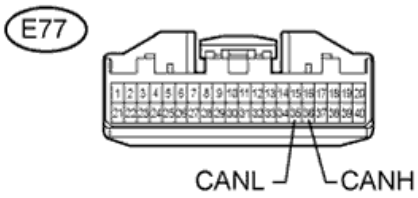
a. Disconnect the E77 combination meter connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-36 (CANH) - E77-35 (CANL) | Engine switch off | 108 to 132 Ω |

Front view of wire harness connector:
(to Combination Meter)




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (COMBINATION METER - NO. 3 JUNCTION CONNECTOR)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

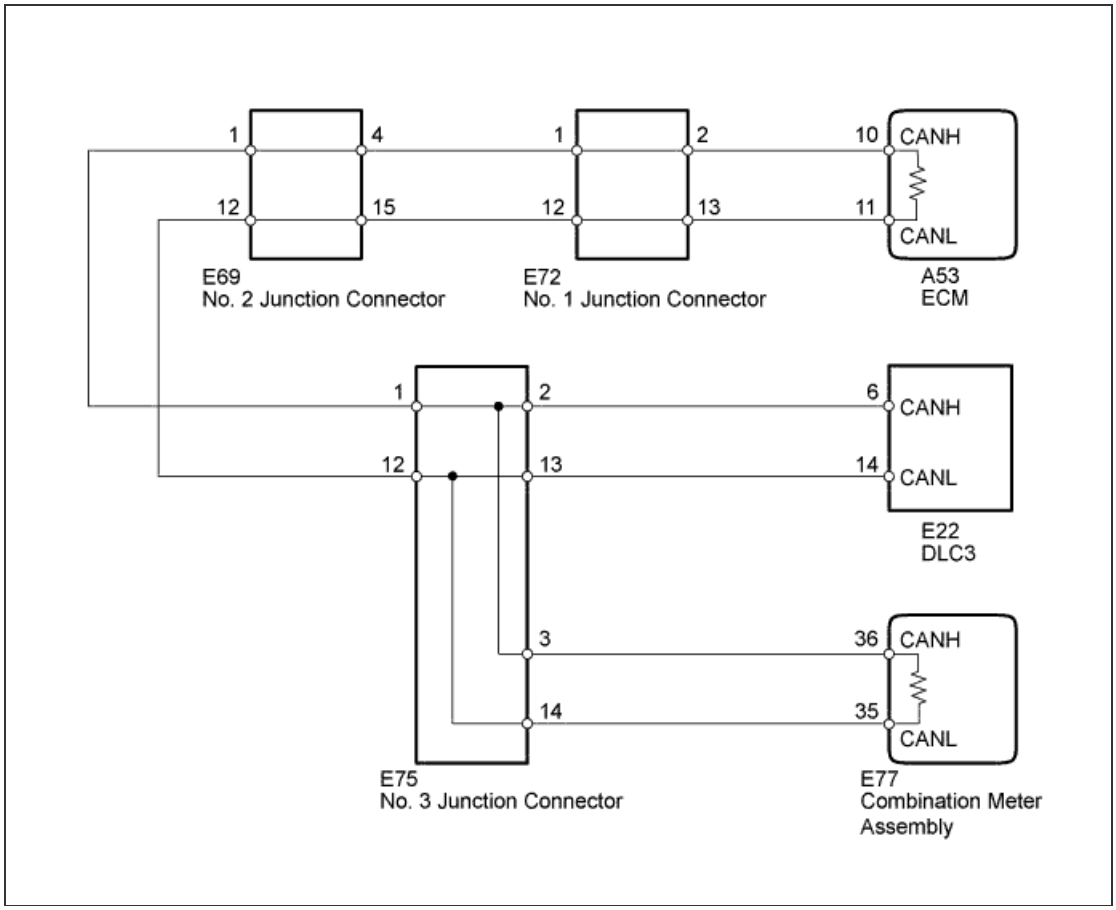
**for Preparation** Click here

## DESCRIPTION

There may be an open circuit in the CAN main wire and/or DLC3 CAN branch wire when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is 69 Ω or higher.

| Symptom | Trouble Area |
|---|---|
| The resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is 69 Ω or higher. | • CAN main wire and connector<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector<br>• ECM<br>• Combination meter assembly<br>• DLC3 CAN branch wire or connector |

## WIRING DIAGRAM




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

## 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

**NEXT**

## 3.CHECK FOR OPEN IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - DLC3)

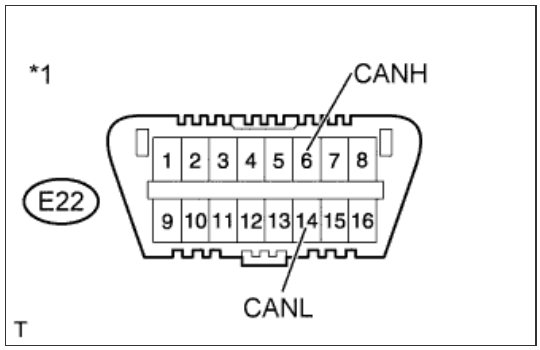
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




**NOTICE:**

When the measured value is 133 Ω or higher and a CAN communication system diagnostic trouble code is output, there may be a fault besides disconnection of the DLC3 branch wire. For that reason, troubleshooting should be performed again from "How to Proceed with Troubleshooting" (Click here) after repairing the trouble area.

**NG** → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

**OK**

## 4.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - ECM)

a. Disconnect the E69 No. 2 junction connector.

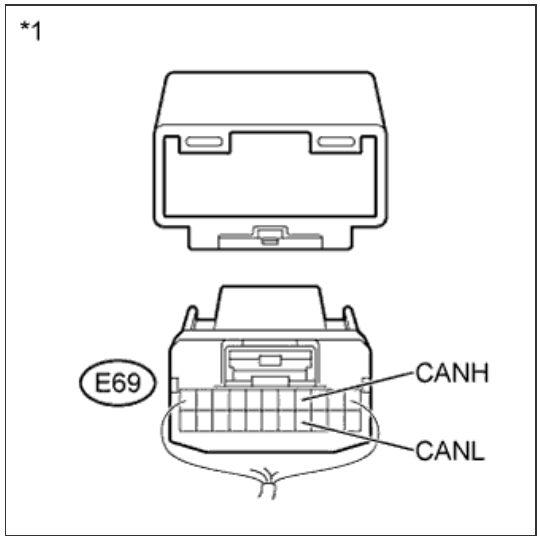
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-4 (CANH) - E69-15 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




**NG** → Go to step 6

**OK**

## 5.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 2 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)

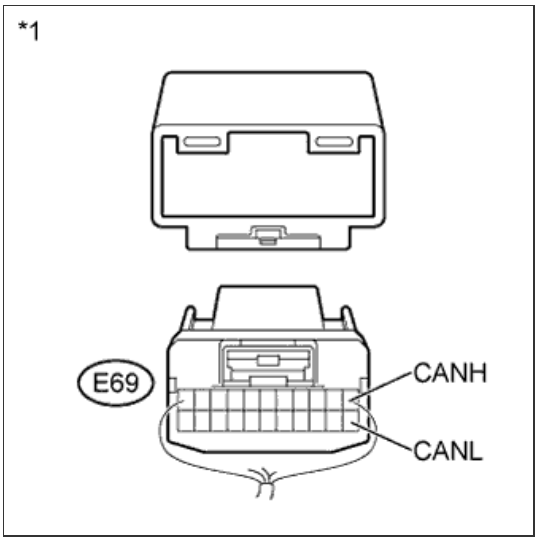
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-1 (CANH) - E69-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → Go to step 11

OK

## REPLACE NO. 2 JUNCTION CONNECTOR

## 6.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector.

NEXT

## 7.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

a. Disconnect the E72 No. 1 junction connector.

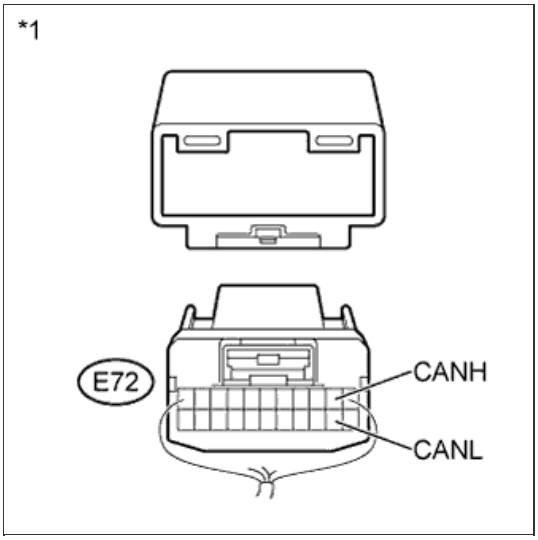
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → Go to step 9

OK

## 8.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

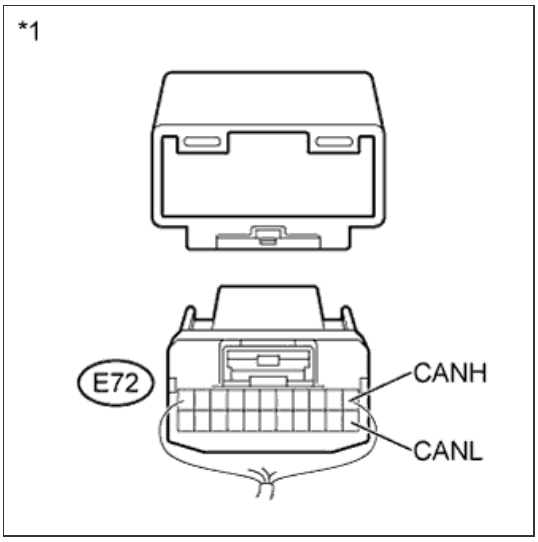
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-1 (CANH) - E72-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

REPLACE NO. 1 JUNCTION CONNECTOR

## 9.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector.

NEXT

## 10.CHECK FOR OPEN IN CAN BUS MAIN WIRE (ECM - NO. 1 JUNCTION CONNECTOR)

a. Disconnect the A53 ECM connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

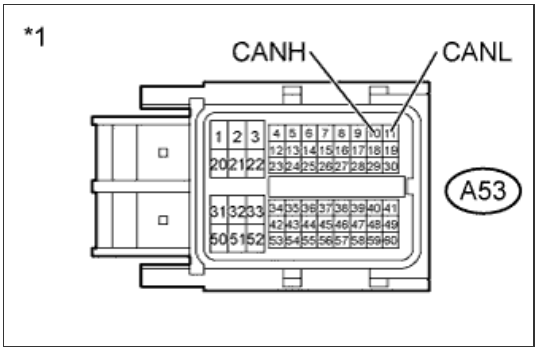
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| A53-10 (CANH) - A53-11 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to ECM) |

**Result**

| Result | Proceed to |
|---|---|
| OK (for 1UR-FE) | A |
| OK (for 3UR-FE) | B |
| NG | C |




B → REPLACE ECM (Click here)

C → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (ECM - NO. 1 JUNCTION CONNECTOR)

A

REPLACE ECM (Click here)

**11.CONNECT CONNECTOR**

a. Reconnect the E69 No. 2 junction connector.

NEXT

**12.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)**

a. Disconnect the E75 No. 3 junction connector.

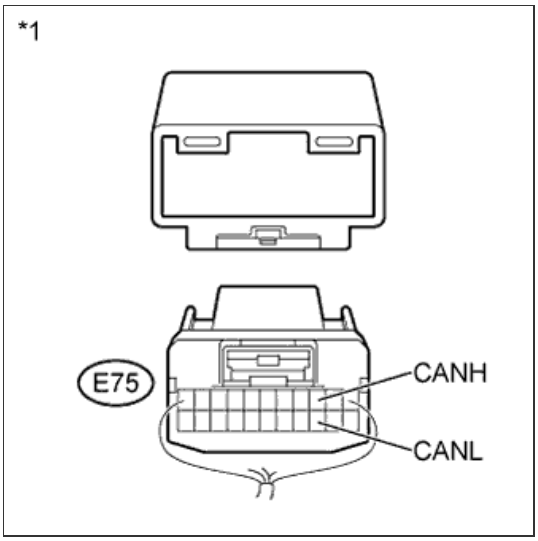
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → Go to step 14

OK

**13.CHECK FOR OPEN IN CAN BUS MAIN WIRE (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**

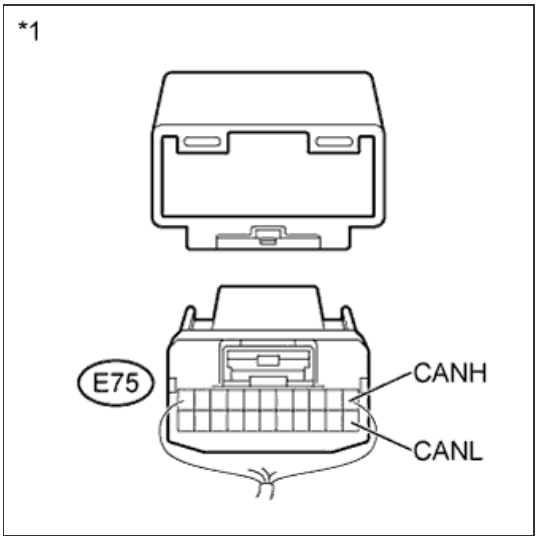
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E75-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

**REPLACE NO. 3 JUNCTION CONNECTOR**

**14.CONNECT CONNECTOR**

a. Reconnect the E75 No. 3 junction connector.

NEXT

15.CHECK FOR OPEN IN CAN BUS MAIN WIRE (COMBINATION METER ASSEMBLY - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E77 combination meter assembly connector.

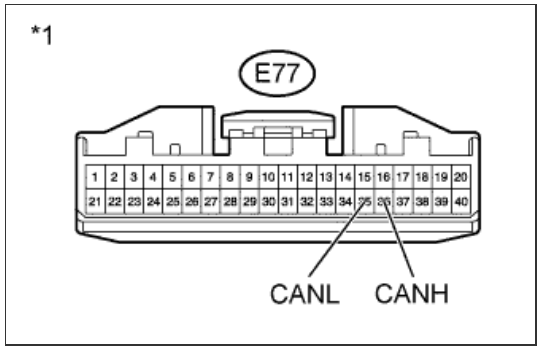
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E77-36 (CANH) - E77-35 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Combination Meter Assembly) |




NG

REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER ASSEMBLY (COMBINATION METER ASSEMBLY - NO. 3 JUNCTION CONNECTOR)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

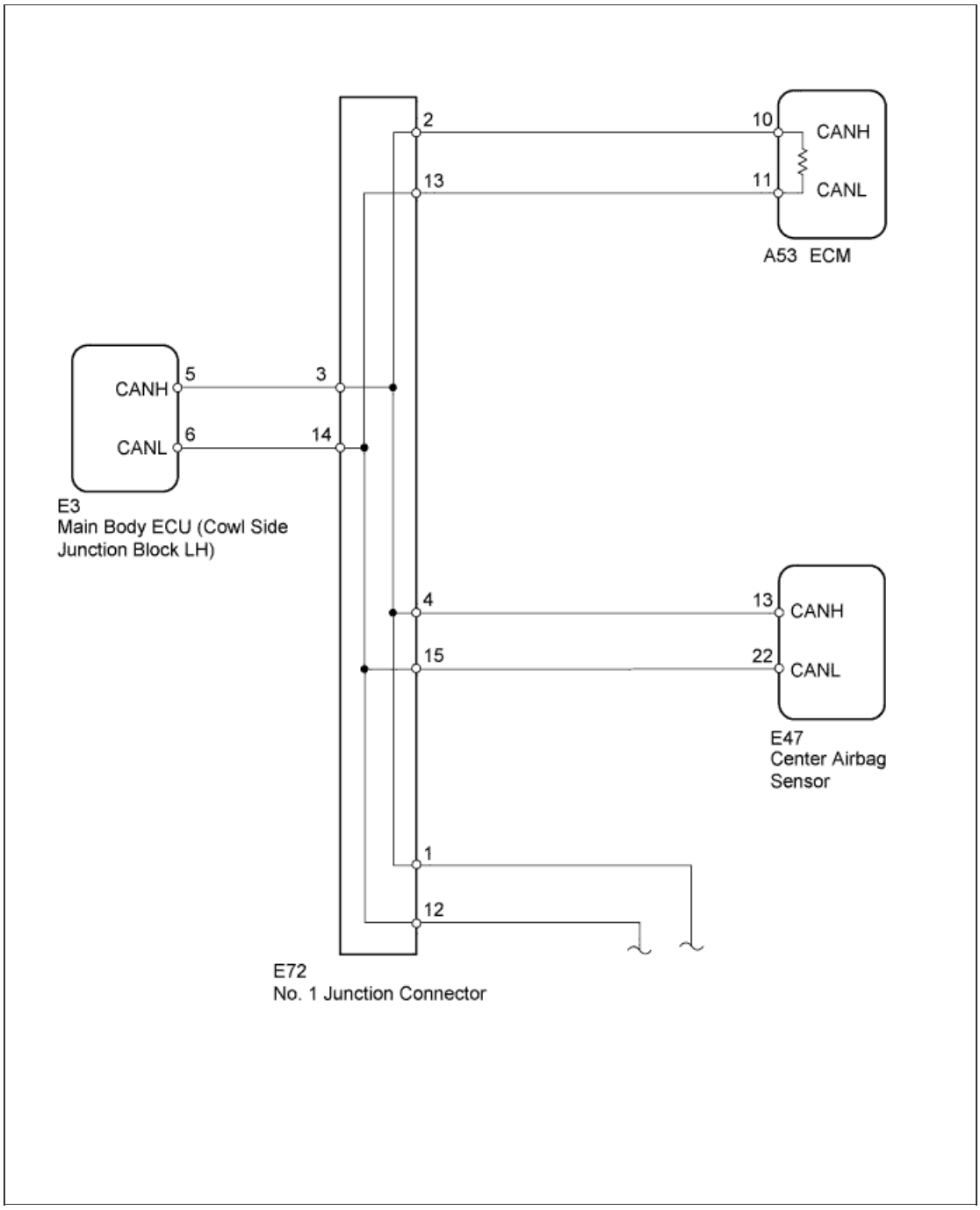
**for Preparation** Click here

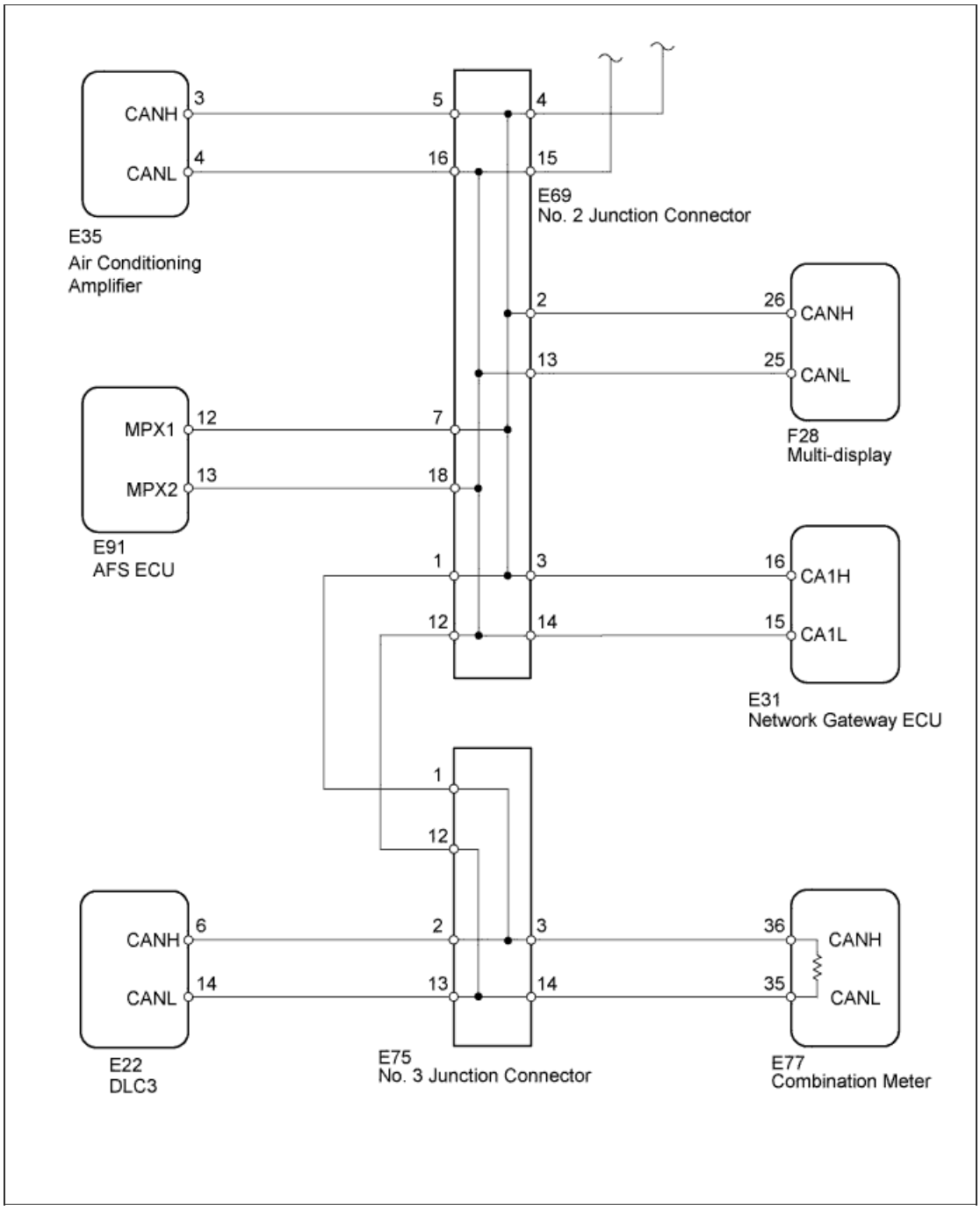
## DESCRIPTION

There may be a short circuit between the CAN bus lines when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω.

| Symptom | Trouble Area |
|---|---|
| Resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω. | • Short between CAN bus lines<br>• ECM<br>• Center airbag sensor<br>• Multi-display<br>• Air conditioning amplifier<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• AFS ECU<br>• Combination meter<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM


2
10
CANH
13
11
CANL
A53 ECM
CANH
5
3
CANL
6
14
E3
Main Body ECU (Cowl Side
Junction Block LH)
4
13
CANH
15
22
CANL
E47
Center Airbag
Sensor
1
12
E72
No. 1 Junction Connector




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

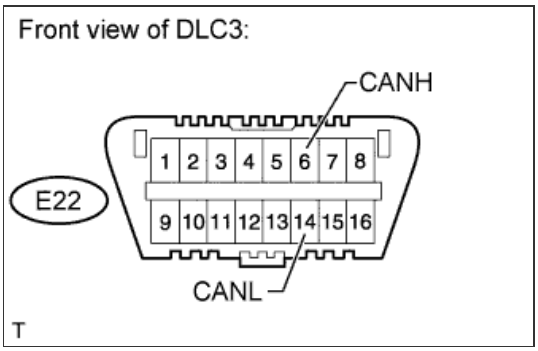
### 2.CHECK FOR SHORT IN CAN BUS WIRES (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

### 3.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

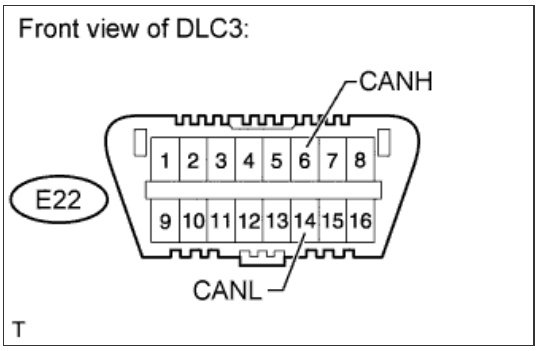
### 4.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 11

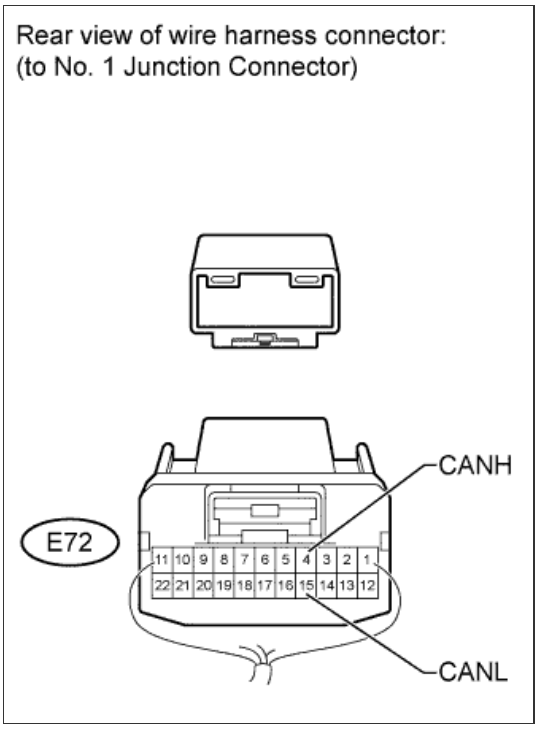
OK

### 5.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-4 (CANH) - E72-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 8

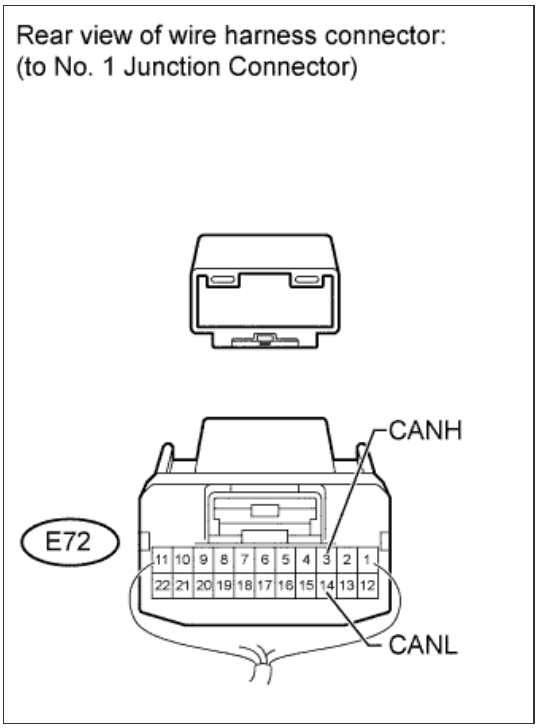
OK

## 6.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - MAIN BODY ECU)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-3 (CANH) - E72-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 9

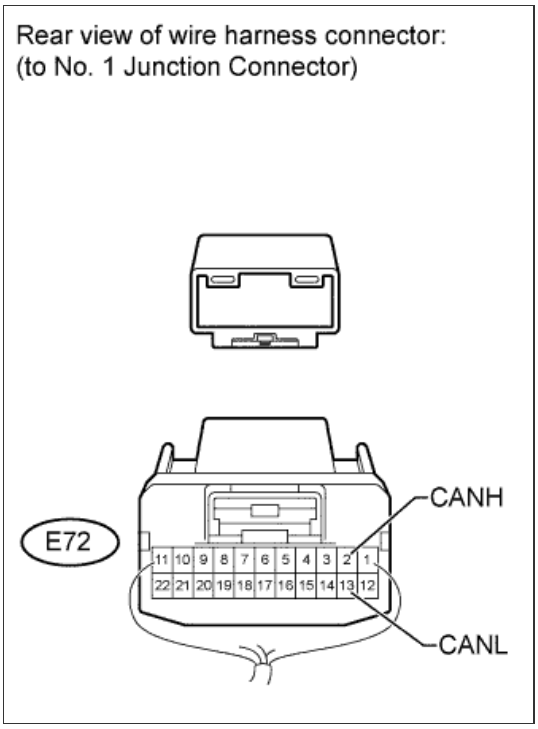
OK

## 7.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - ECM)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 10

OK

REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR

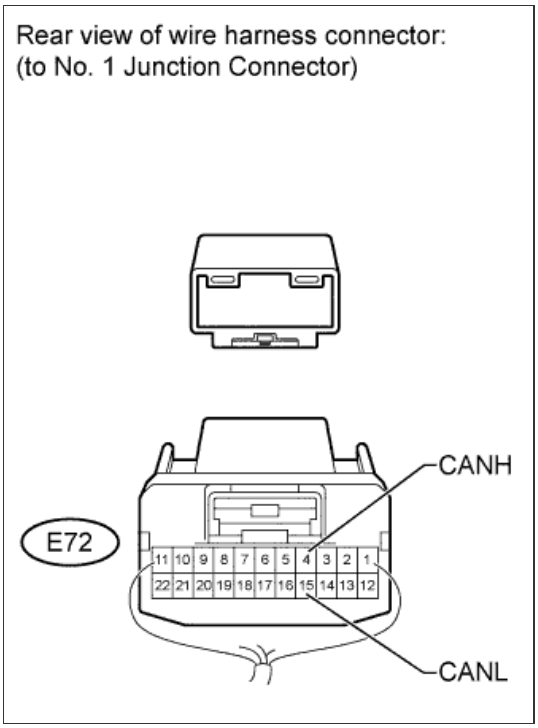
8.CHECK FOR SHORT IN CAN BUS WIRES (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-4 (CANH) - E72-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

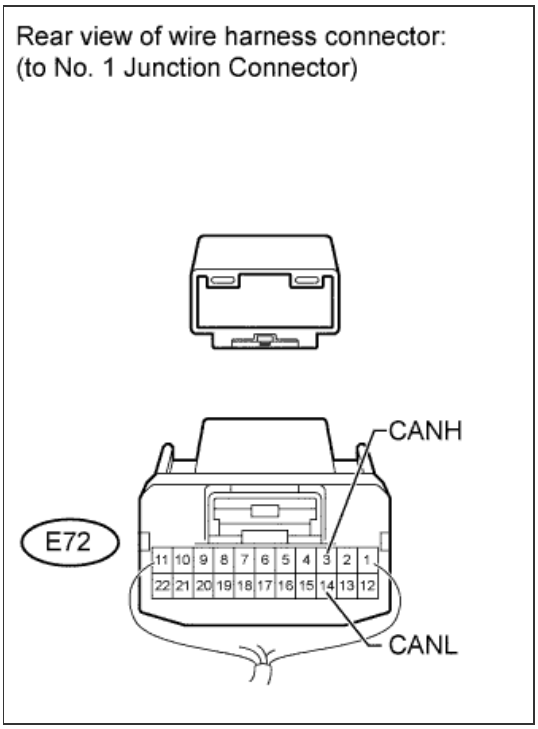
9.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-3 (CANH) - E72-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (CANH, CANL)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

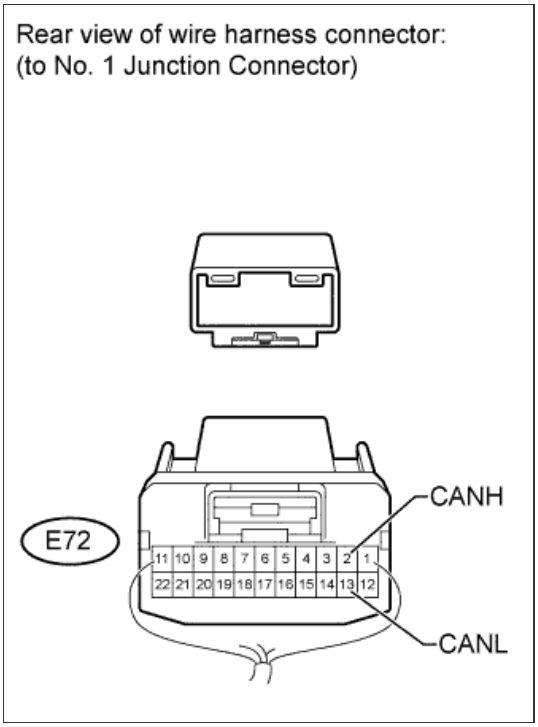
## 10.CHECK FOR SHORT IN CAN BUS WIRES (ECM)

a. Disconnect the A53 ECM connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




B → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

A

REPLACE ECM (Click here)

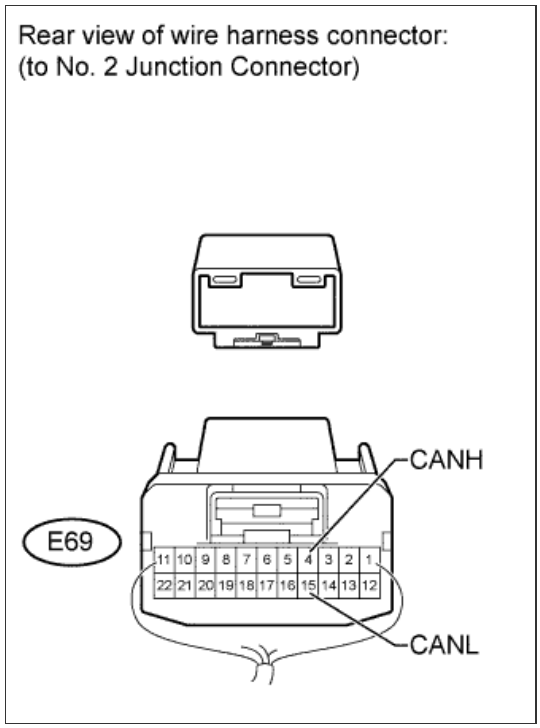
11.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-4 (CANH) - E69-15 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector connector.

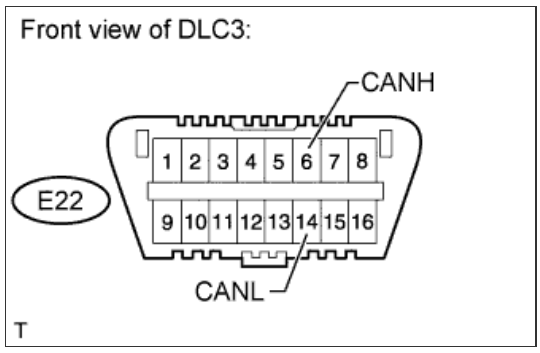
NEXT

13.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR SIDE)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |




NG → Go to step 22

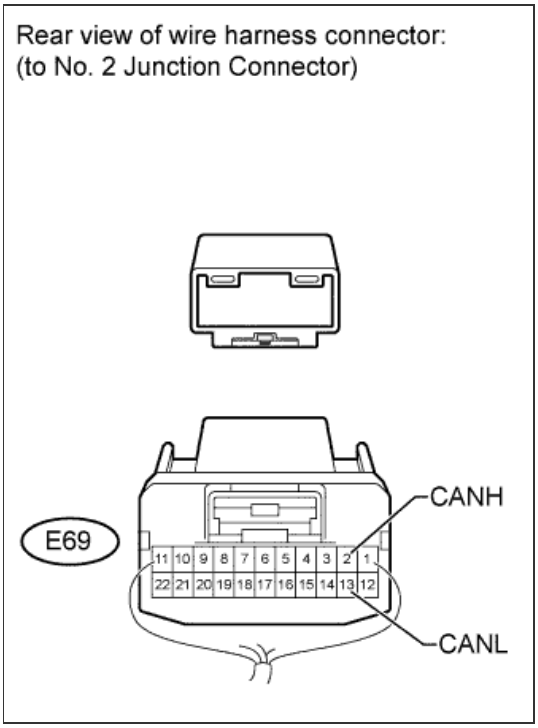
OK

14.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - MULTI-DISPLAY)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-2 (CANH) - E62-13 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 18

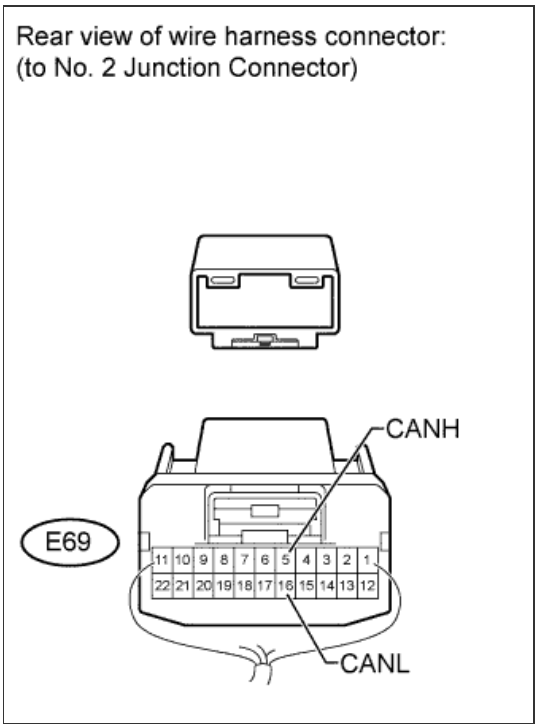
OK

**15.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)**

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-5 (CANH) - E69-16 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 19

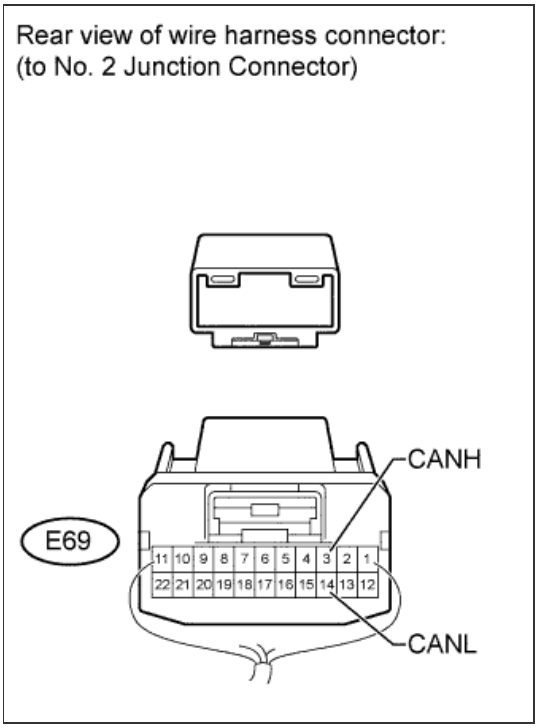
OK

**16.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)**

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-3 (CANH) - E69-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 20

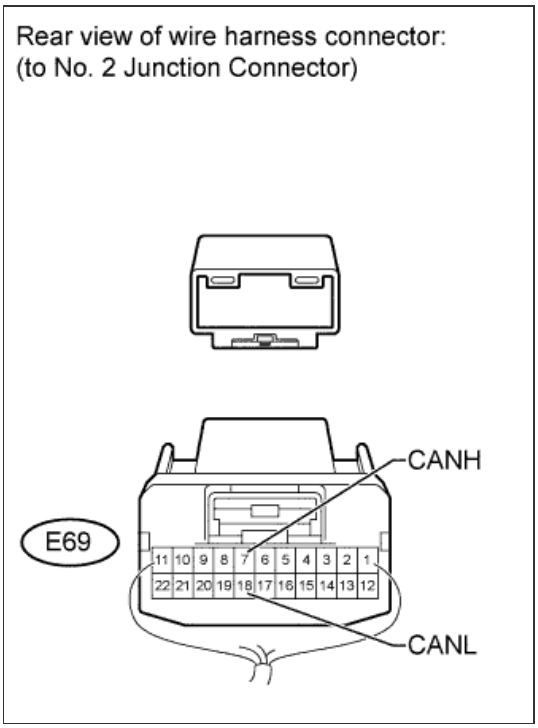
OK

**17.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - AFS ECU)**

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-7 (CANH) - E69-18 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 21

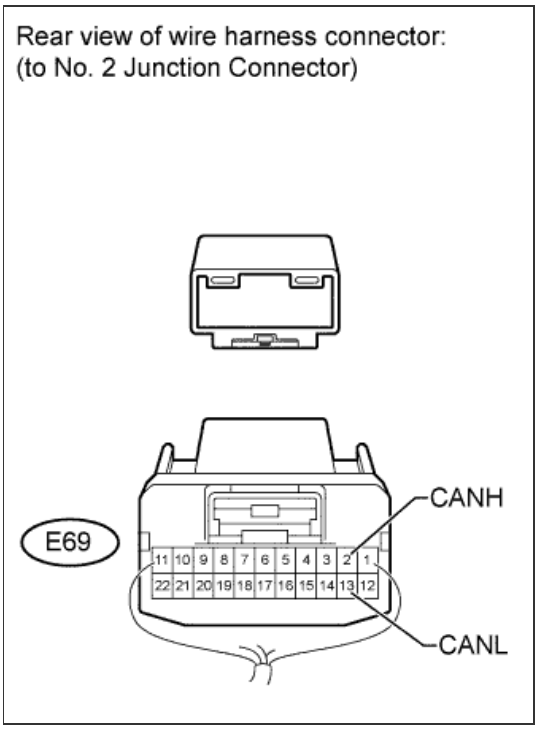
OK

**REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR**

**18.CHECK FOR SHORT IN CAN BUS WIRES (MULTI-DISPLAY)**

a. Disconnect the F28 multi-display connector.

b. Measure the resistance according to the value(s) in the table below.




**Result**

| Tester Connection | Switch Condition | Measured Resistance | Result | Proceed to |
|---|---|---|---|---|
| E69-2 (CANH) - E69-13 (CANL) | Engine switch off | 1 Ω or higher | OK (w/ Navigation System) | A |
| | | | OK (w/o Navigation System) | B |
| | | Below 1 Ω | NG | C |

B → REPLACE MULTI-DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTI-DISPLAY (CANH, CANL)

A → REPLACE MULTI-DISPLAY (Click here)

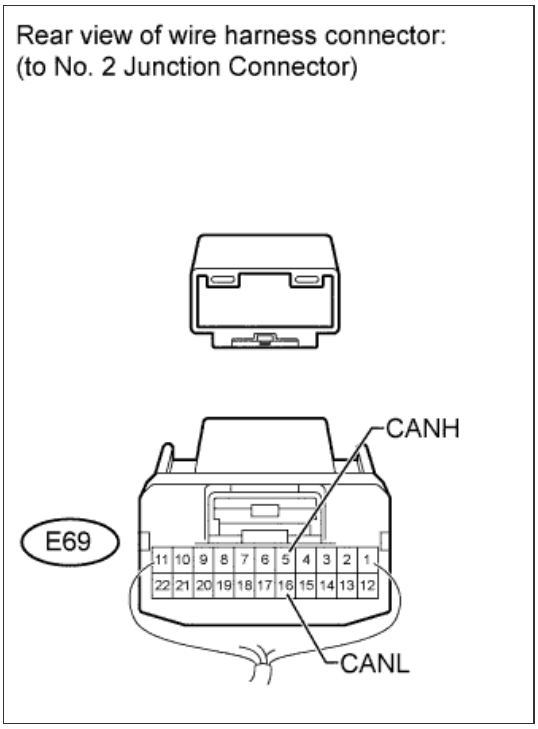
## 19.CHECK FOR SHORT IN CAN BUS WIRES (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Result |
|---|---|---|---|
| E69-5 (CANH) - E69-16 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

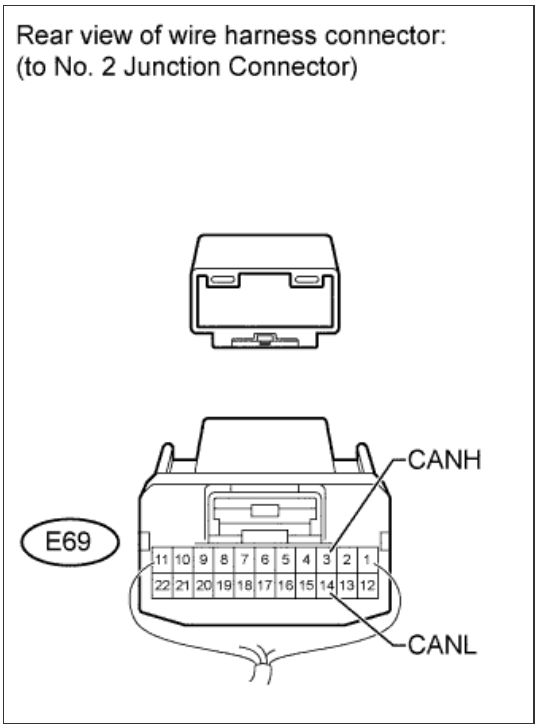
## 20.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-3 (CANH) - E69-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK → REPLACE NETWORK GATEWAY ECU (Click here)

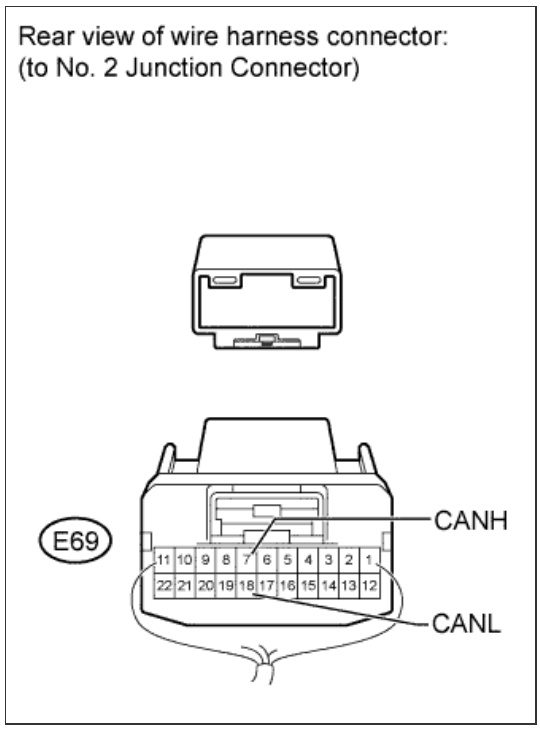
## 21.CHECK FOR SHORT IN CAN BUS WIRES (AFS ECU)

a. Disconnect the E91 AFS ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-7 (CANH) - E69-18 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE AFS ECU (Click here)

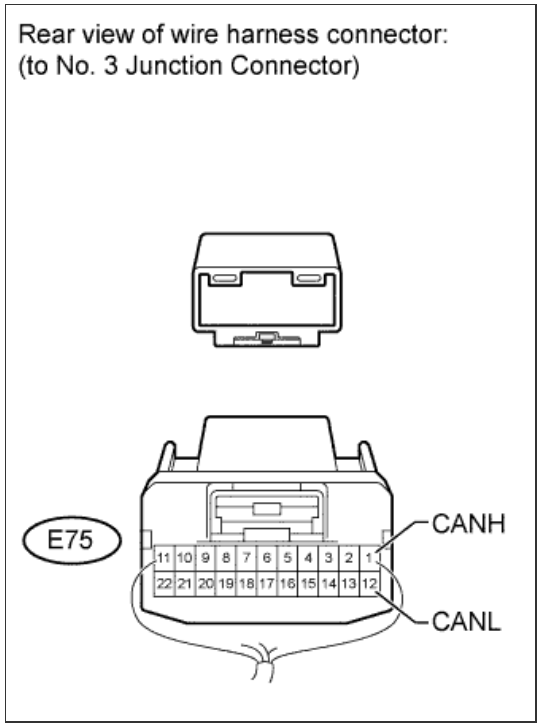
## 22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-1 (CANH) - E75-12 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

Go to step 21

23.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

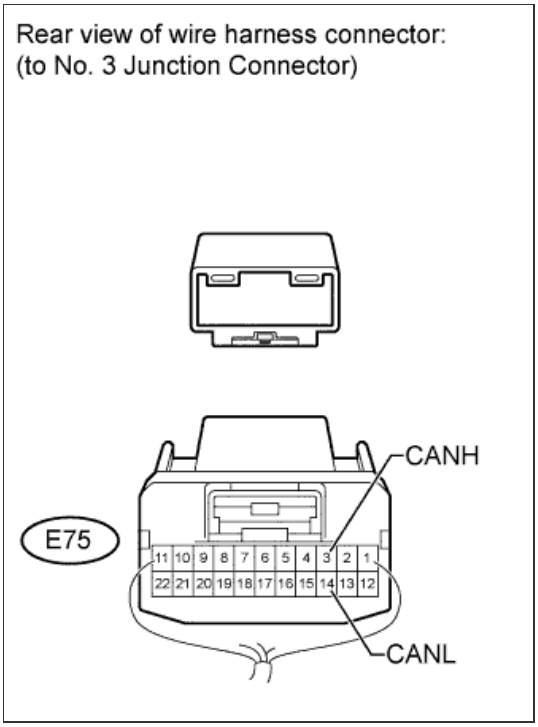
Go to step 22

24.CHECK FOR SHORT IN CAN BUS WIRES (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

a. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |




NG → Go to step 25

OK

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

25.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER)

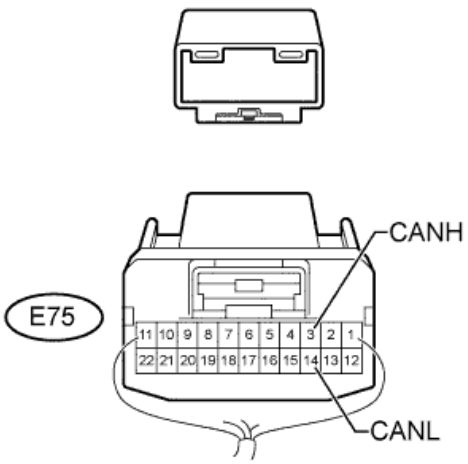
a. Disconnect the E77 combination meter connector.

b. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 1 Ω or higher | OK |
| | | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

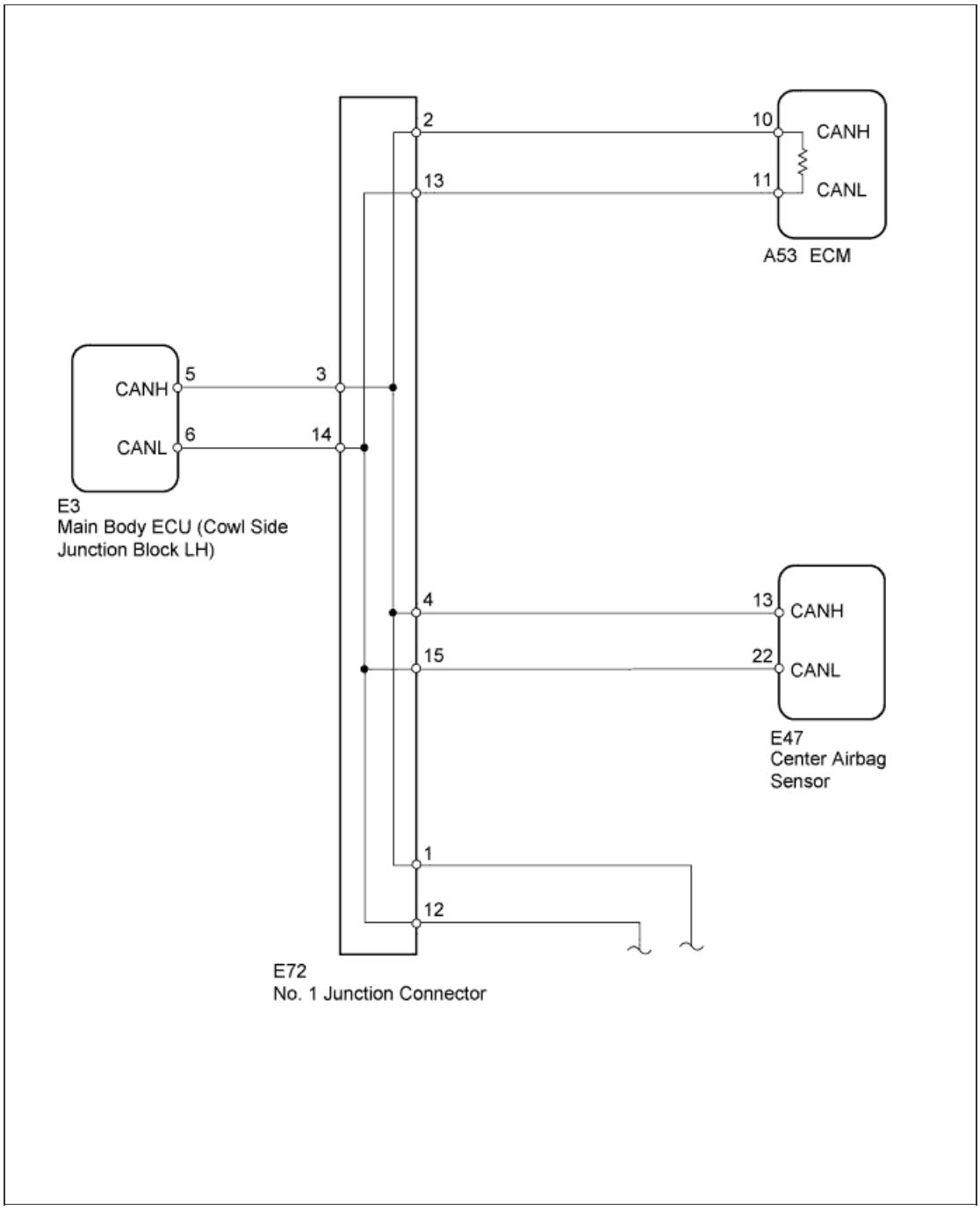
**for Preparation** Click here

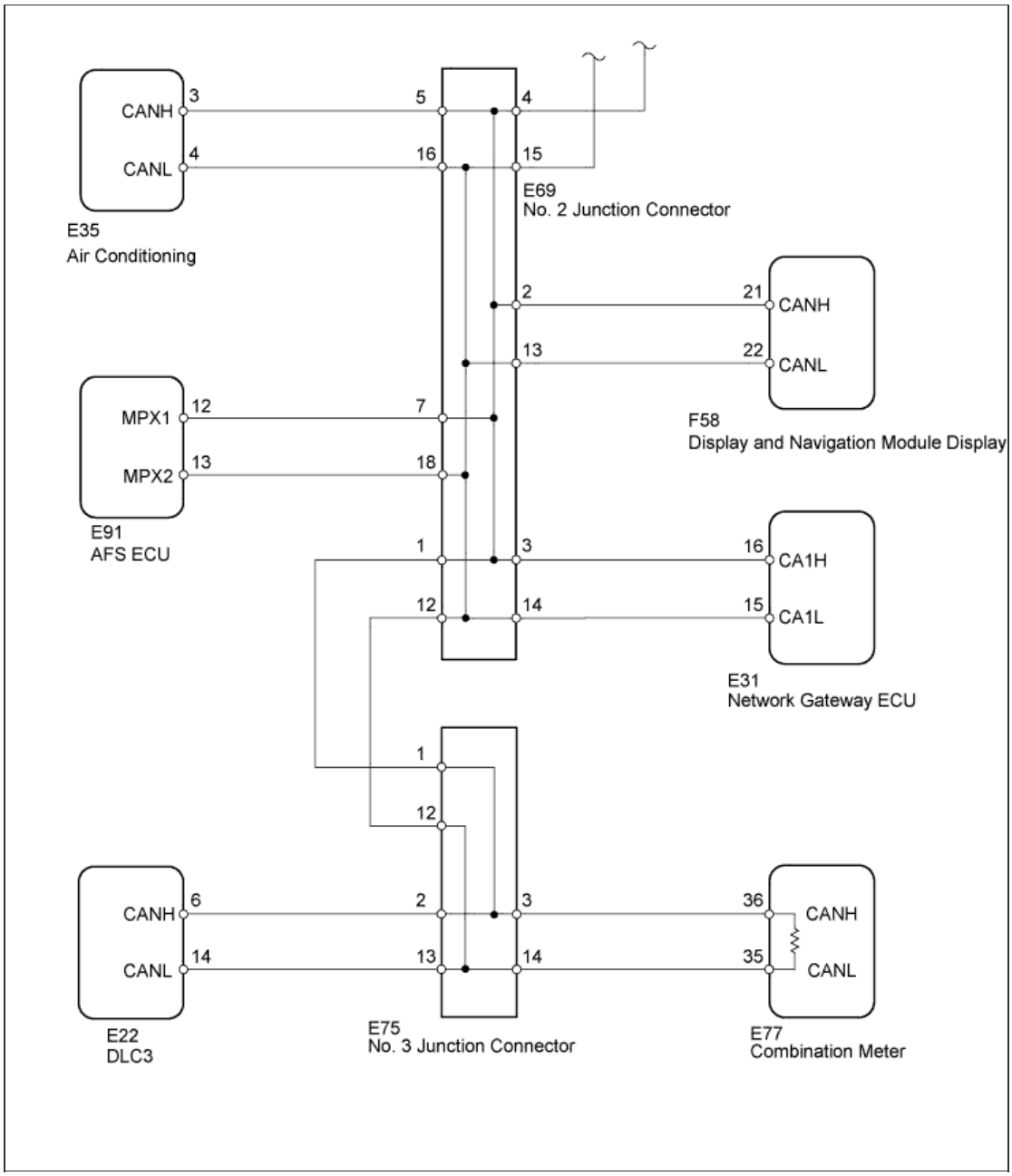
## DESCRIPTION

There may be a short circuit between the CAN bus lines when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω.

| Symptom | Trouble Area |
|---|---|
| Resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω. | • Short between CAN bus lines<br>• ECM<br>• Center airbag sensor assembly<br>• Display and navigation module display<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• AFS ECU (headlight swivel ECU assembly)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM


2
10
CANH
13
11
CANL
A53 ECM
CANH
5
3
CANL
6
14
E3
Main Body ECU (Cowl Side
Junction Block LH)
4
13
CANH
15
22
CANL
E47
Center Airbag
Sensor
1
12
E72
No. 1 Junction Connector




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

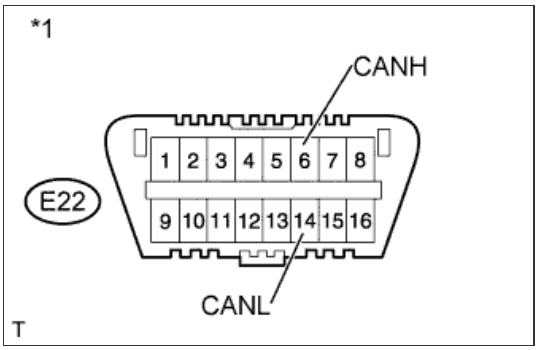
### 2.CHECK FOR SHORT IN CAN BUS WIRES (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 200 Ω or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

## 3.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

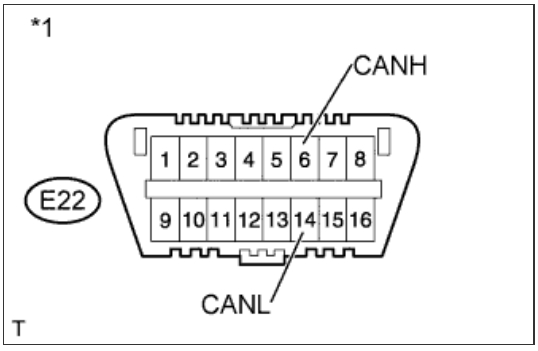
## 4.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → Go to step 11

OK

## 5.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

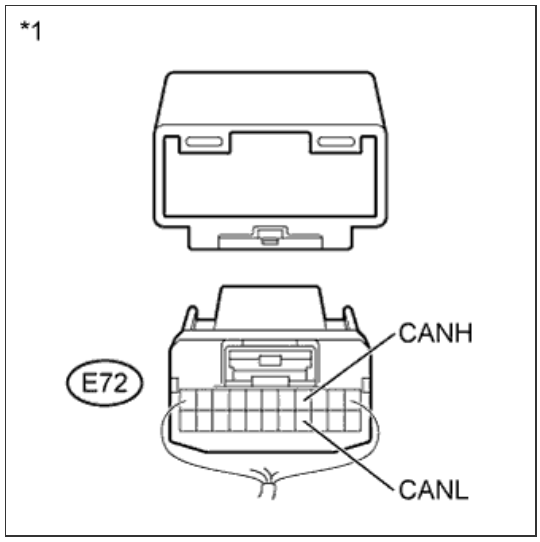
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E72-15 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |

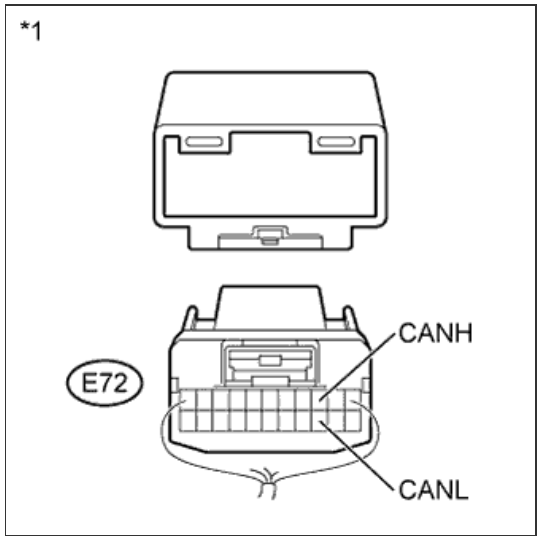



NG → Go to step 8

OK

## 6.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - MAIN BODY ECU)

a. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E72-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |

NG → Go to step 9

OK

## 7.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - ECM)

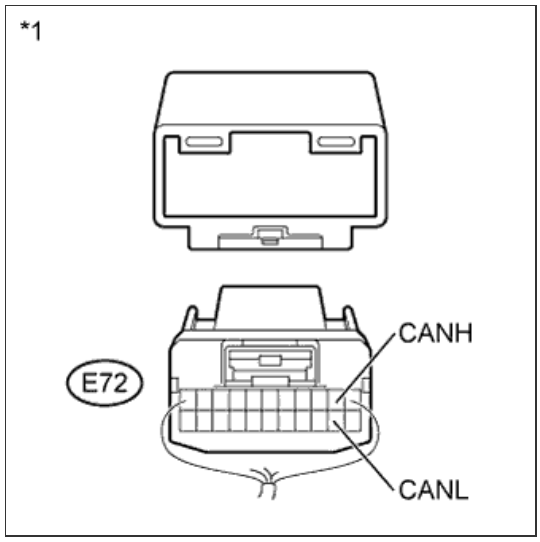
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → Go to step 10

OK

REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR

8.CHECK FOR SHORT IN CAN BUS WIRES (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

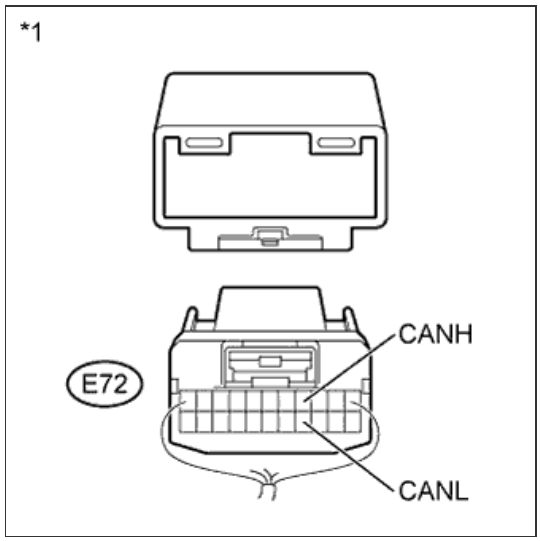
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E72-15 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

9.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

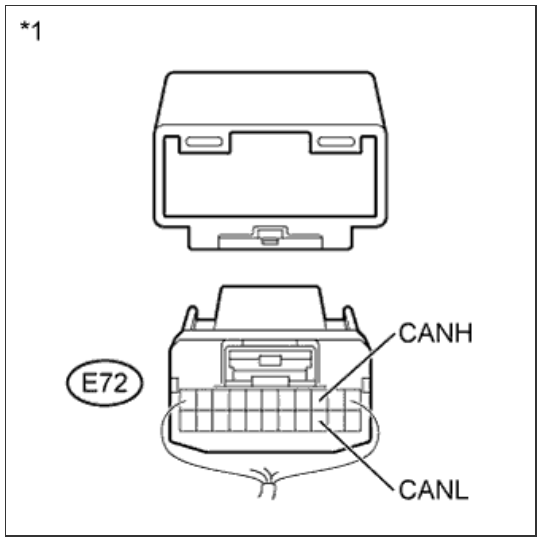
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E72-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (CANH, CANL)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 10.CHECK FOR SHORT IN CAN BUS WIRES (ECM)

a. Disconnect the A53 ECM connector.

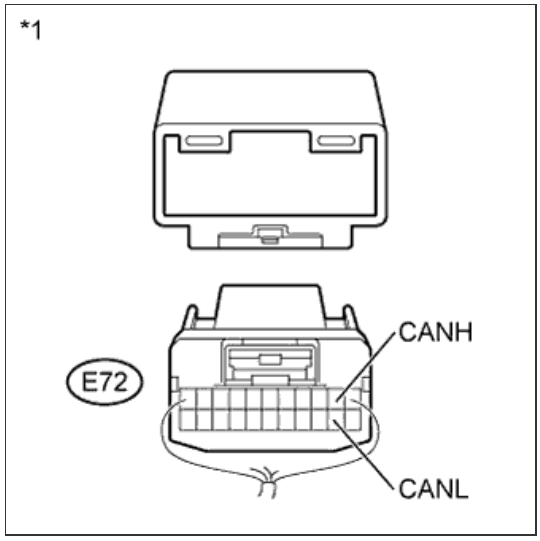
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




B → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

A

REPLACE ECM (Click here)

## 11.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

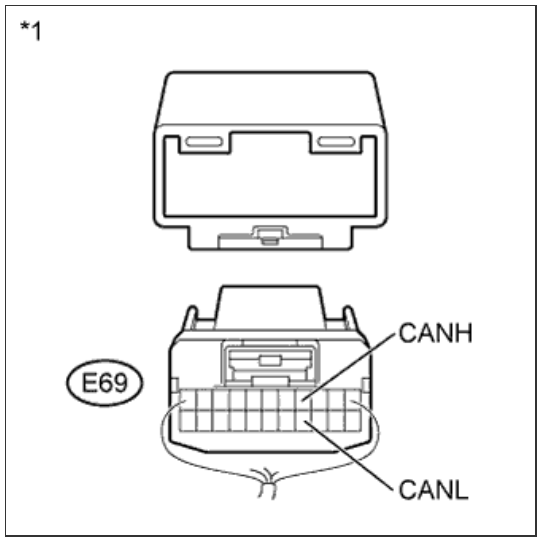
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-4 (CANH) - | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E69-15 (CANL) | | |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

## 12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector connector.

NEXT

## 13.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR SIDE)

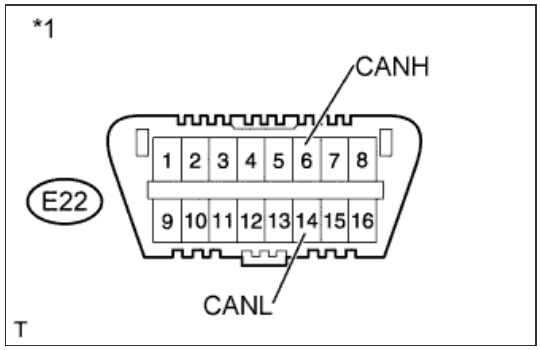
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 22

OK

## 14.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - DISPLAY AND NAVIGATION MODULE DISPLAY)

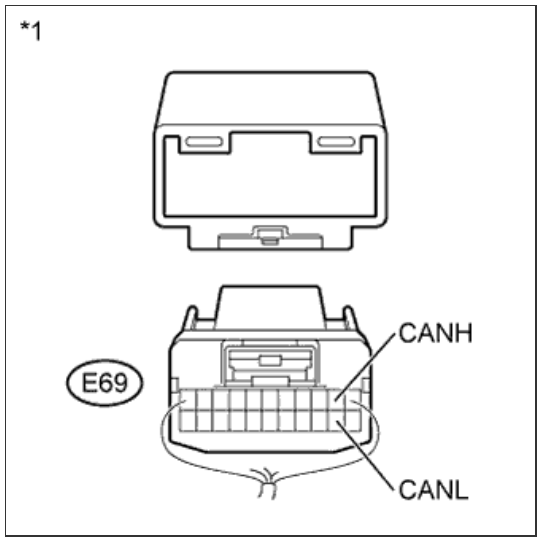
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E62-13 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → Go to step 18

OK

## 15.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

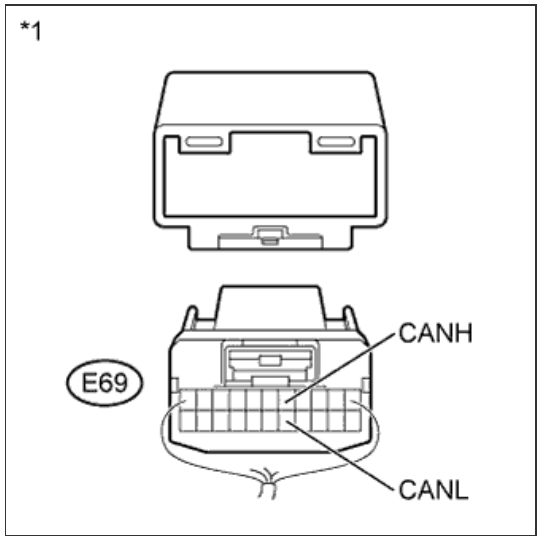
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E69-16 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → Go to step 19

OK

## 16.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

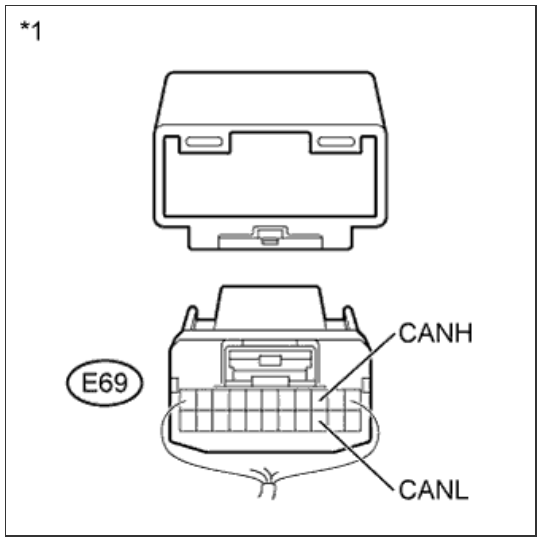
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E69-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

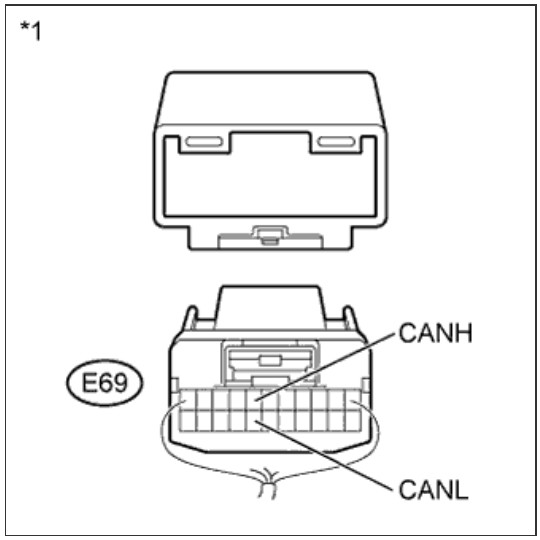



NG → Go to step 20

OK

## 17.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - AFS ECU)

a. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-7 (CANH) - E69-18 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

NG → Go to step 21

OK

## REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR

## 18.CHECK FOR SHORT IN CAN BUS WIRES (DISPLAY AND NAVIGATION MODULE DISPLAY)

a. Disconnect the F58 display and navigation module display connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E62-13 (CANL) | Engine switch off | 200 Ω or higher |

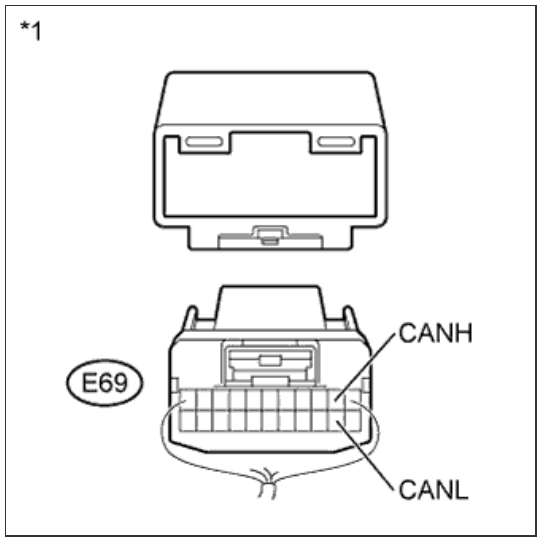
**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector |

| | |
|---|---|
| | (to No. 2 Junction Connector) |

**Result**

| Result | Proceed to |
|---|---|
| OK<br>(w/ Navigation System) | A |
| OK<br>(w/o Navigation System) | B |
| NG | C |




B → REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DISPLAY AND NAVIGATION MODULE DISPLAY (CANH, CANL)

A

REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

## 19.CHECK FOR SHORT IN CAN BUS WIRES (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

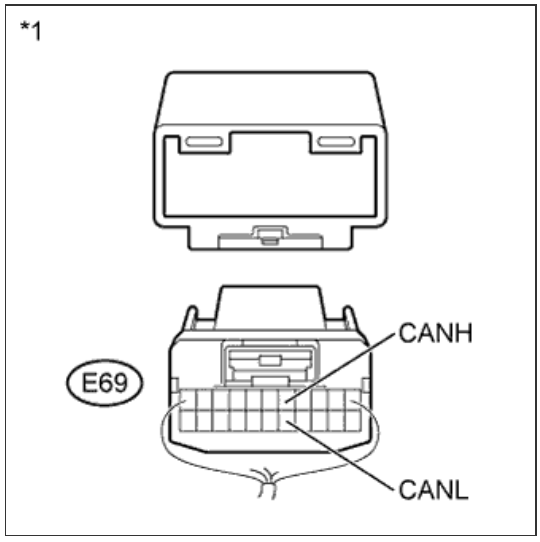
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E69-16 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 20.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

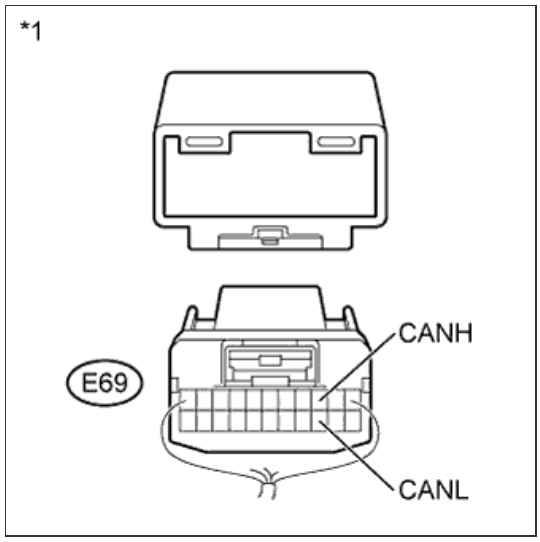
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified |
|---|---|---|

| | | |
|---|---|---|
| | | Condition |
| E69-3 (CANH) - E69-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## 21.CHECK FOR SHORT IN CAN BUS WIRES (AFS ECU)

a. Disconnect the E91 AFS ECU connector.

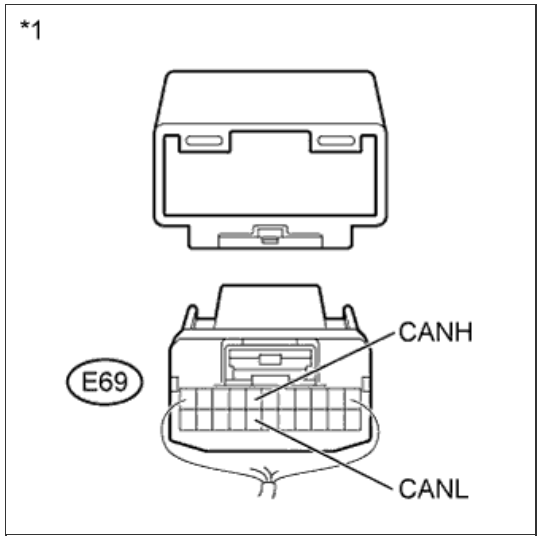
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-7 (CANH) - E69-18 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE AFS ECU (Click here)

## 22.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector connector.

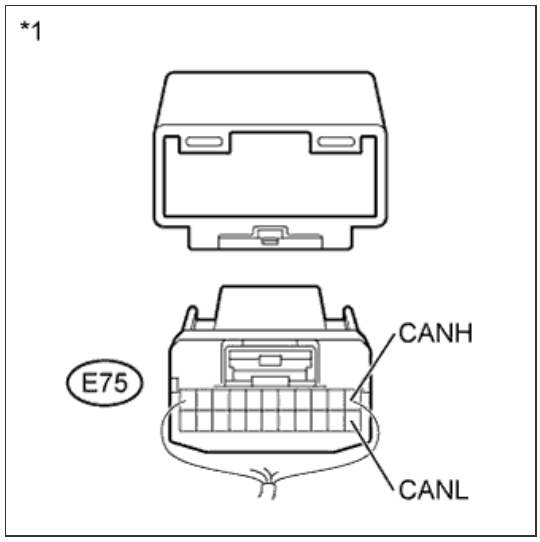
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E75-12 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

Go to step 21

**23.CONNECT CONNECTOR**

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

Go to step 22

**24.CHECK FOR SHORT IN CAN BUS WIRES (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)**

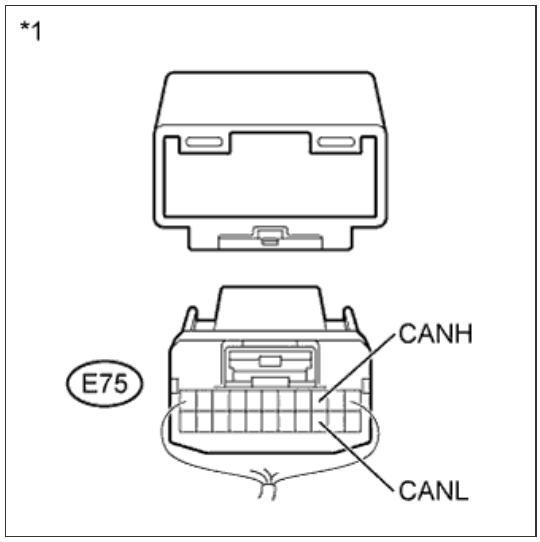
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → Go to step 25

OK

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

**25.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER)**

a. Disconnect the E77 combination meter connector.

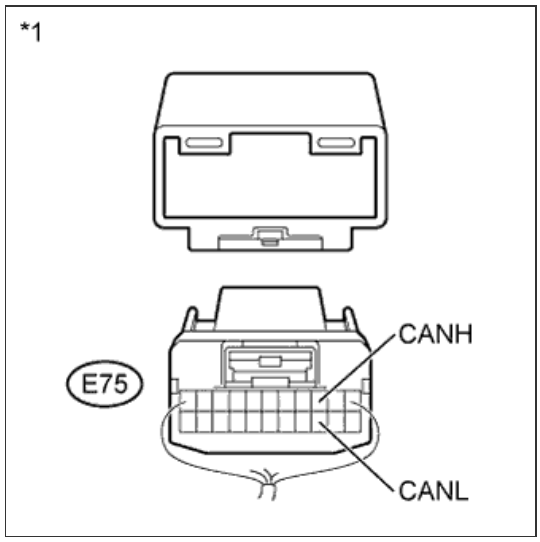
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK → REPLACE COMBINATION METER ASSEMBLY (Click here)

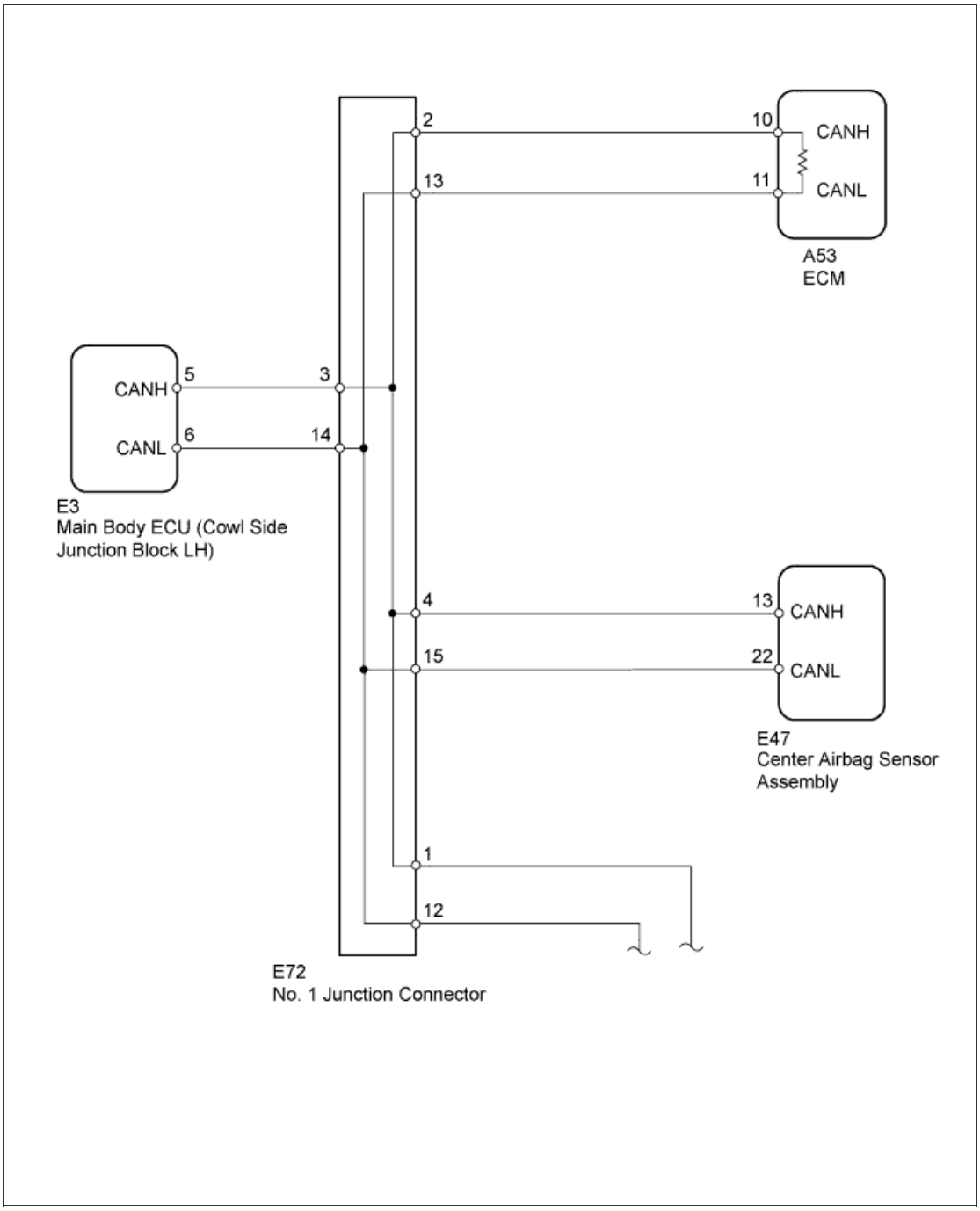
**for Preparation** Click here

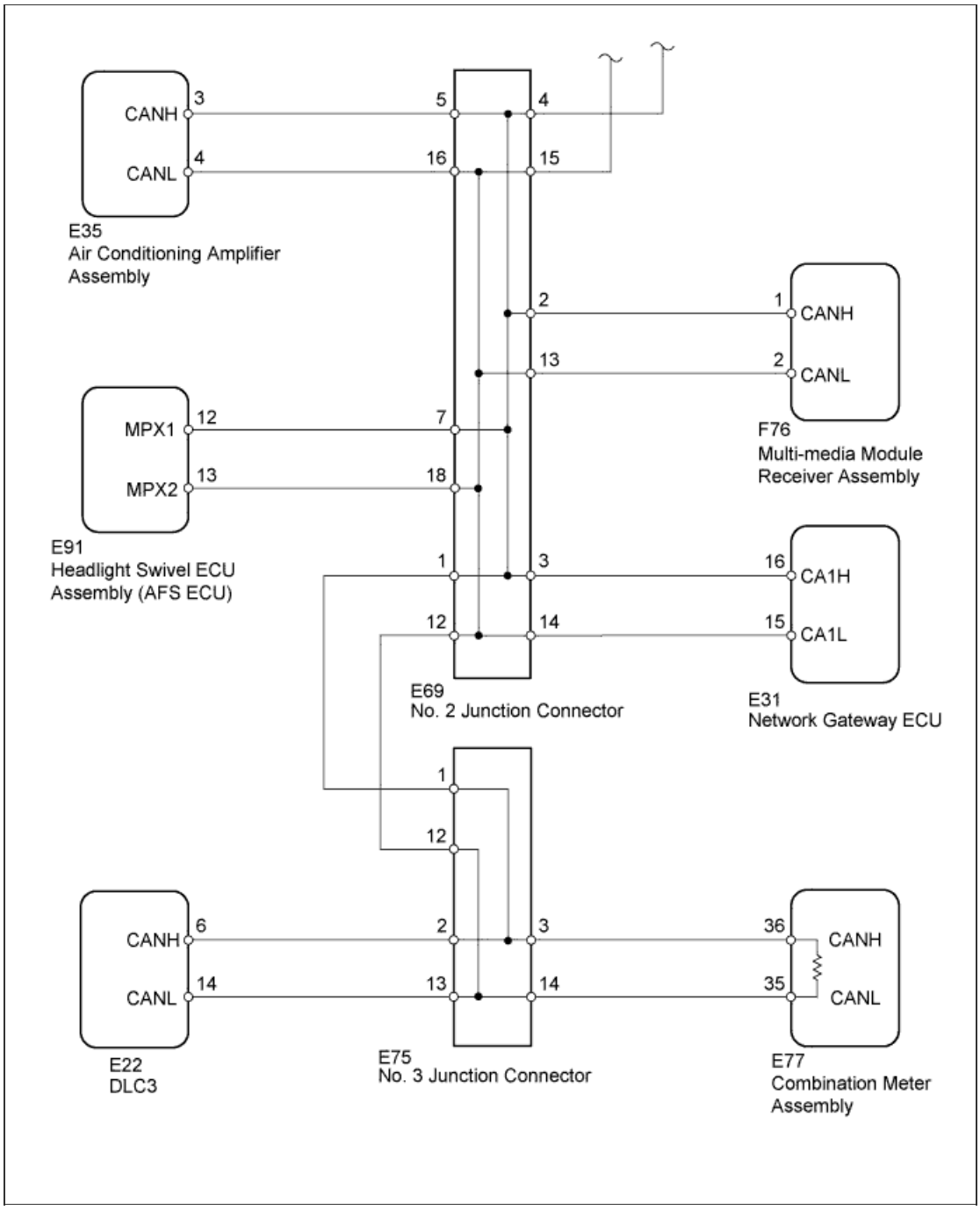
## DESCRIPTION

There may be a short circuit between the CAN bus lines when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω.

| Symptom | Trouble Area |
|---|---|
| Resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is below 54 Ω. | • Short between CAN bus lines<br>• ECM<br>• Center airbag sensor assembly<br>• Multi-media module receiver assembly<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• Headlight swivel ECU assembly (AFS ECU)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM


2
10
CANH
13
11
CANL
A53
ECM
CANH
5
3
CANL
6
14
E3
Main Body ECU (Cowl Side
Junction Block LH)
4
13
CANH
15
22
CANL
E47
Center Airbag Sensor
Assembly
1
12
E72
No. 1 Junction Connector




## INSPECTION PROCEDURE

**NOTICE:**

The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the Precaution in the SRS (Click here).

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

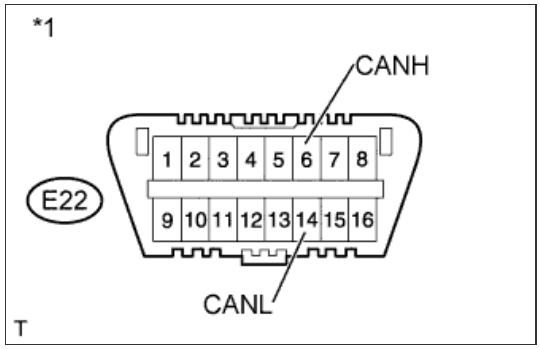
## 3.CHECK FOR SHORT IN CAN BUS WIRES (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 200 Ω or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

## 4.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector.

NEXT

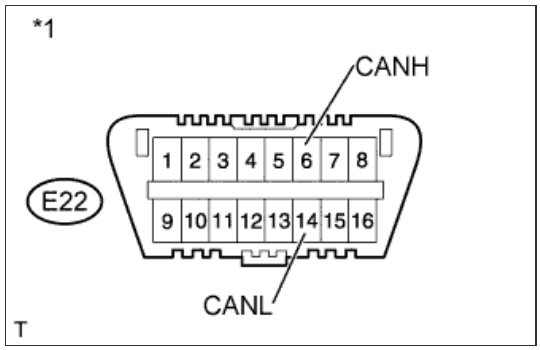
## 5.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → Go to step 12

OK

## 6.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR ASSEMBLY)

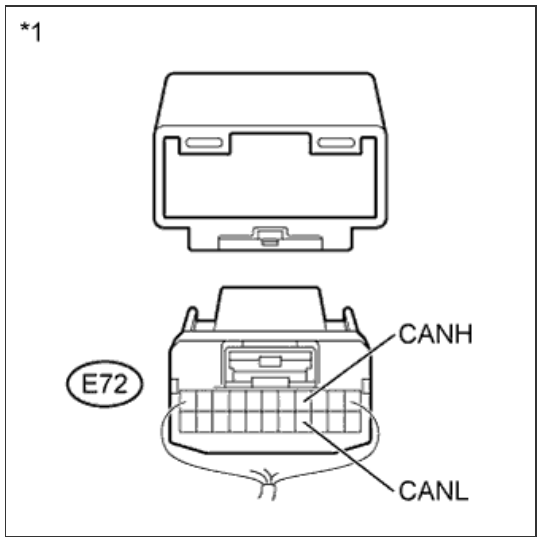
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E72-15 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → Go to step 9

OK

## 7.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - MAIN BODY ECU)

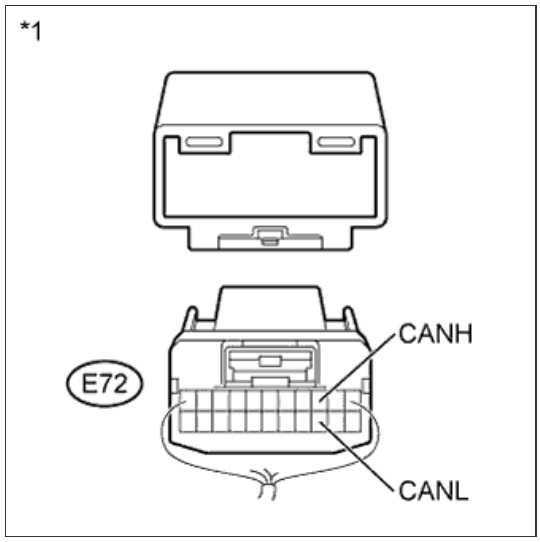
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E72-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → Go to step 10

OK

## 8.CHECK FOR SHORT IN CAN BUS WIRES (NO. 1 JUNCTION CONNECTOR - ECM)

a. Measure the resistance according to the value(s) in the table below.

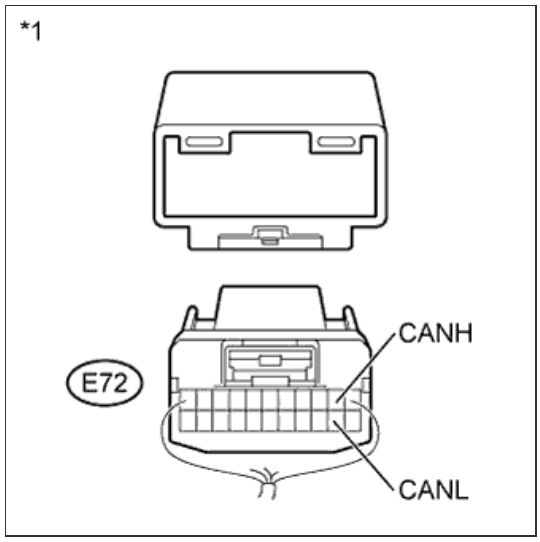
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector |

| | |
|---|---|
| | (to No. 1 Junction Connector) |




NG → Go to step 11

OK

REPLACE NO. 1 JUNCTION CONNECTOR

## 9.CHECK FOR SHORT IN CAN BUS WIRES (CENTER AIRBAG SENSOR ASSEMBLY)

a. Disconnect the E47 center airbag sensor assembly connector (Click here).

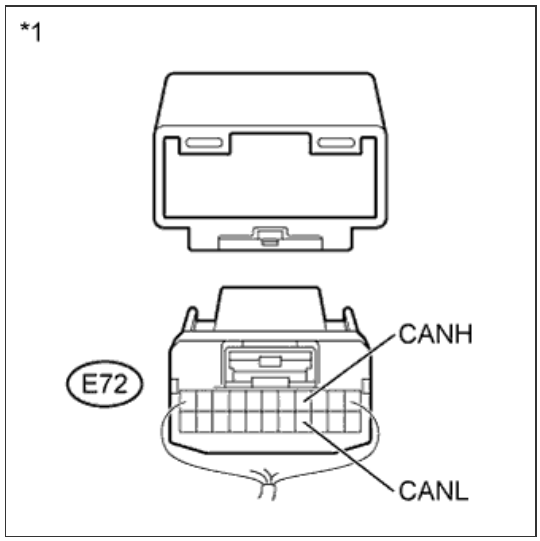
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E72-15 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR ASSEMBLY (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 10.CHECK FOR SHORT IN CAN BUS WIRES (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

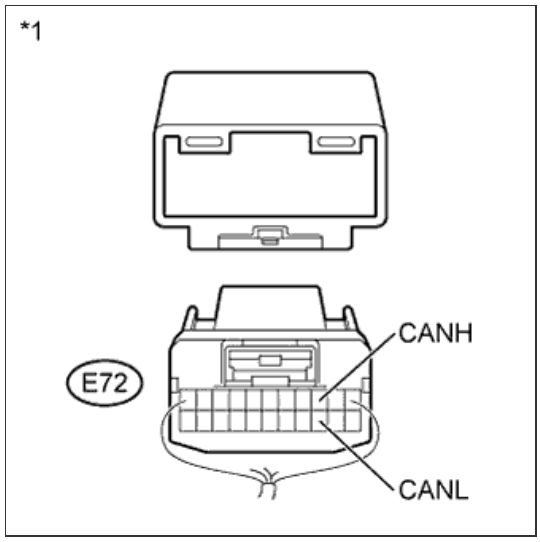
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E72-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (CANH, CANL)

OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 11.CHECK FOR SHORT IN CAN BUS WIRES (ECM)

a. Disconnect the A53 ECM connector.

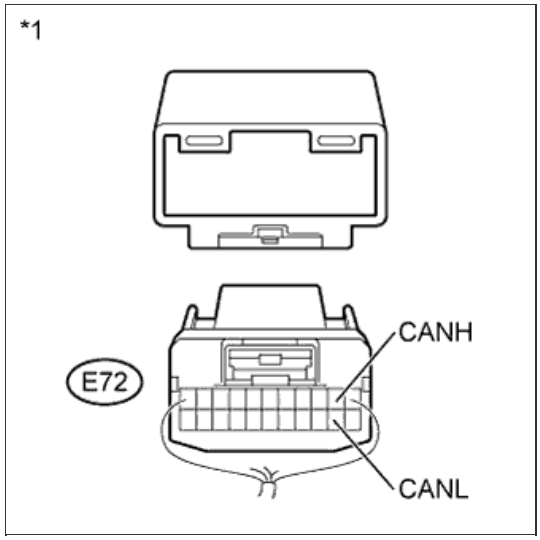
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E72-13 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |




**Result**

| Result | Proceed to |
|---|---|
| OK (for 1UR-FE) | A |
| OK (for 3UR-FE) | B |
| NG | C |

B → REPLACE ECM (Click here)

C → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

A → REPLACE ECM (Click here)

## 12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector.

NEXT

## 13.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - NO. 1 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector.

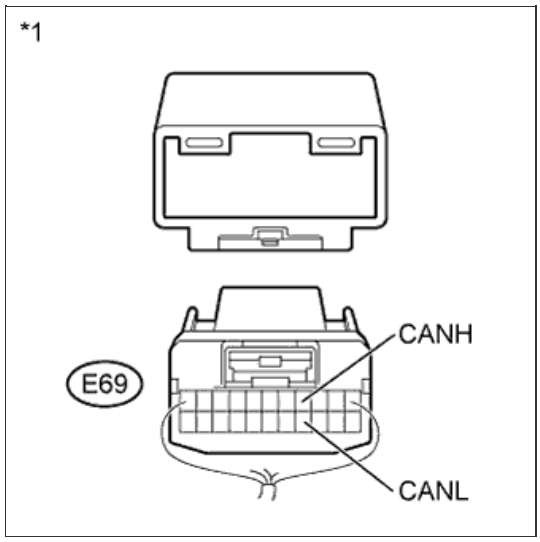
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-4 (CANH) - E69-15 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 1 JUNCTION CONNECTOR)

OK

## 14.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR SIDE)

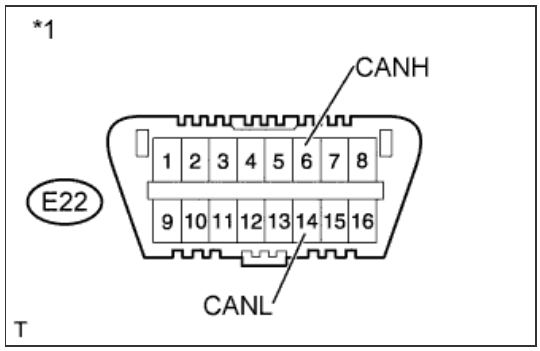
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 23

OK

## 15.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

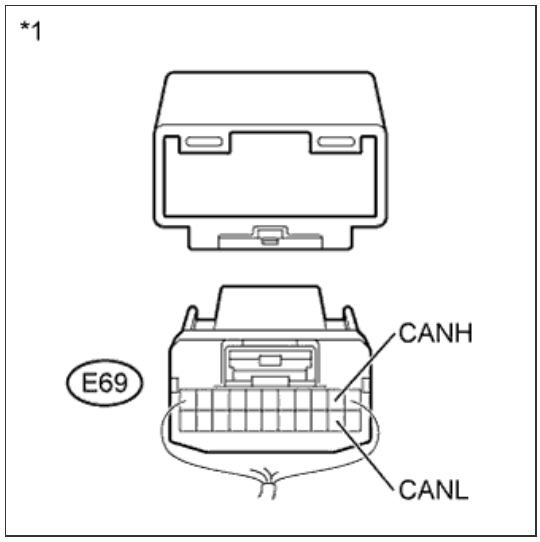
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E62-13 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

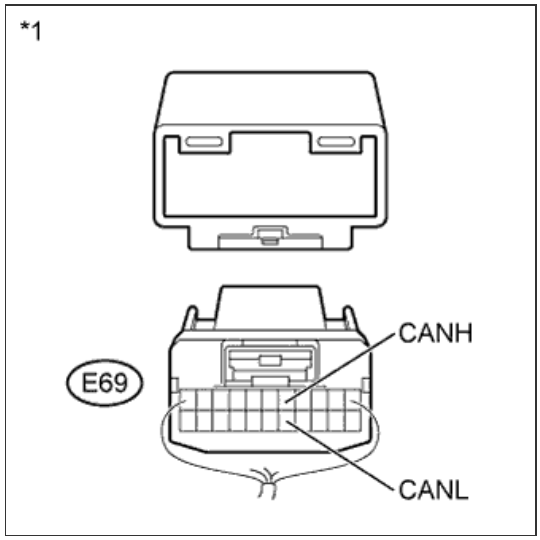



NG → Go to step 19

OK

## 16.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER ASSEMBLY)

a. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E69-16 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

NG → Go to step 20

OK

## 17.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

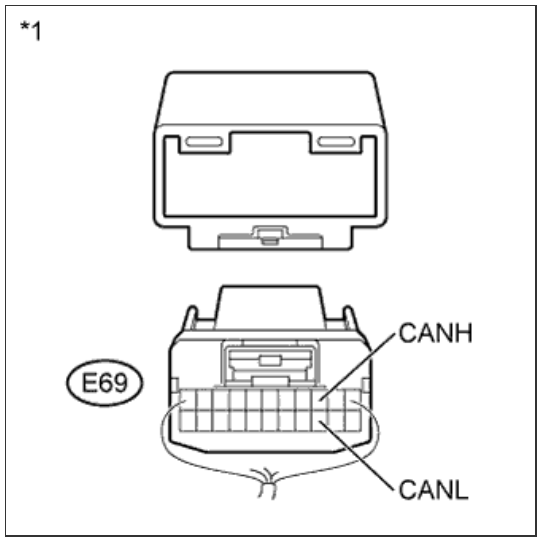
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E69-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

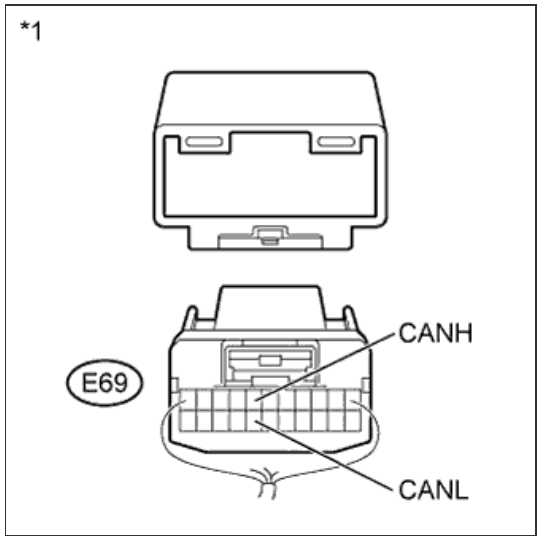



NG → Go to step 21

OK

## 18.CHECK FOR SHORT IN CAN BUS WIRES (NO. 2 JUNCTION CONNECTOR - AFS ECU)

a. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-7 (CANH) - E69-18 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

NG → Go to step 22

OK

## REPLACE NO. 2 JUNCTION CONNECTOR

## 19.CHECK FOR SHORT IN CAN BUS WIRES (MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

a. Disconnect the F76 multi-media module receiver assembly connector.

b. Measure the resistance according to the value(s) in the table below.

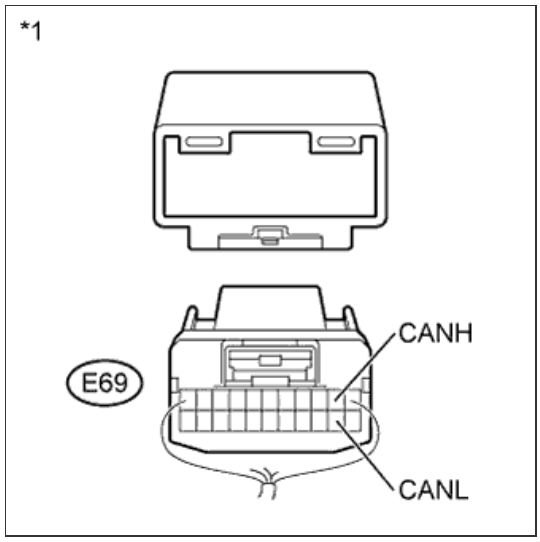
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E62-13 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector |

| | |
|---|---|
| | (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTI-MEDIA MODULE RECEIVER ASSEMBLY (CANH, CANL)

OK → REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

## 20.CHECK FOR SHORT IN CAN BUS WIRES (AIR CONDITIONING AMPLIFIER ASSEMBLY)

a. Disconnect the E35 air conditioning amplifier assembly connector.

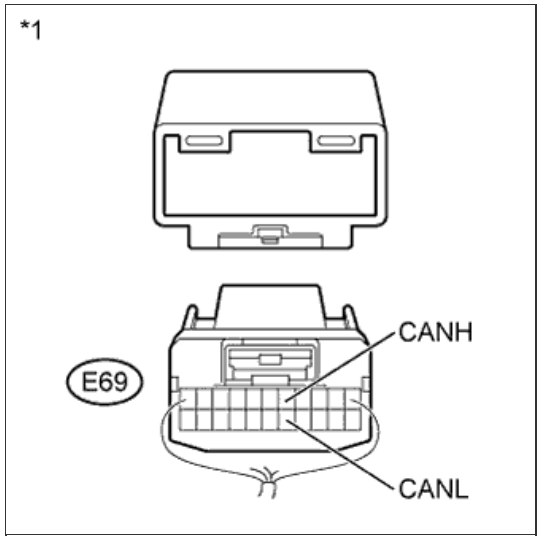
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E69-16 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER ASSEMBLY (CANH, CANL)

OK → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 21.CHECK FOR SHORT IN CAN BUS WIRES (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

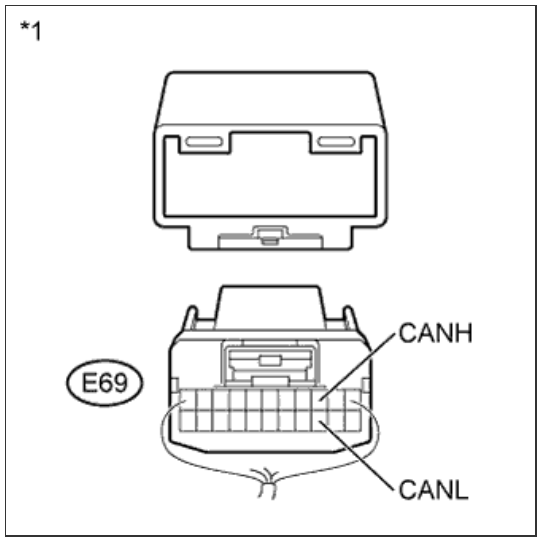
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E69-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

22.CHECK FOR SHORT IN CAN BUS WIRES (AFS ECU)

a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

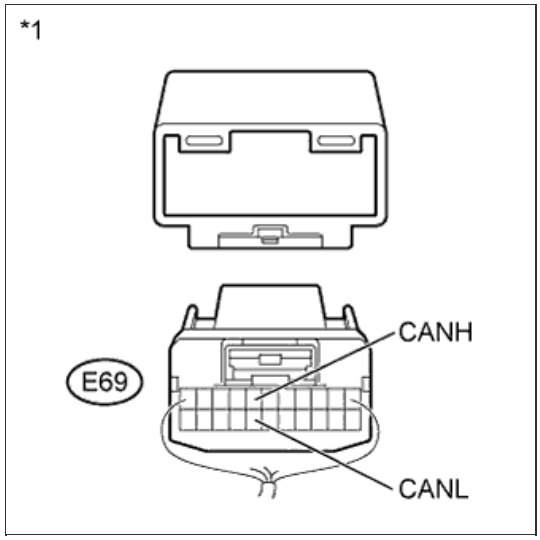
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-7 (CANH) - E69-18 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) ( Click here)

23.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector.

NEXT

24.CHECK FOR SHORT IN CAN BUS WIRES (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector.

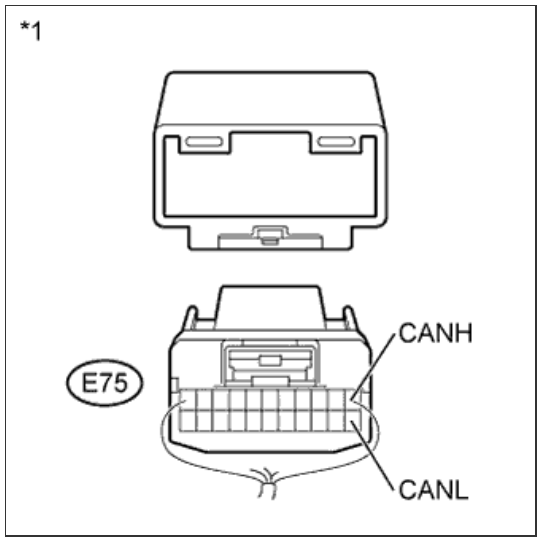
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E75-12 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

**25.CHECK FOR SHORT IN CAN BUS WIRES (NO. 3 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)**

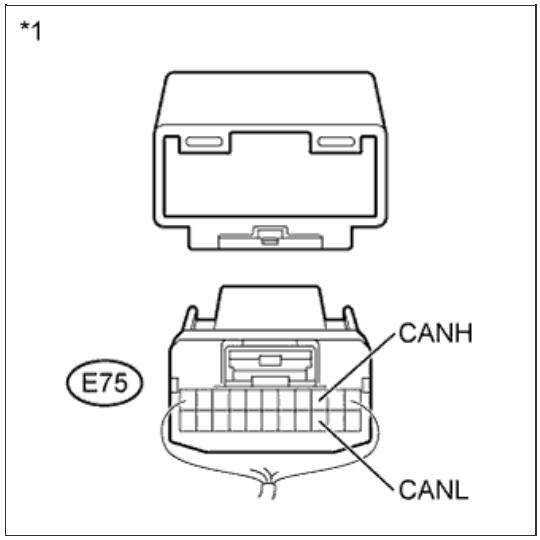
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 108 to 132 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |




NG → Go to step 26

OK

**REPLACE NO. 3 JUNCTION CONNECTOR**

**26.CHECK FOR SHORT IN CAN BUS WIRES (COMBINATION METER ASSEMBLY)**

a. Disconnect the E77 combination meter assembly connector.

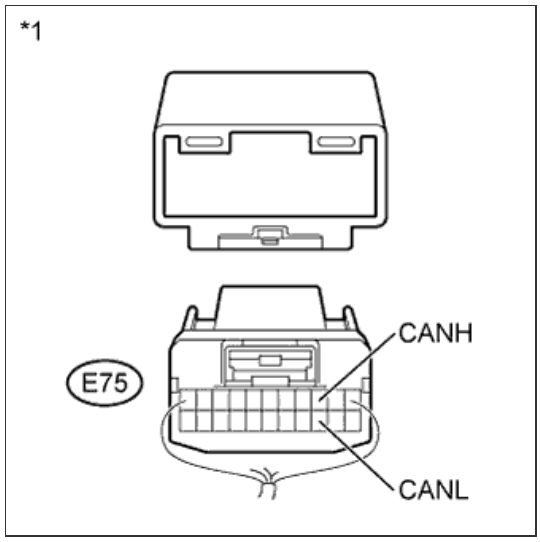
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E75-14 (CANL) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector<br>(to No. 3 Junction Connector) |




NG

REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER ASSEMBLY (CANH, CANL)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

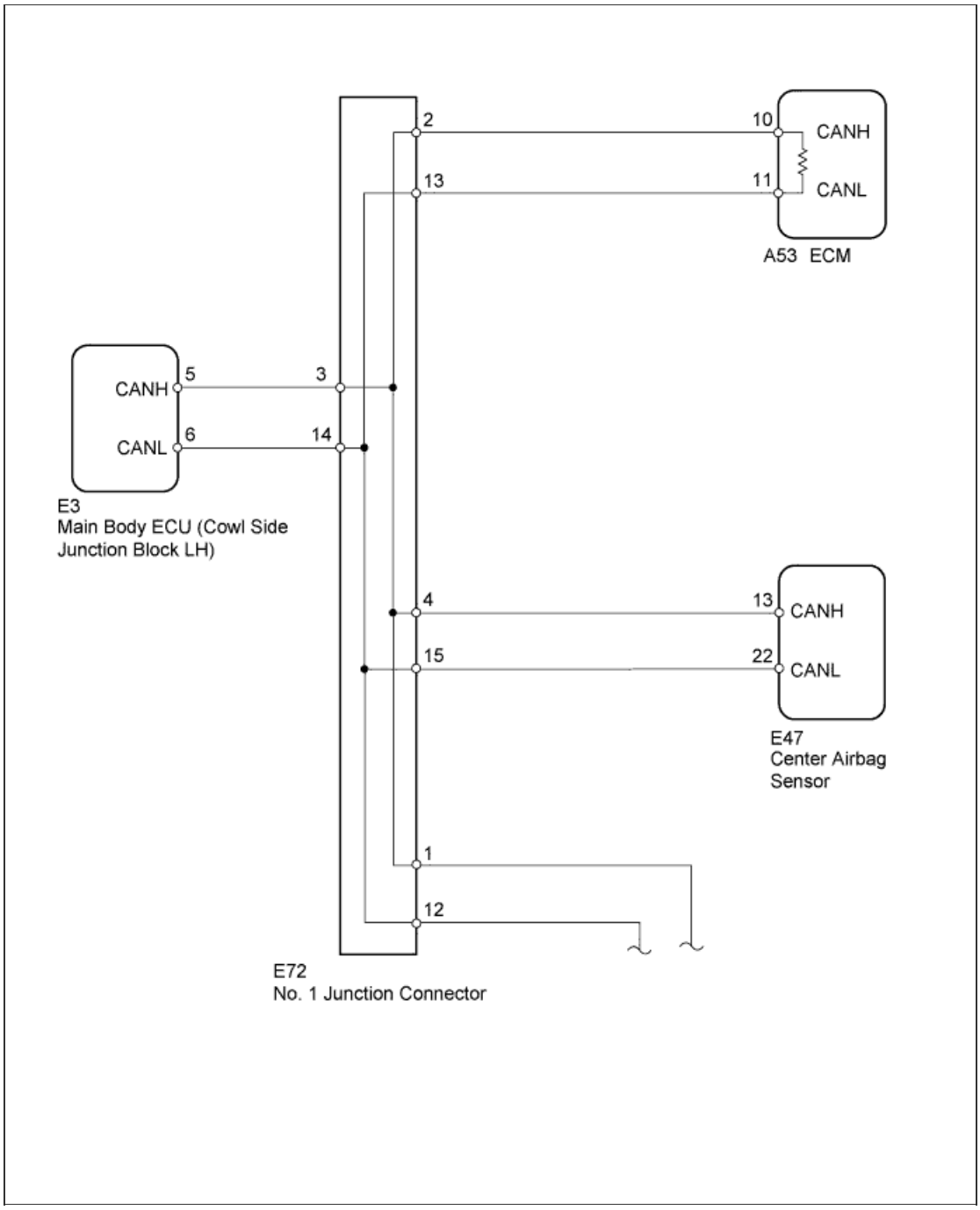
**for Preparation** Click here

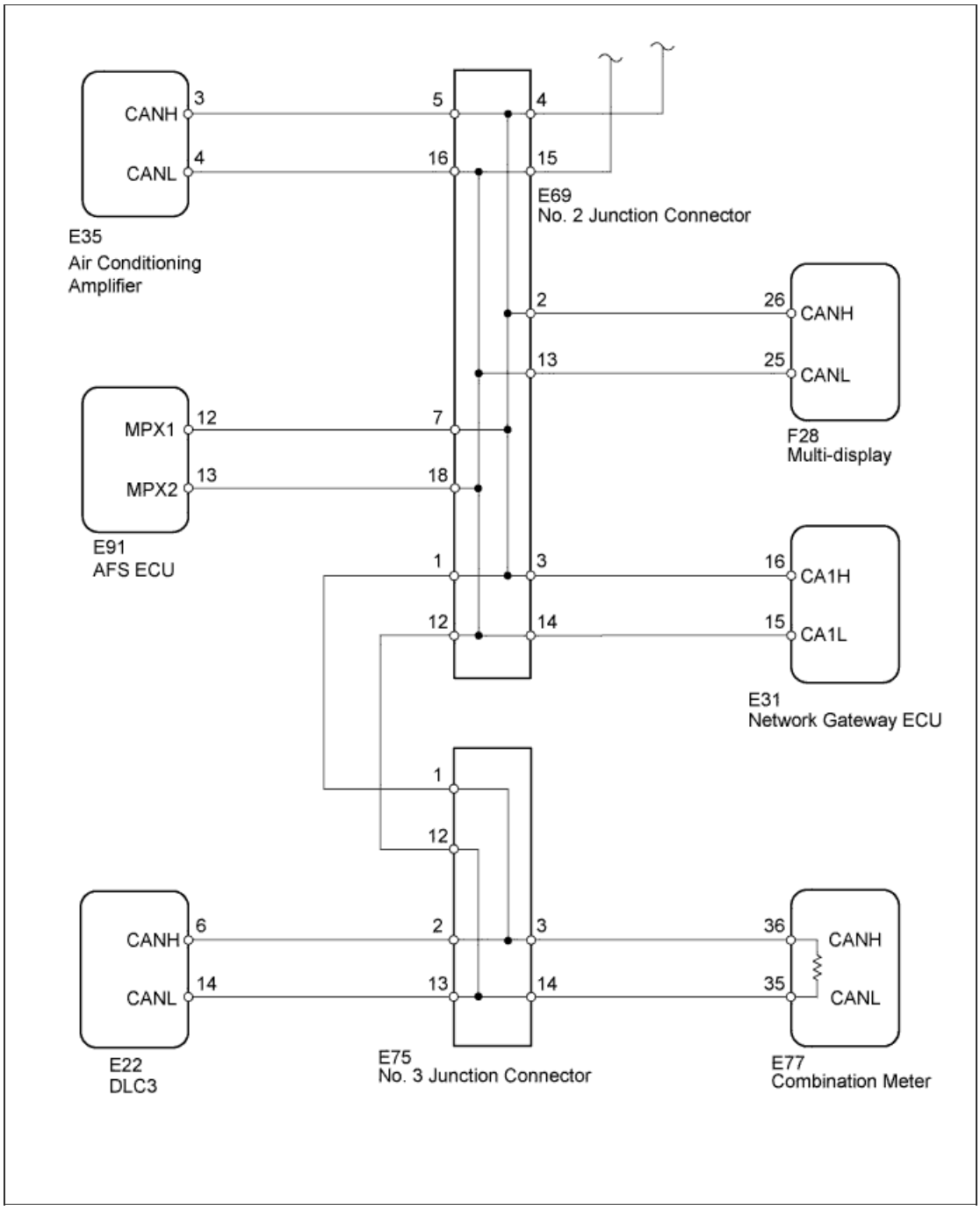
## DESCRIPTION

There may be a short circuit between the CAN bus line and +B when there is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3. | • Short to +B<br>• ECM<br>• Center airbag sensor<br>• Multi-display<br>• Air conditioning amplifier<br>• Network gateway ECU<br>• Main body ECU<br>• AFS ECU<br>• Combination meter<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM


2
10
CANH
13
11
CANL
A53 ECM
CANH
5
3
CANL
6
14
E3
Main Body ECU (Cowl Side
Junction Block LH)
4
13
CANH
15
22
CANL
E47
Center Airbag
Sensor
1
12
E72
No. 1 Junction Connector




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

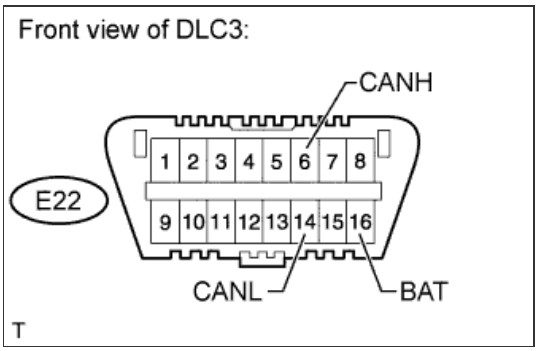
### 2.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

### 3.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

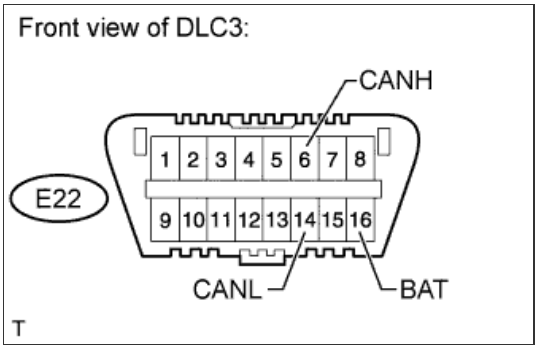
### 4.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 11

OK

### 5.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

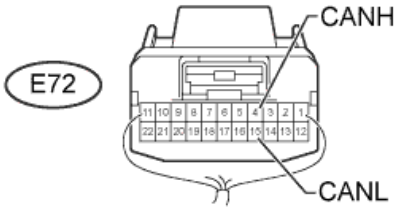
a. Measure the resistance according to the value(s) in the table below.

**Result**

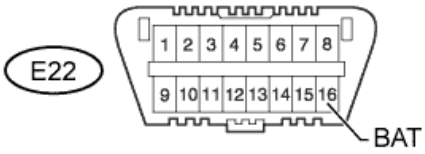
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|

| | | | |
|---|---|---|---|
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:




NG → Go to step 8

OK

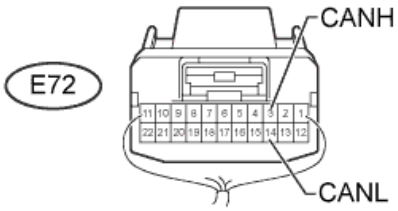
## 6.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - MAIN BODY ECU)

a. Measure the resistance according to the value(s) in the table below.

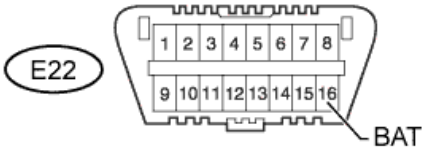
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:




NG → Go to step 9

OK

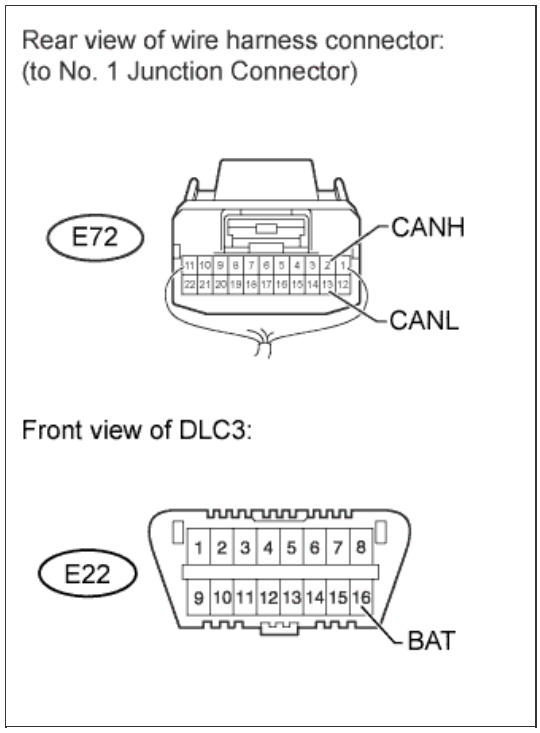
## 7.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

a. Measure the resistance according to the value(s) in the table below.

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 10

OK →

REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR

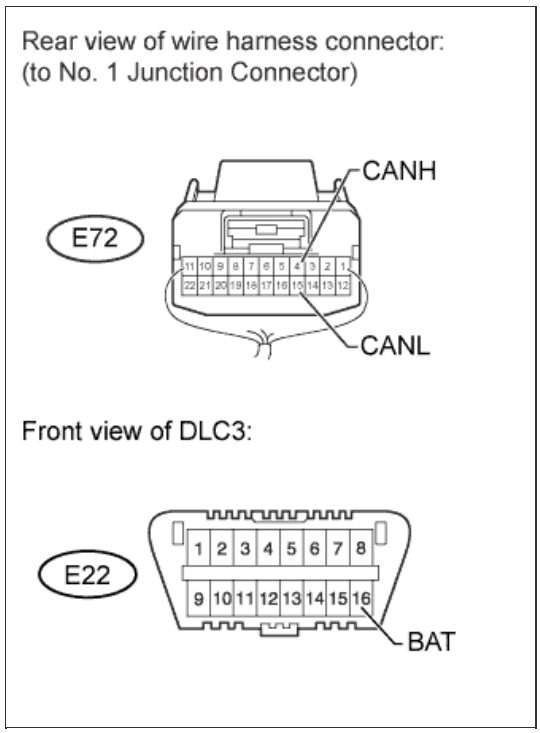
8.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK →

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

9.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (MAIN BODY ECU)

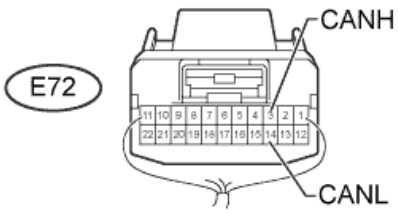
a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Measure the resistance according to the value(s) in the table below.

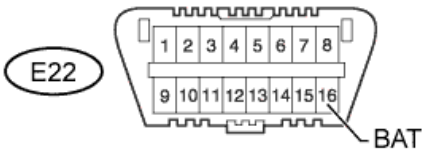
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (CANH, CANL)

OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 10.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (ECM)

a. Disconnect the A53 ECM connector.

b. Measure the resistance according to the value(s) in the table below.

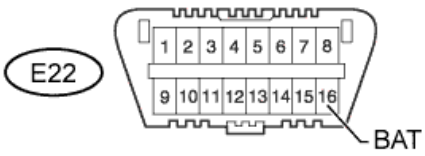
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO ECM (CANH, CANL)

OK

REPLACE ECM (Click here)

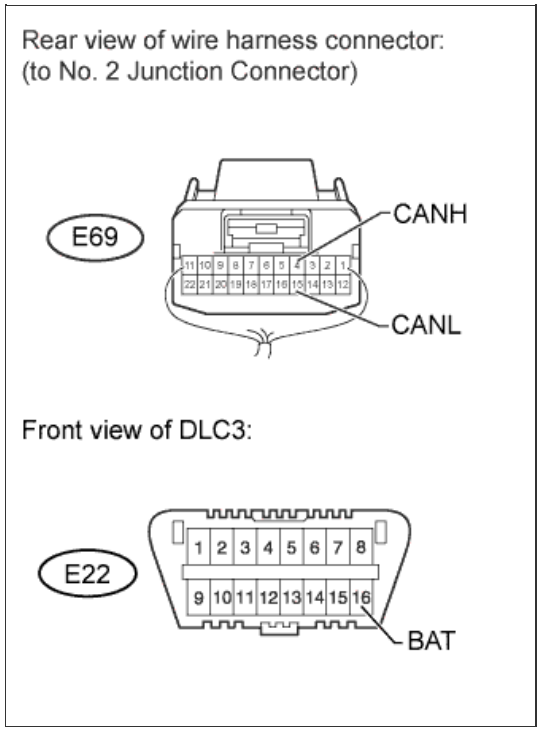
11.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-4 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-15 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-4 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-15 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector connector.

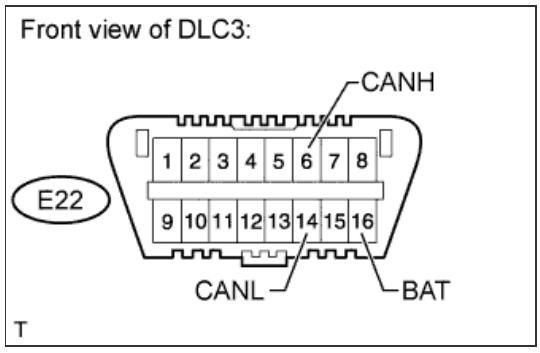
NEXT

13.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR SIDE)

a. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 22

OK

## 14.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - MULTI-DISPLAY)

a. Measure the resistance according to the value(s) in the table below.

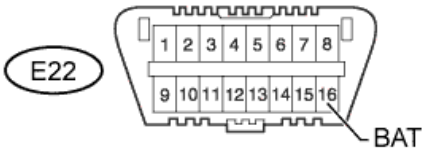
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




NG → Go to step 18

OK

## 15.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

a. Measure the resistance according to the value(s) in the table below.

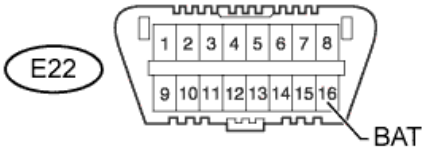
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




NG → Go to step 19

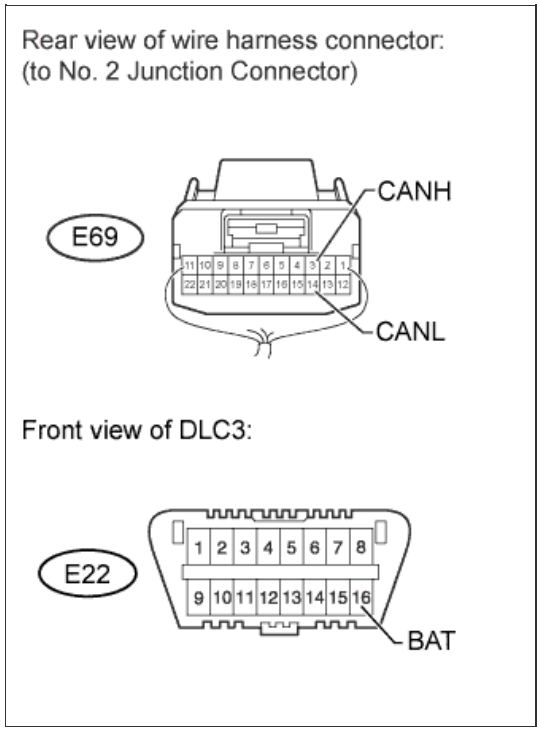
OK

## 16.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 20

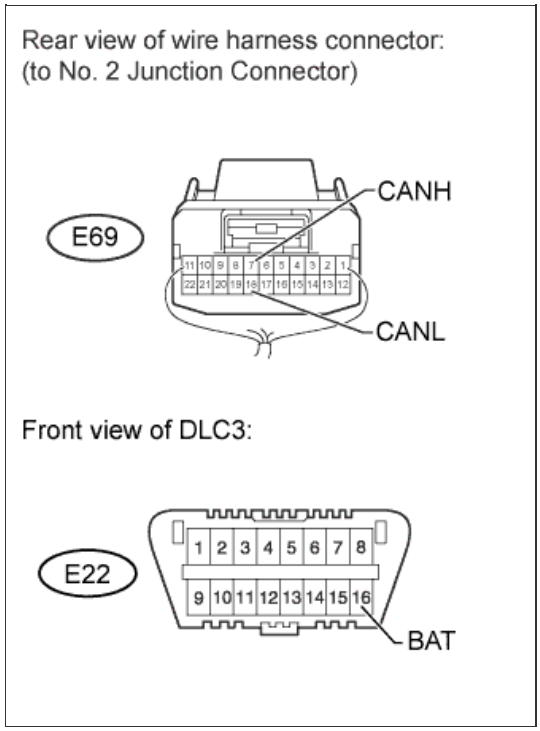
OK →

## 17.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AFS ECU)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-7 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-18 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-7 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-18 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 21

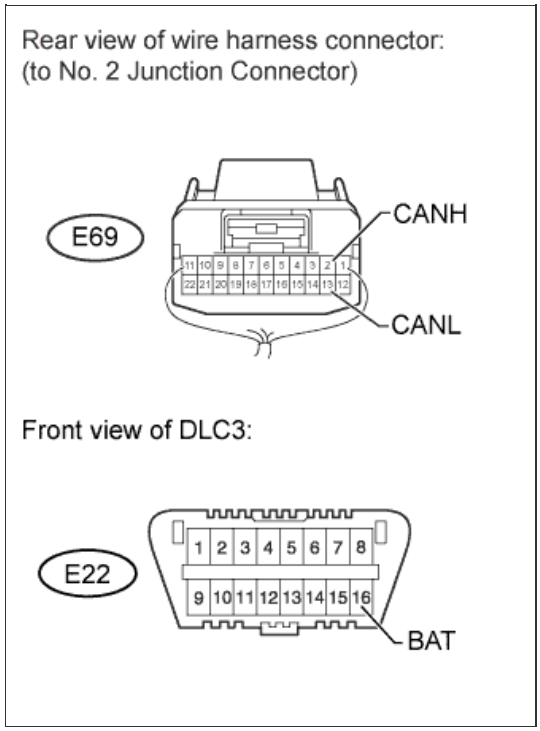
OK →

REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR

18.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (MULTI-DISPLAY)

a. Disconnect the F28 multi-display connector.

b. Measure the resistance according to the value(s) in the table below.




Result

| Tester Connection | Switch Condition | Measured Resistance | Result | Proceed to |
|---|---|---|---|---|
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK (w/ Navigation System) | A |
| | | | OK (w/o Navigation System) | B |
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK (w/ Navigation System) OK | A |
| | | | OK (w/o Navigation System) | B |
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG | C |
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG | C |

B → REPLACE MULTI-DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTI-DISPLAY (CANH, CANL)

A

REPLACE MULTI-DISPLAY (Click here)

19.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

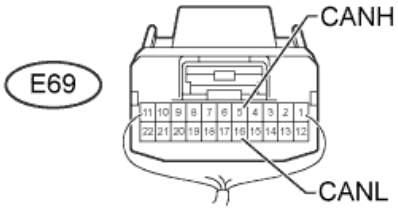
b. Measure the resistance according to the value(s) in the table below.

Result

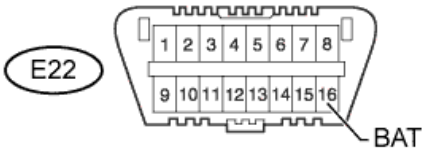
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-16 (CANL) - E22- | Engine | | |

| | | | |
|---|---|---|---|
| 16 (BAT) | switch off | 1 Ω or higher | OK |
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 20.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NETWORK GATEWAY ECU)

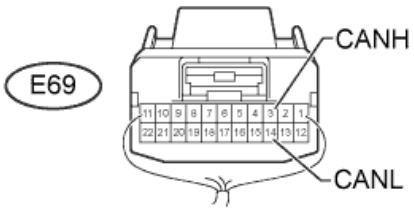
a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

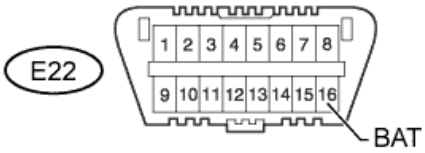
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

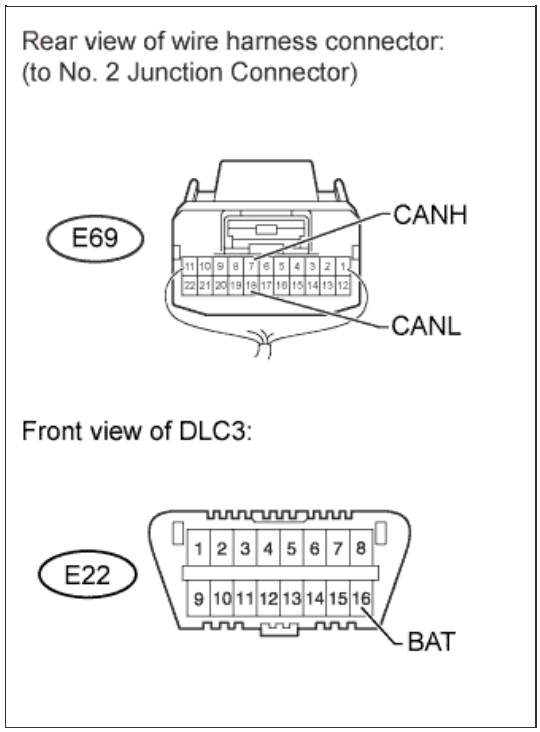
## 21.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (AFS ECU)

a. Disconnect the E91 AFS ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-7 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-18 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E69-7 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E69-18 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE AFS ECU (Click here)

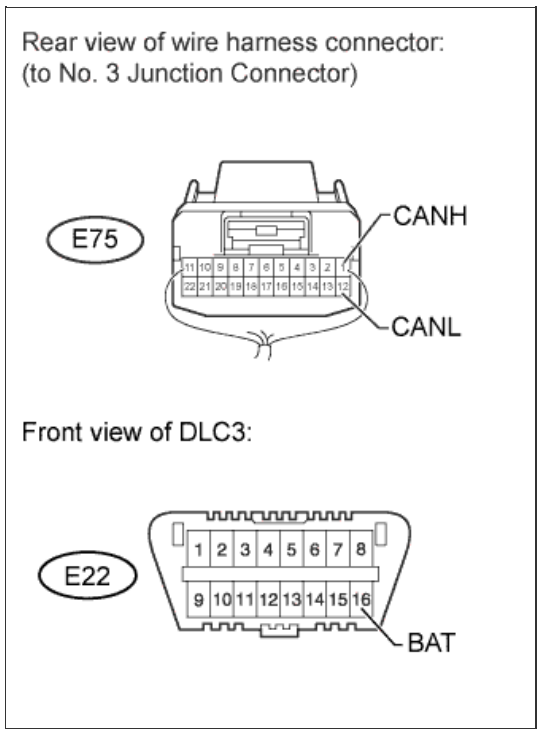
## 22.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-1 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-12 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-1 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E75-12 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

23.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

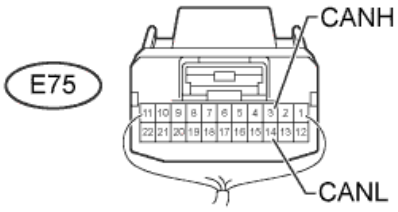
24.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

a. Measure the resistance according to the value(s) in the table below.

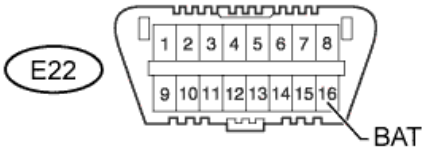
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:




NG → Go to step 25

OK

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

25.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (COMBINATION METER)

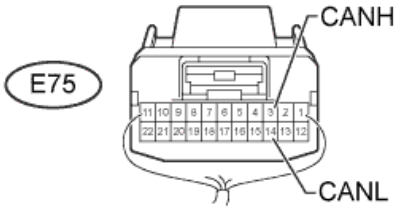
a. Disconnect the E77 combination meter connector.

b. Measure the resistance according to the value(s) in the table below.

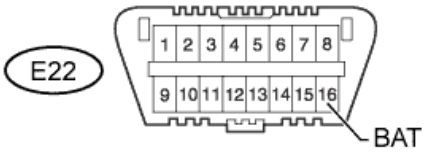
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | 1 Ω or higher | OK |
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK

REPLACE COMBINATION METER ASSEMBLY (Click here)

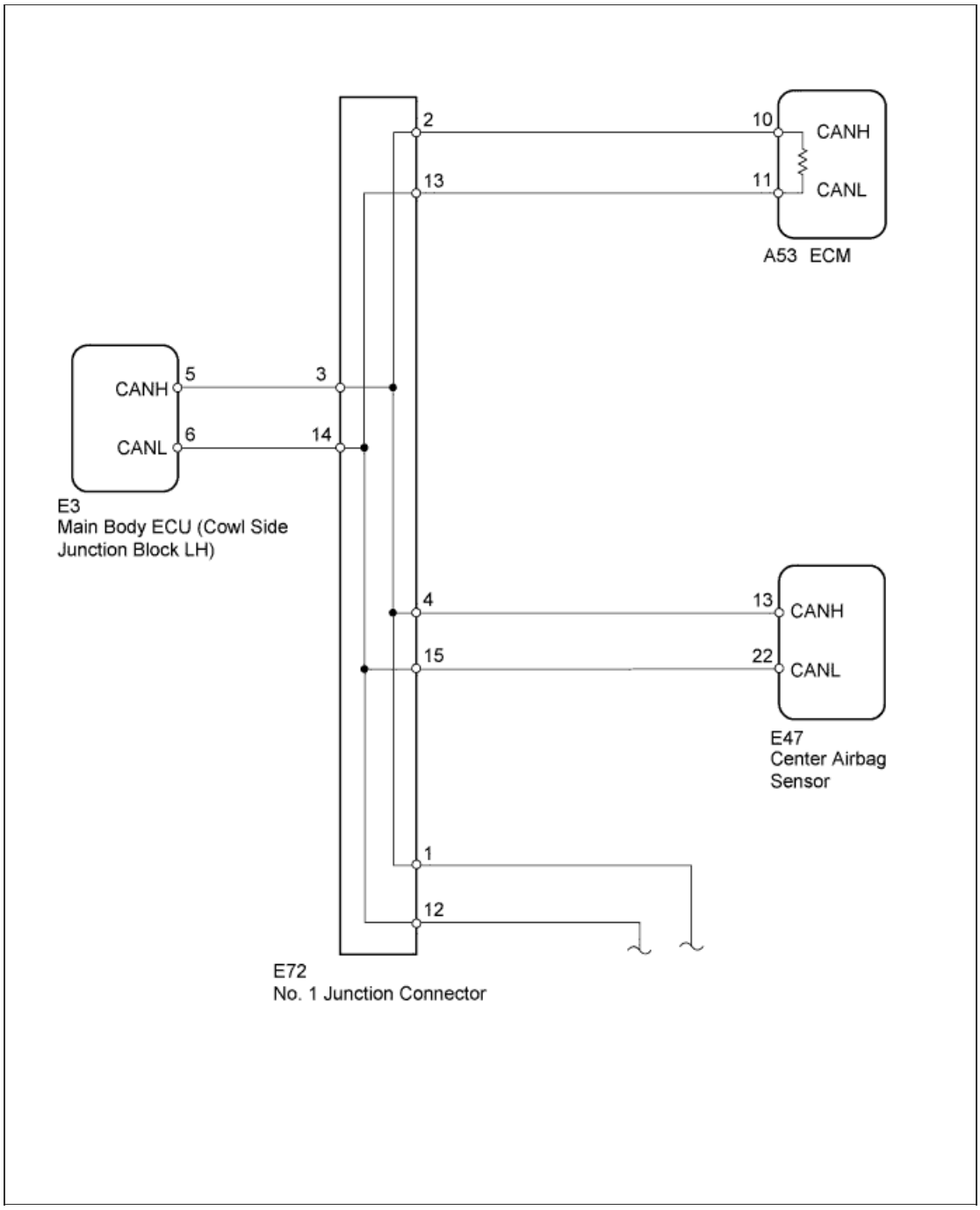
**for Preparation** Click here

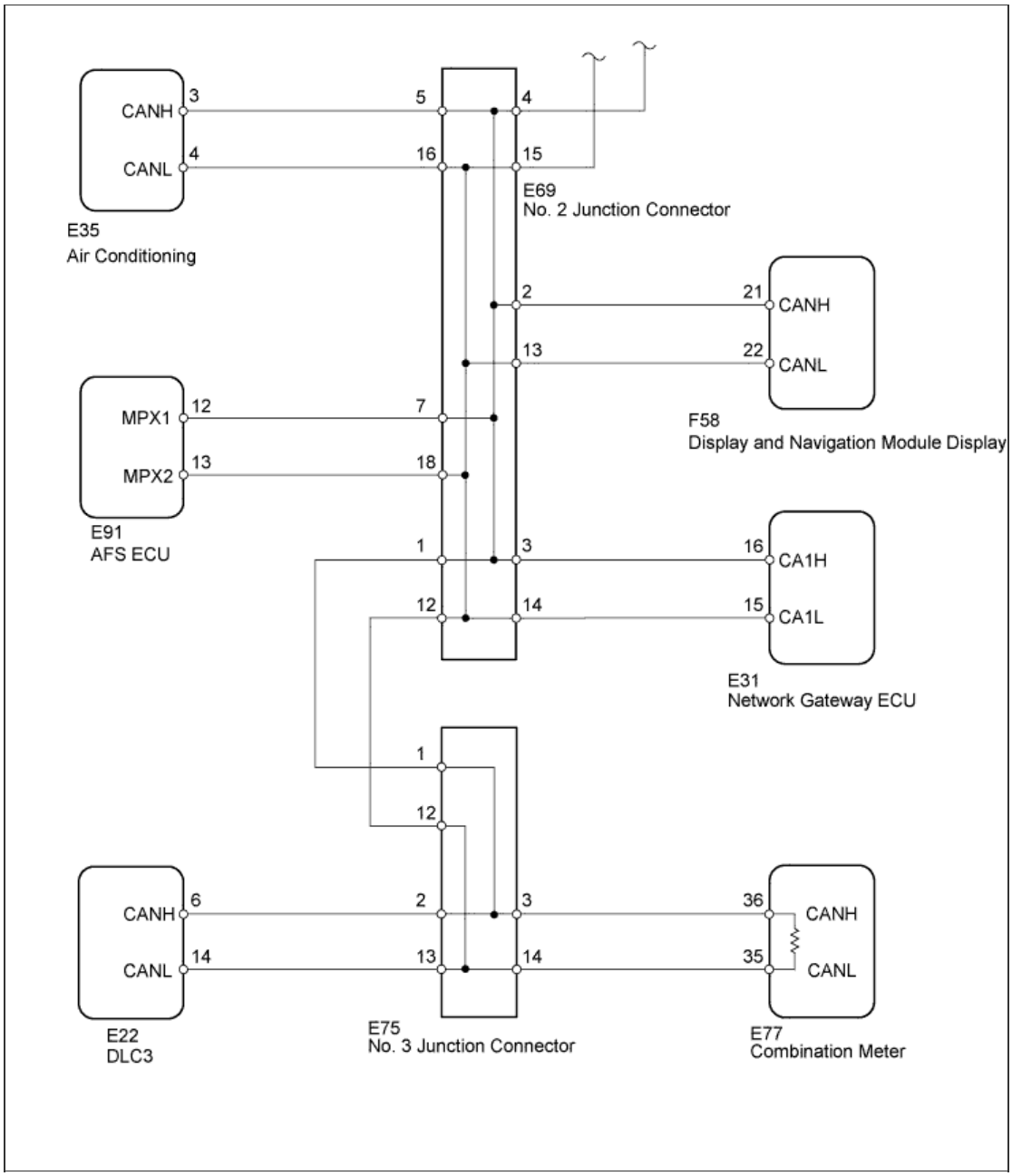
## DESCRIPTION

There may be a short circuit between the CAN bus line and +B when there is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3. | • Short to +B<br>• ECM<br>• Center airbag sensor assembly<br>• Display and navigation module display<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• AFS ECU (headlight swivel ECU assembly)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM


2
10
CANH
13
11
CANL
A53 ECM
CANH
5
3
CANL
6
14
E3
Main Body ECU (Cowl Side
Junction Block LH)
4
13
CANH
15
22
CANL
E47
Center Airbag
Sensor
1
12
E72
No. 1 Junction Connector




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

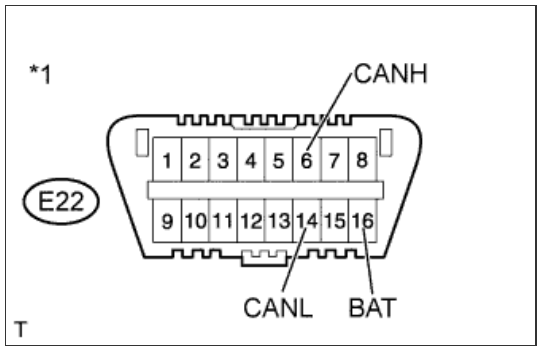
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

**NEXT**

### 2.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

## 3.CONNECT CONNECTOR

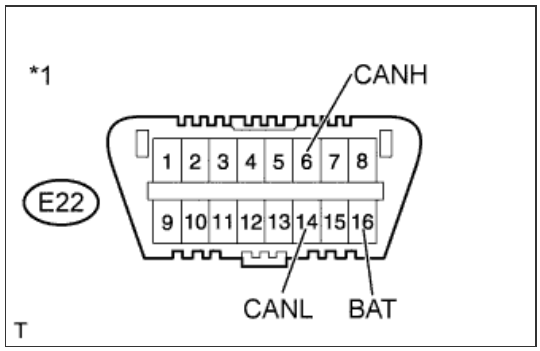
a. Reconnect the E75 No. 3 junction connector connector.

NEXT

## 4.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → Go to step 11

OK

## 5.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

a. Measure the resistance according to the value(s) in the table below.

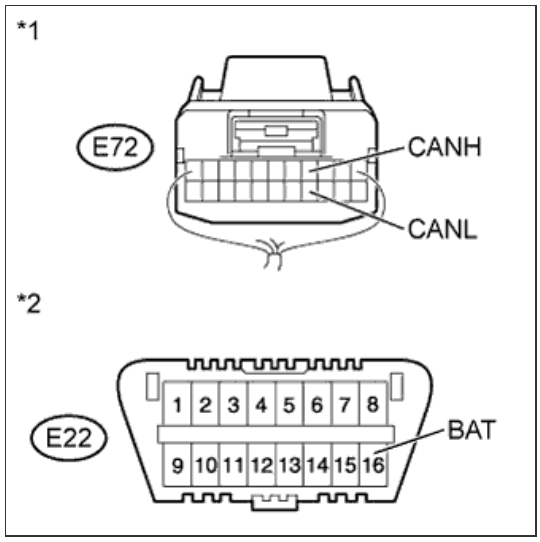
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-15 (CANL) - | Engine switch off | 6 kΩ or higher |

E22-16 (BAT)

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 8

OK

## 6.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - MAIN BODY ECU)

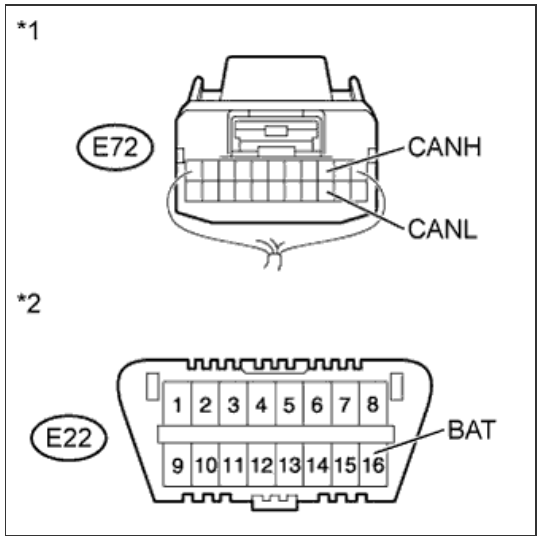
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 9

OK

## 7.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

a. Measure the resistance according to the value(s) in the table below.

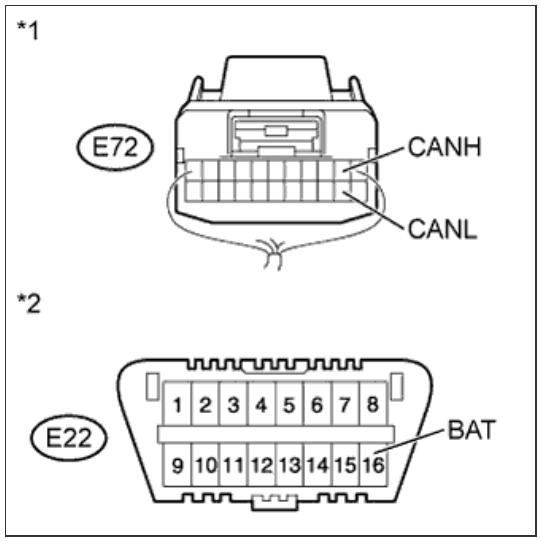
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |

| | |
|---|---|
| *2 | DLC3 |




NG → Go to step 10

OK

REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR

## 8.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

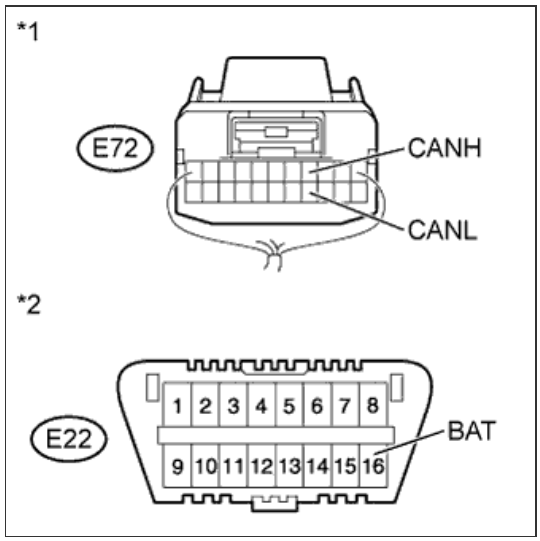
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 9.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Measure the resistance according to the value(s) in the table below.

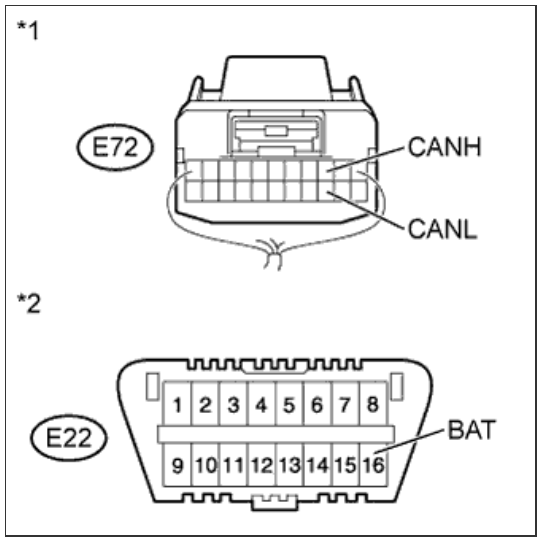
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-14 (CANL) - | | |

| | | |
|---|---|---|
| E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH) (CANH, CANL)

OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 10.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (ECM)

a. Disconnect the A53 ECM connector.

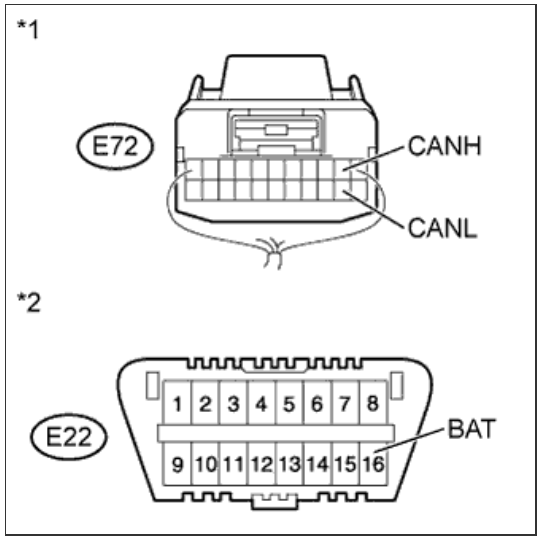
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

OK → REPLACE ECM (Click here)

## 11.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

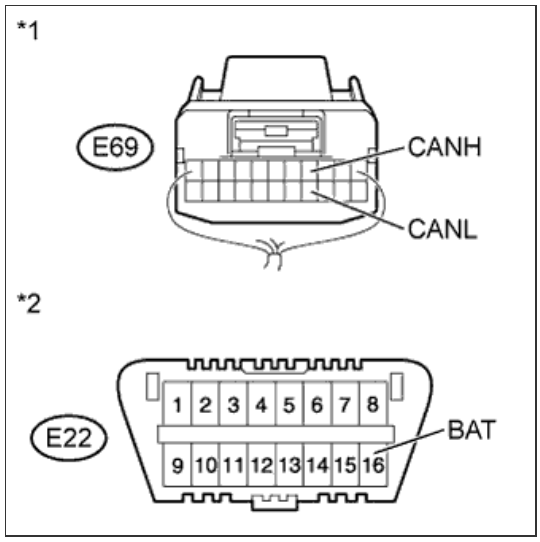
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-4 (CANH) - | Engine switch off | 6 kΩ or higher |

| | | |
|---|---|---|
| E22-16 (BAT) | | |
| E69-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

## 12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector connector.

NEXT

## 13.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR SIDE)

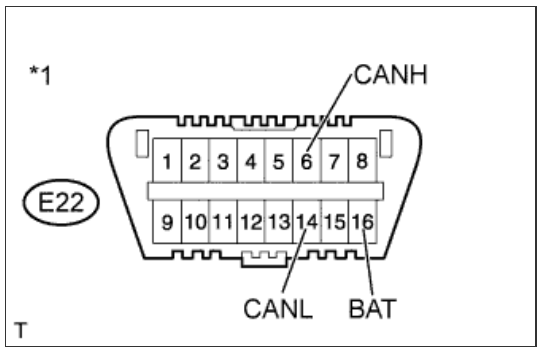
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 22

OK

## 14.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - DISPLAY AND NAVIGATION MODULE DISPLAY)

a. Measure the resistance according to the value(s) in the table below.

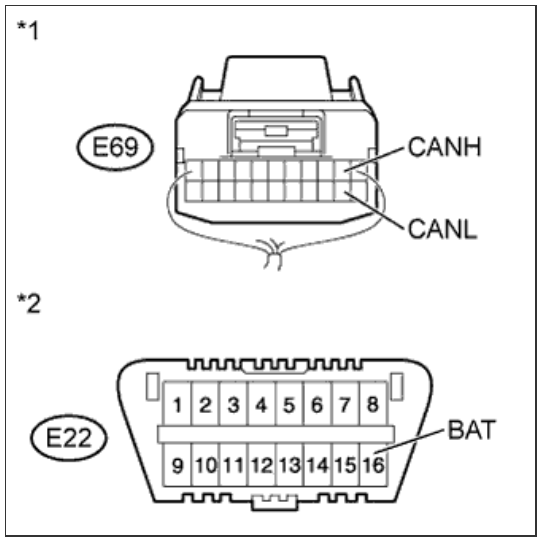
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-13 (CANL) - | Engine switch off | 6 kΩ or higher |

E22-16 (BAT)

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 18

OK

## 15.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

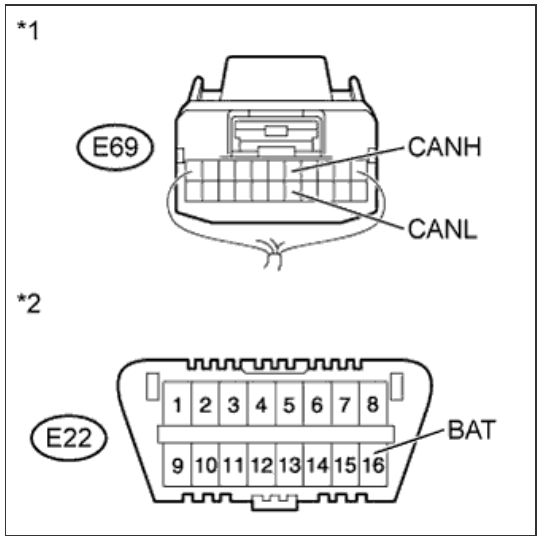
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 19

OK

## 16.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

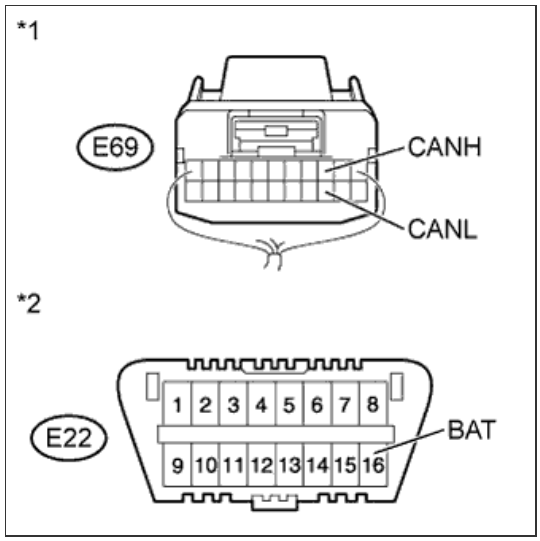
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

| | |
|---|---|
| *2 | DLC3 |




NG → Go to step 20

OK

## 17.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AFS ECU)

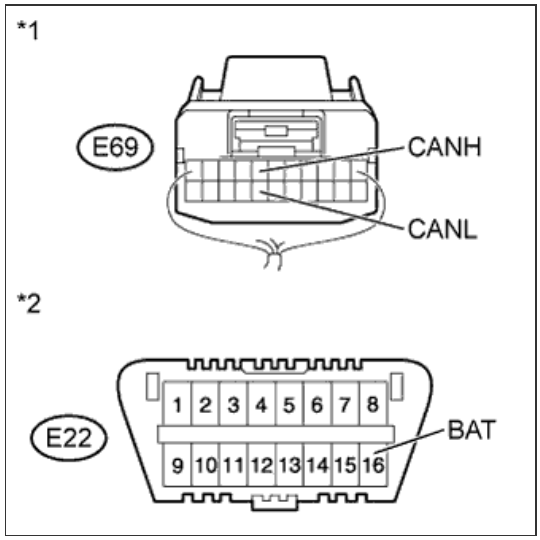
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-7 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-18 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 21

OK

REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR

## 18.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DISPLAY AND NAVIGATION MODULE DISPLAY)

a. Disconnect the F58 display and navigation module display connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

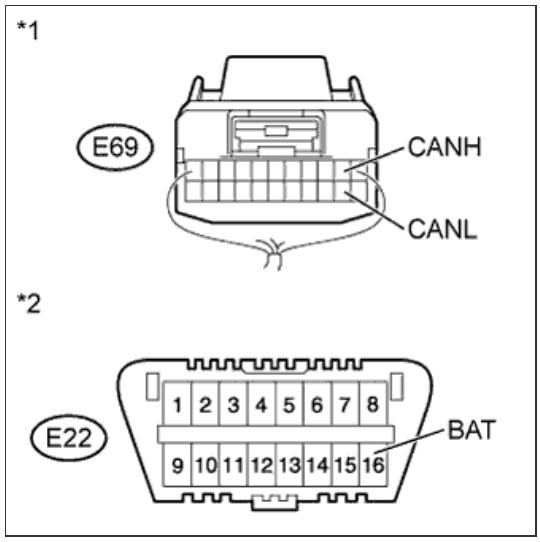
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |
| NG | C |




B → REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DISPLAY AND NAVIGATION MODULE DISPLAY (CANH, CANL)

A

REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

## 19.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

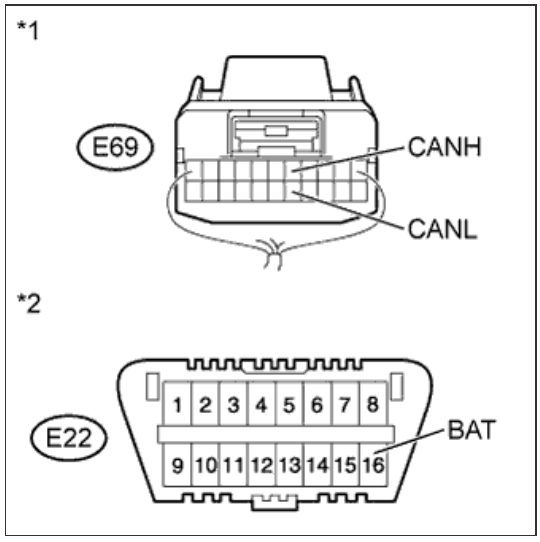
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 20.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

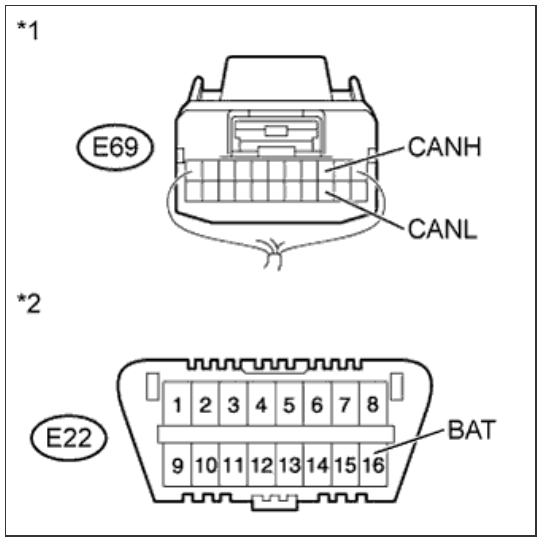
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified |
|---|---|---|

| | | Condition |
|---|---|---|
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## 21.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (AFS ECU)

a. Disconnect the E91 AFS ECU connector.

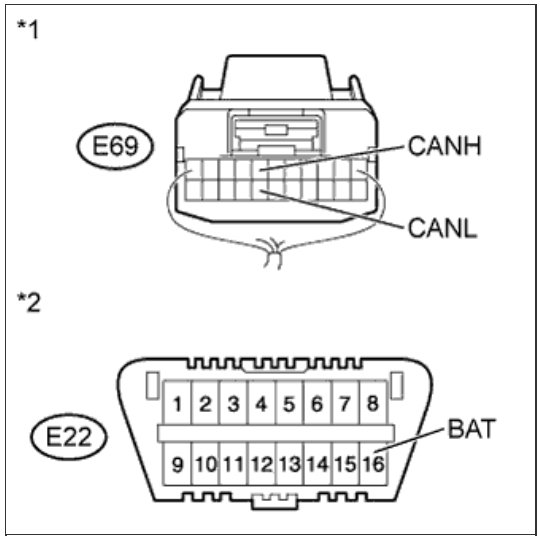
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-7 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-18 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE AFS ECU (Click here)

## 22.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

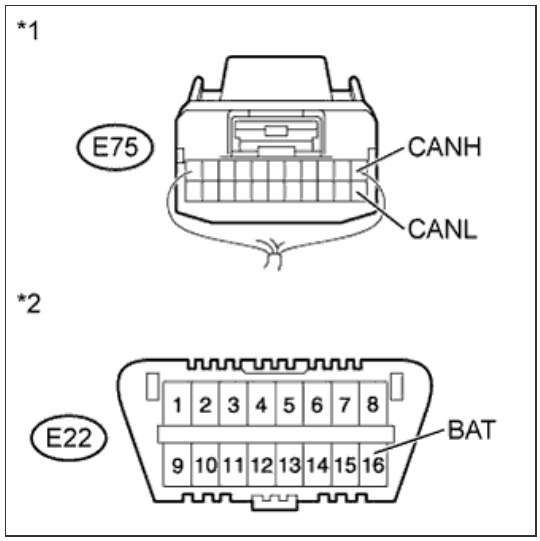
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

| | | |
|---|---|---|
| E75-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

**23.CONNECT CONNECTOR**

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

**24.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)**

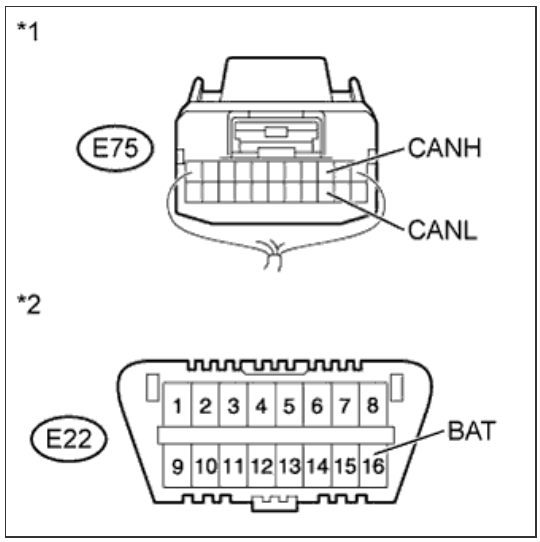
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 25

OK

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

**25.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (COMBINATION METER)**

a. Disconnect the E77 combination meter connector.

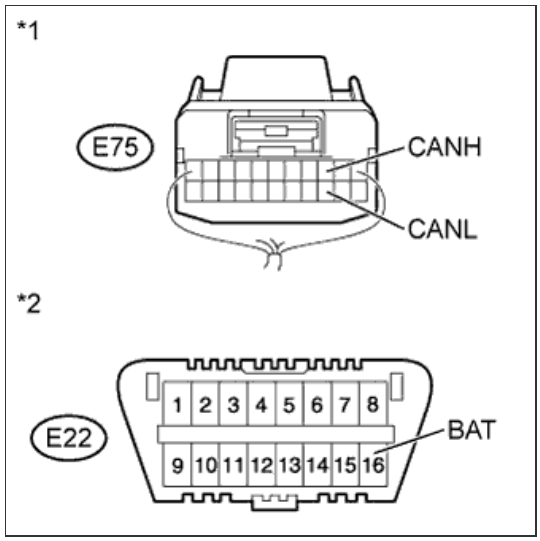
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK → REPLACE COMBINATION METER ASSEMBLY (Click here)

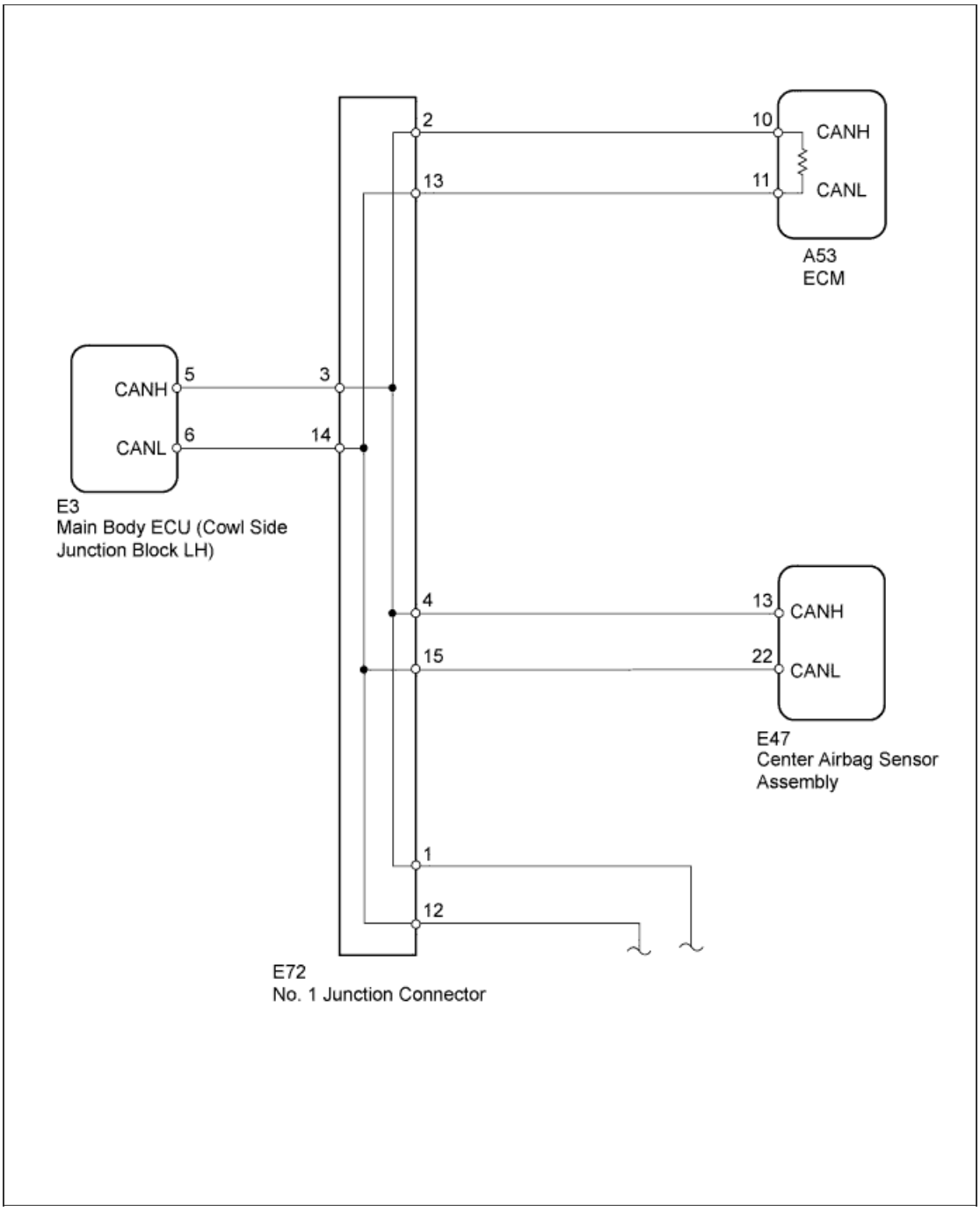
**for Preparation** Click here

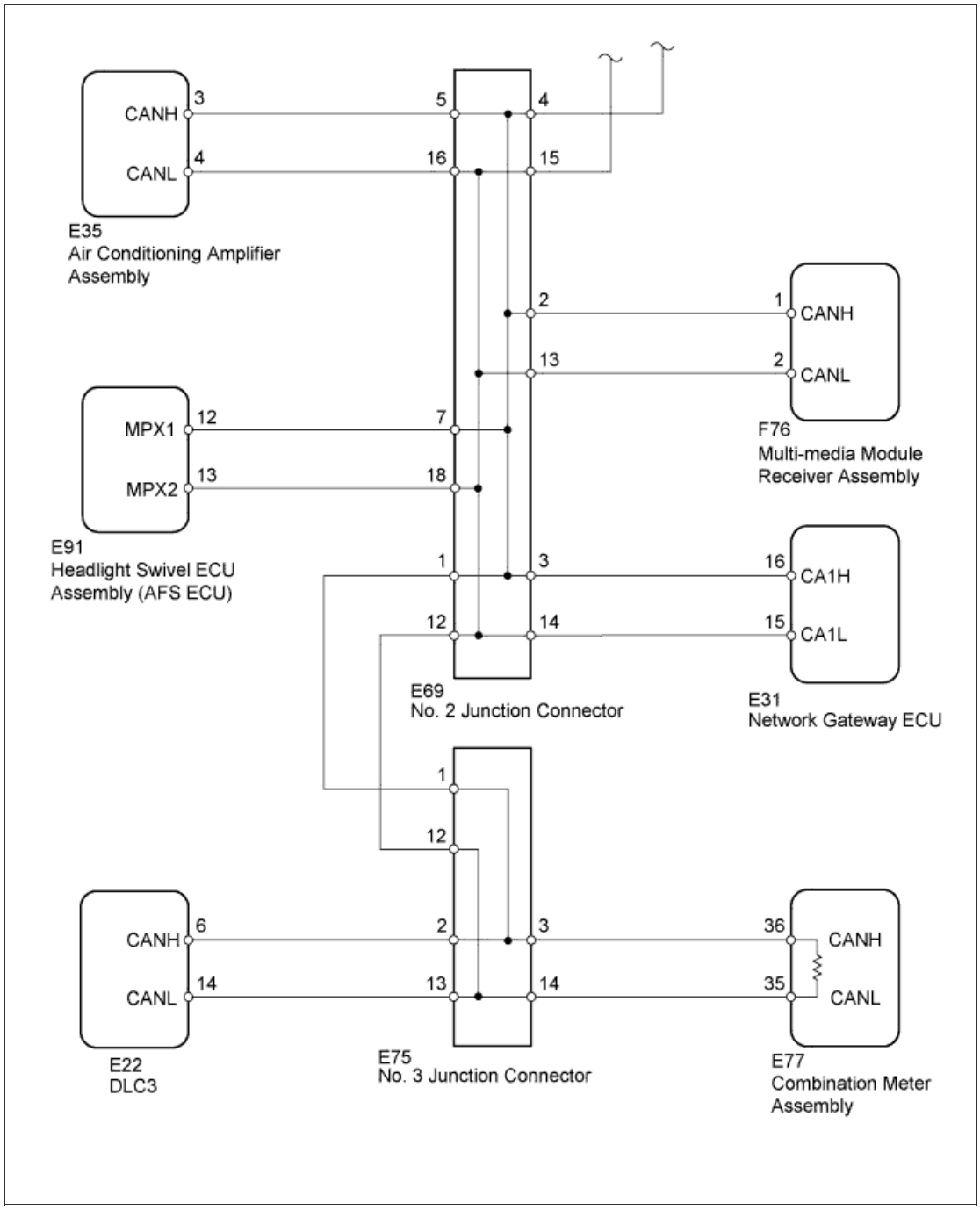
## DESCRIPTION

There may be a short circuit between the CAN bus line and +B when there is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 16 (BAT) or terminals 14 (CANL) and 16 (BAT) of the DLC3. | • Short to +B<br>• ECM<br>• Center airbag sensor assembly<br>• Multi-media module receiver assembly<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• Headlight swivel ECU assembly (AFS ECU)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM


2
10
CANH
13
11
CANL
A53
ECM
CANH
5
3
CANL
6
14
E3
Main Body ECU (Cowl Side
Junction Block LH)
4
13
CANH
15
22
CANL
E47
Center Airbag Sensor
Assembly
1
12
E72
No. 1 Junction Connector




## INSPECTION PROCEDURE

**NOTICE:**

The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the Precaution in the SRS (Click here).

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

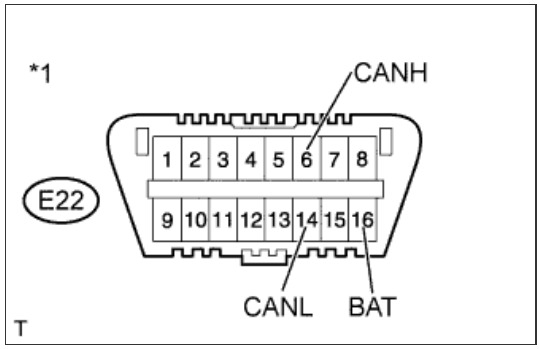
## 3.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

## 4.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector.

NEXT

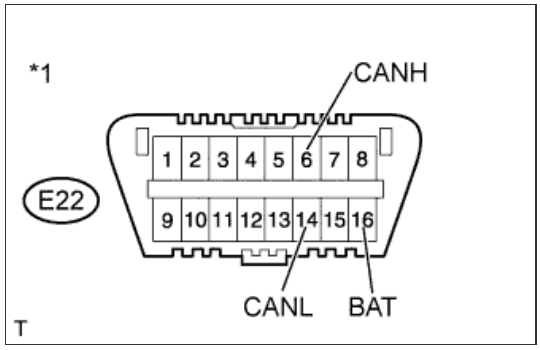
## 5.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → Go to step 12

OK

6.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR ASSEMBLY)

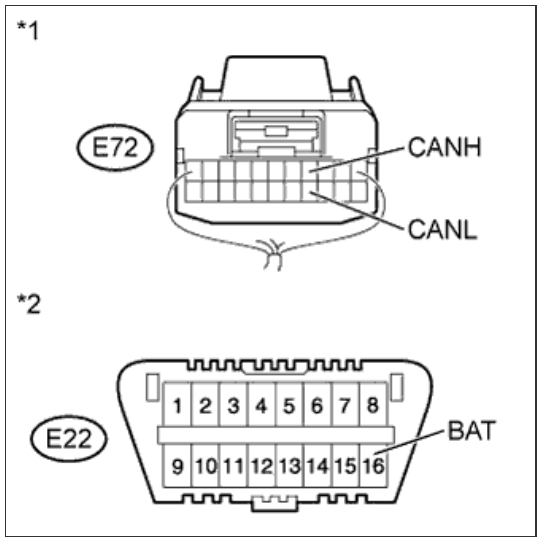
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 9

OK

7.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - MAIN BODY ECU)

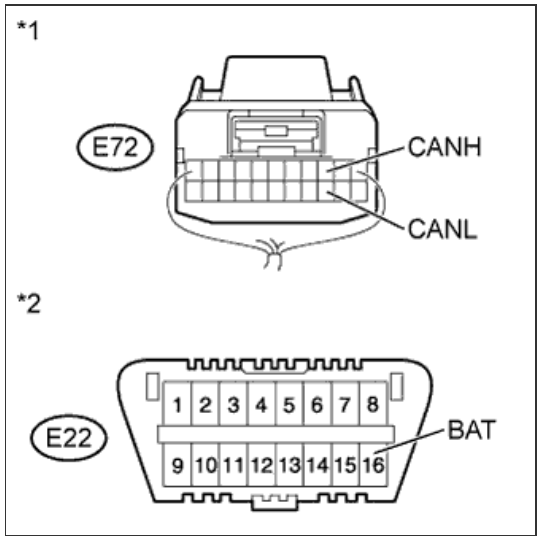
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 10

OK

8.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

a. Measure the resistance according to the value(s) in the table below.

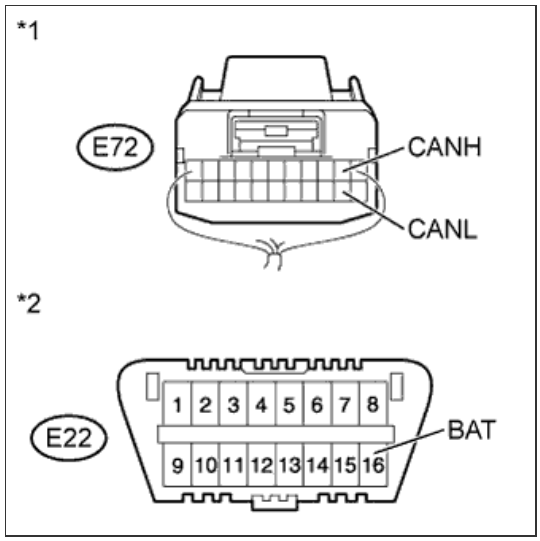
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 11

OK →

REPLACE NO. 1 JUNCTION CONNECTOR

## 9.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (CENTER AIRBAG SENSOR ASSEMBLY)

a. Disconnect the E47 center airbag sensor assembly connector (Click here).

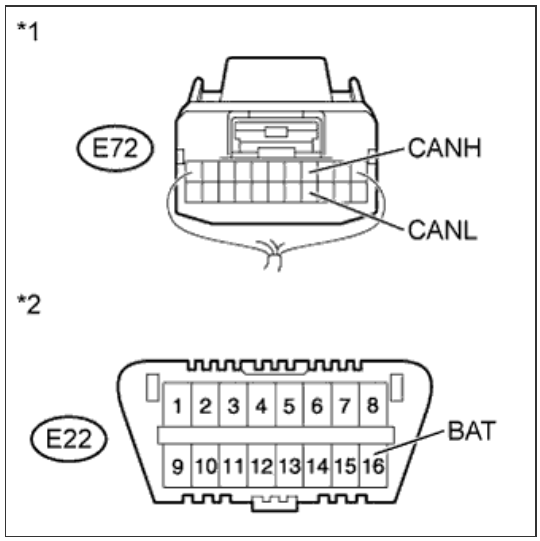
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR ASSEMBLY (CANH, CANL)

OK →

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 10.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Measure the resistance according to the value(s) in the table below.

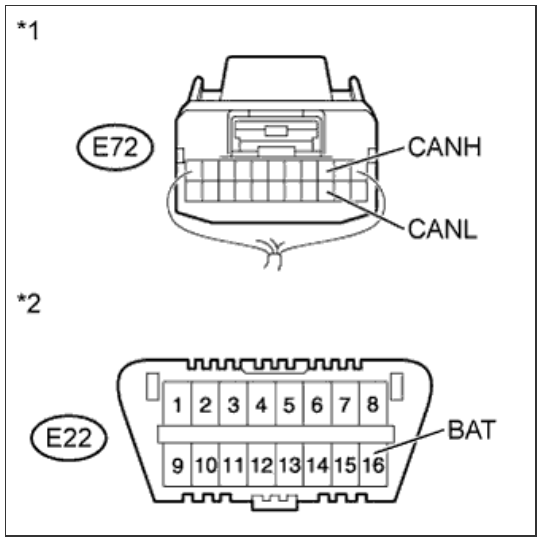
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-14 (CANL) - | | |

| | | |
|---|---|---|
| E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (CANH, CANL)

OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 11.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (ECM)

a. Disconnect the A53 ECM connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

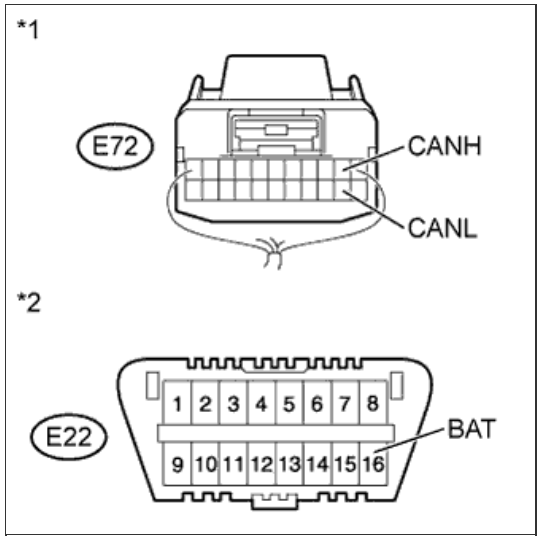
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E72-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |

**Result**

| Result | Proceed to |
|---|---|
| OK (for 1UR-FE) | A |
| OK (for 3UR-FE) | B |
| NG | C |




B → REPLACE ECM (Click here)

C → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

A → REPLACE ECM (Click here)

## 12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector.

NEXT

## 13.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NO. 1 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector.

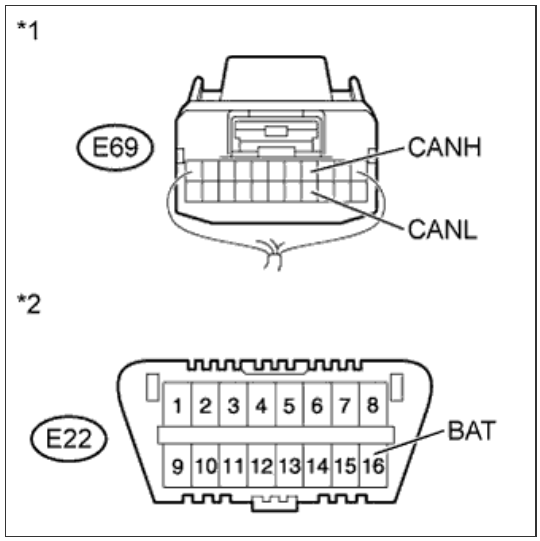
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-4 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-15 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 1 JUNCTION CONNECTOR)

OK

## 14.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR SIDE)

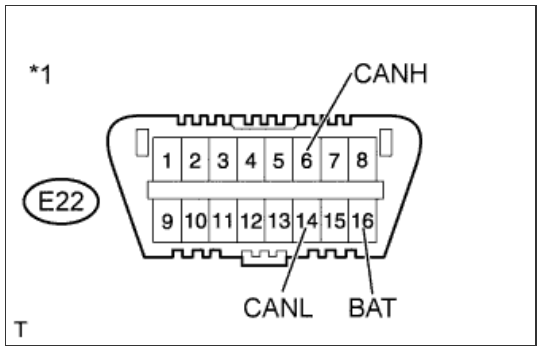
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E22-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 23

OK

## 15.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

a. Measure the resistance according to the value(s) in the table below.

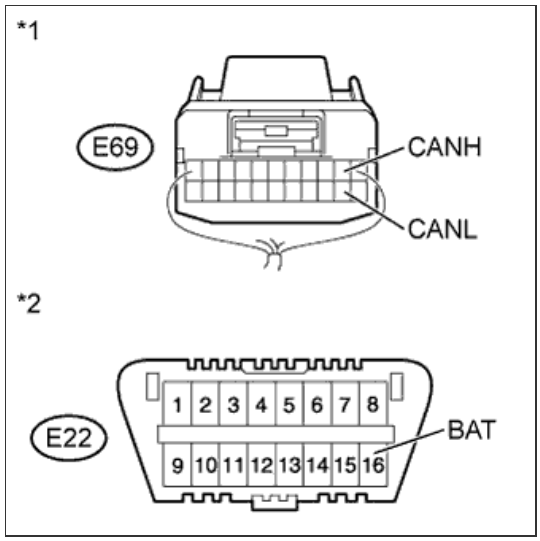
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-13 (CANL) - | Engine switch off | 6 kΩ or higher |

E22-16 (BAT)

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 19

OK

## 16.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER ASSEMBLY)

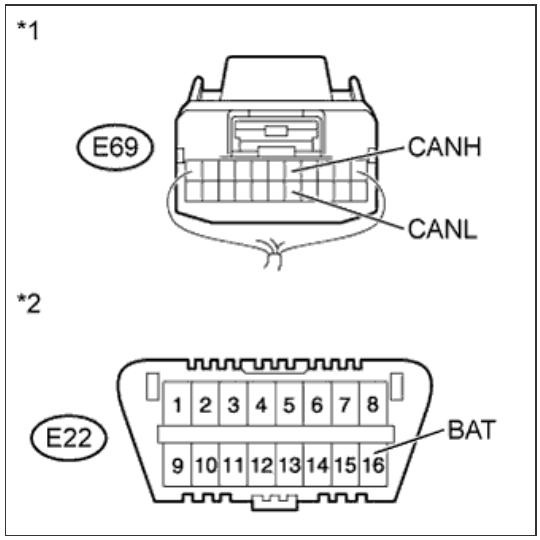
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 20

OK

## 17.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

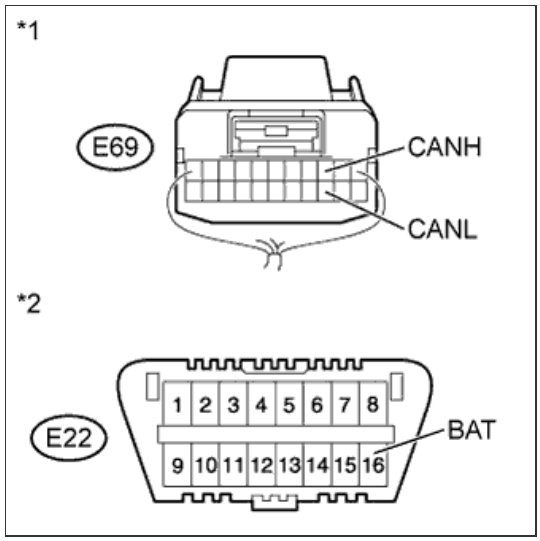
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

| | |
|---|---|
| *2 | DLC3 |




NG → Go to step 21

OK

## 18.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AFS ECU)

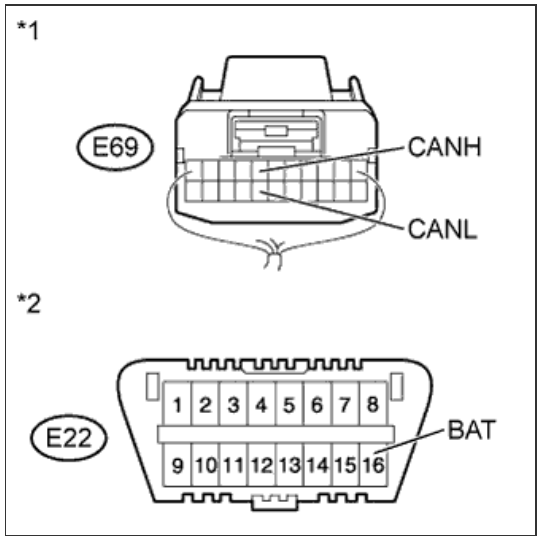
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-7 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-18 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 22

OK

## REPLACE NO. 2 JUNCTION CONNECTOR

## 19.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

a. Disconnect the F76 multi-media module receiver assembly connector.

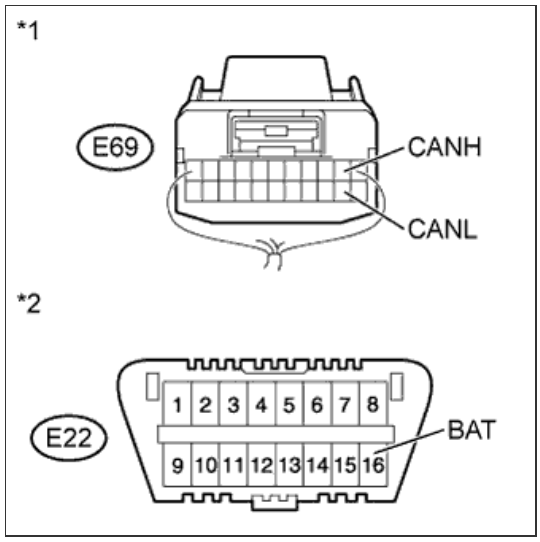
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-13 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTI-MEDIA MODULE RECEIVER ASSEMBLY (CANH, CANL)

OK

REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

## 20.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER ASSEMBLY)

a. Disconnect the E35 air conditioning amplifier assembly connector.

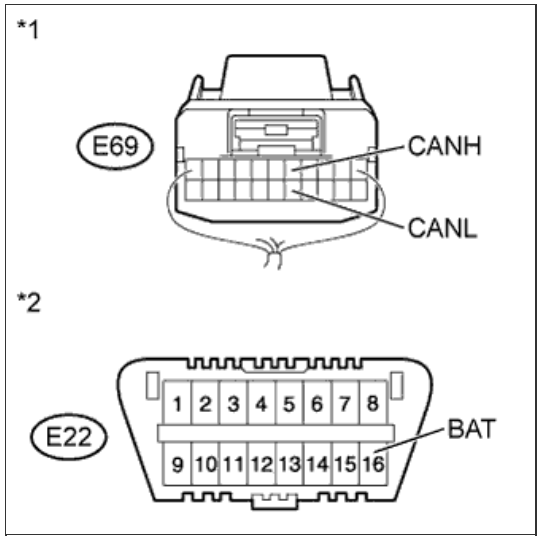
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-16 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER ASSEMBLY (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 21.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

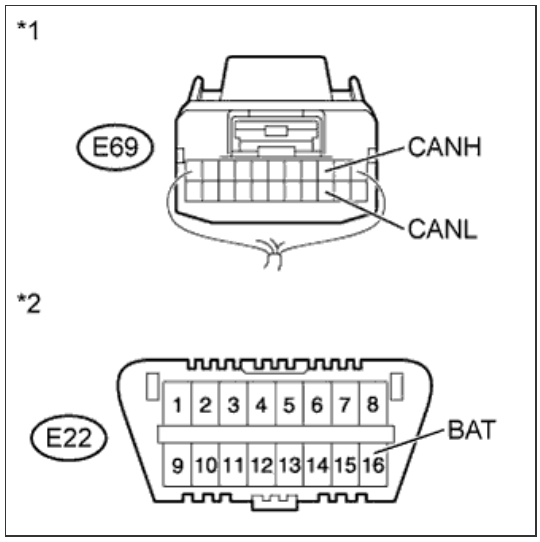
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

| | | |
|---|---|---|
| E69-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## 22.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (AFS ECU)

a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

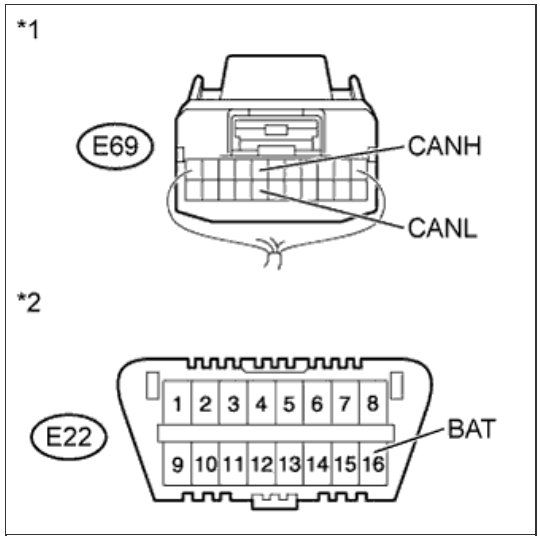
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-7 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E69-18 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) ( Click here)

## 23.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector.

NEXT

## 24.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector.

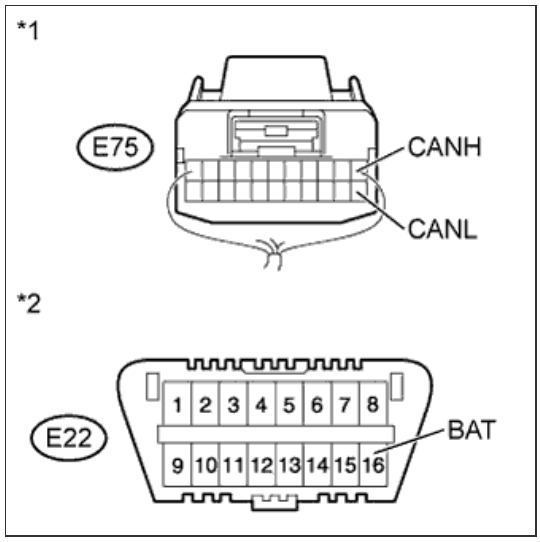
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-12 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

**25.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)**

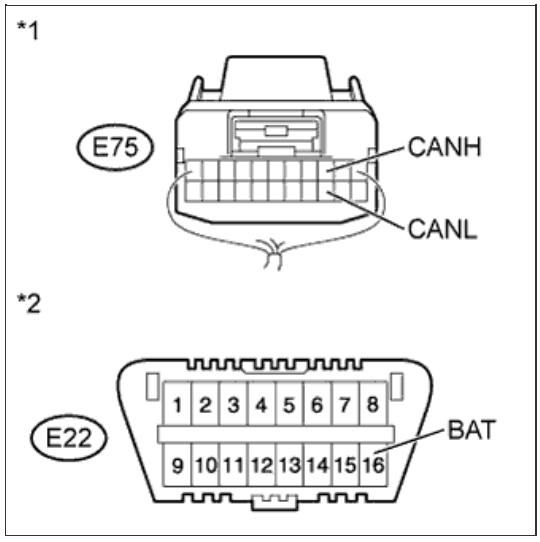
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 26

OK

REPLACE NO. 3 JUNCTION CONNECTOR

**26.CHECK FOR SHORT TO B+ IN CAN BUS WIRE (COMBINATION METER ASSEMBLY)**

a. Disconnect the E77 combination meter assembly connector.

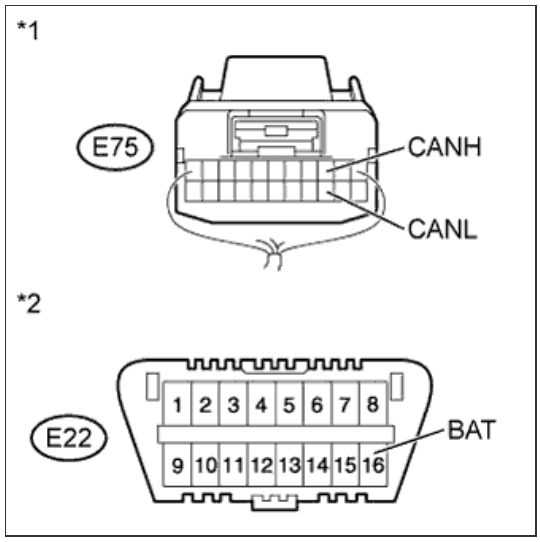
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |
| E75-14 (CANL) - E22-16 (BAT) | Engine switch off | 6 kΩ or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector<br>(to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER ASSEMBLY (CANH, CANL)

OK →

REPLACE COMBINATION METER ASSEMBLY (Click here)

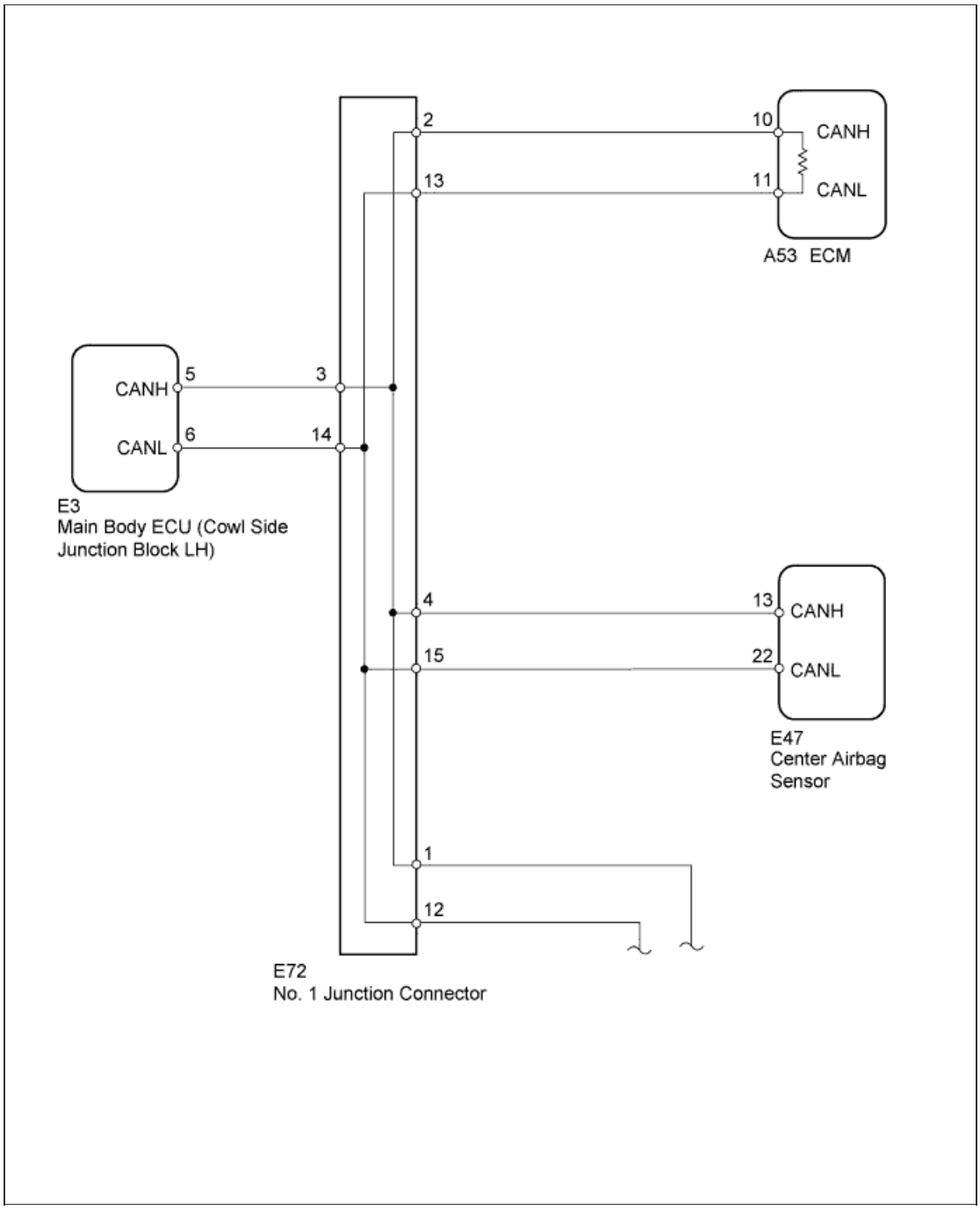
**for Preparation** Click here

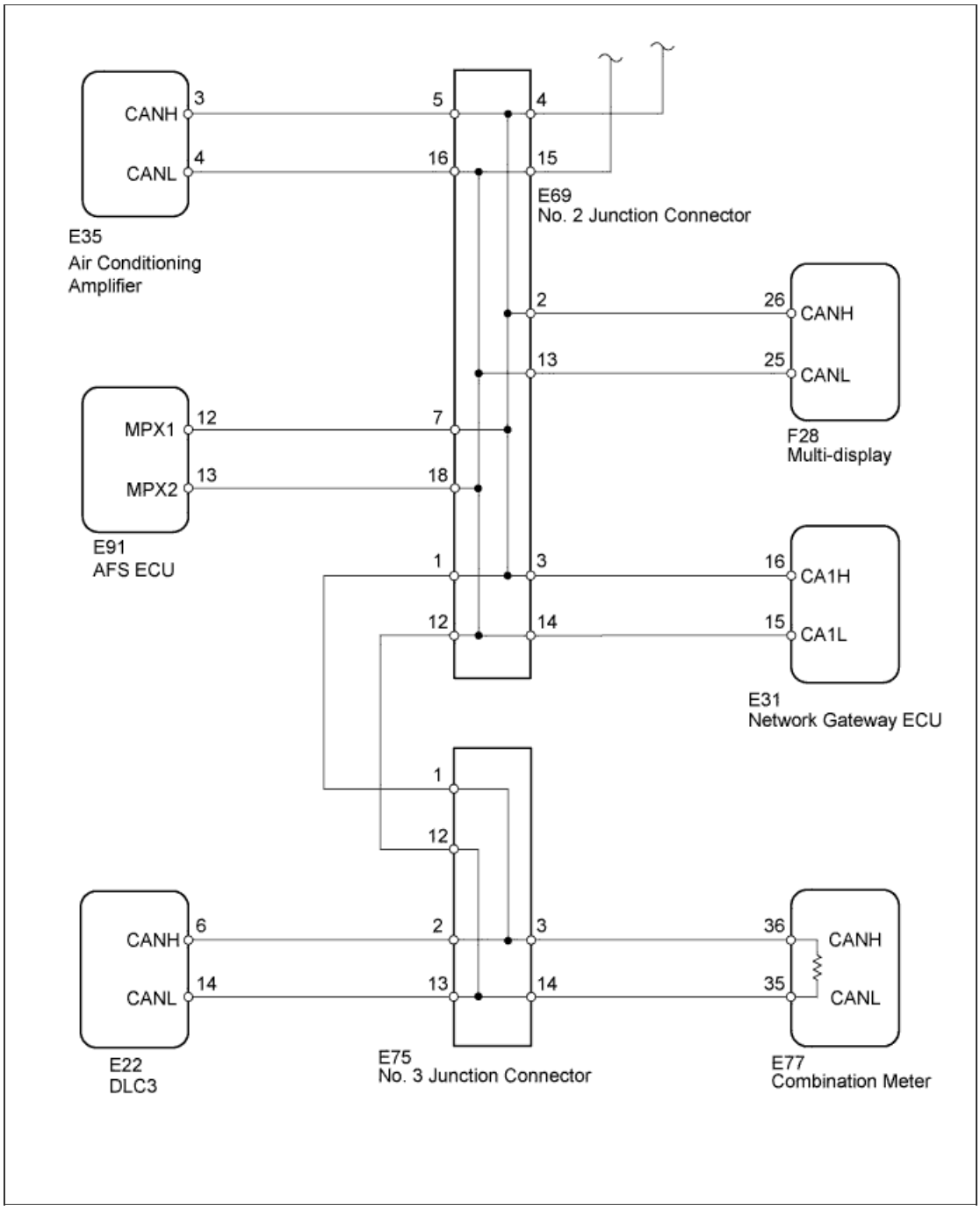
## DESCRIPTION

There may be a short circuit between the CAN bus line and GND when there is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3. | • Short to GND<br>• ECM<br>• Center airbag sensor<br>• Multi-display<br>• Air conditioning amplifier<br>• Network gateway ECU<br>• Main body ECU<br>• AFS ECU<br>• Combination meter<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM


2
10
CANH
13
11
CANL
A53 ECM
CANH
5
3
CANL
6
14
E3
Main Body ECU (Cowl Side
Junction Block LH)
4
13
CANH
15
22
CANL
E47
Center Airbag
Sensor
1
12
E72
No. 1 Junction Connector




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

**NEXT**

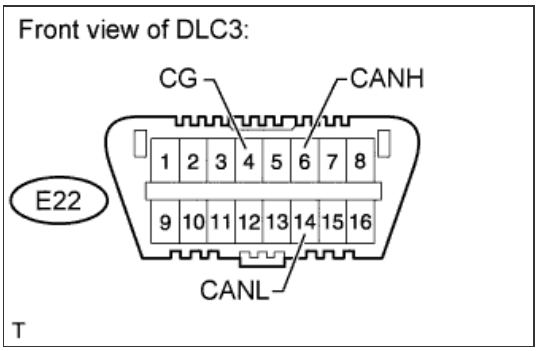
### 2.CHECK FOR SHORT TO GND IN CAN BUS WIRE (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

## 3.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector connector.

NEXT

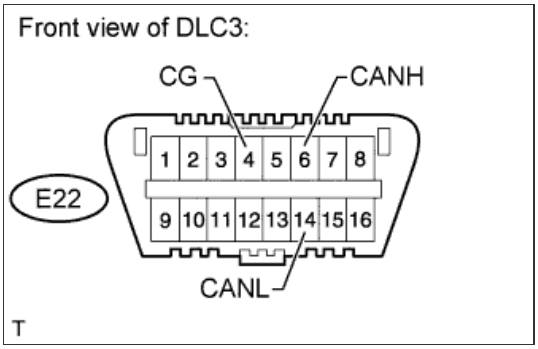
## 4.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Result |
|---|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 11

OK

## 5.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

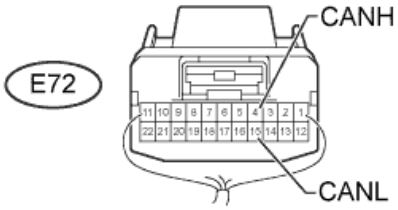
a. Measure the resistance according to the value(s) in the table below.

**Result**

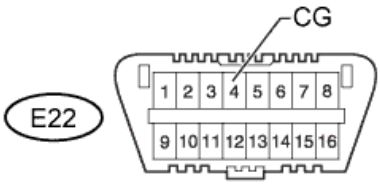
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:




NG → Go to step 8

OK

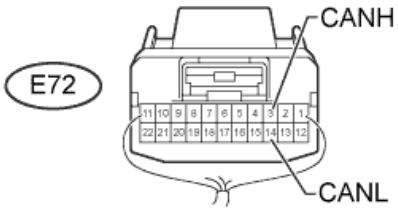
## 6.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - MAIN BODY ECU)

a. Measure the resistance according to the value(s) in the table below.

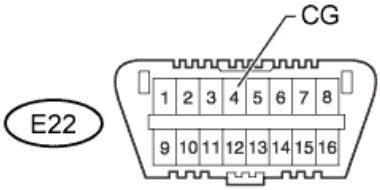
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 1 Junction Connector)




Front view of DLC3:




NG → Go to step 9

OK

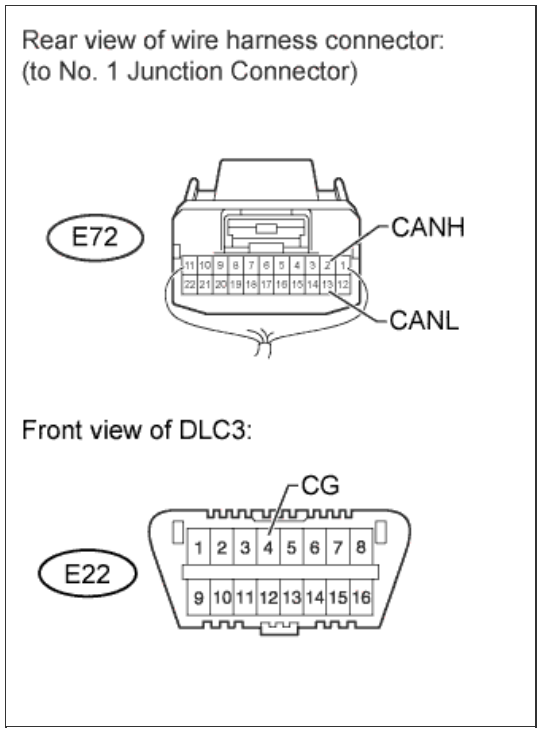
## 7.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

a. Measure the resistance according to the value(s) in the table below.

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 10

OK → REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR

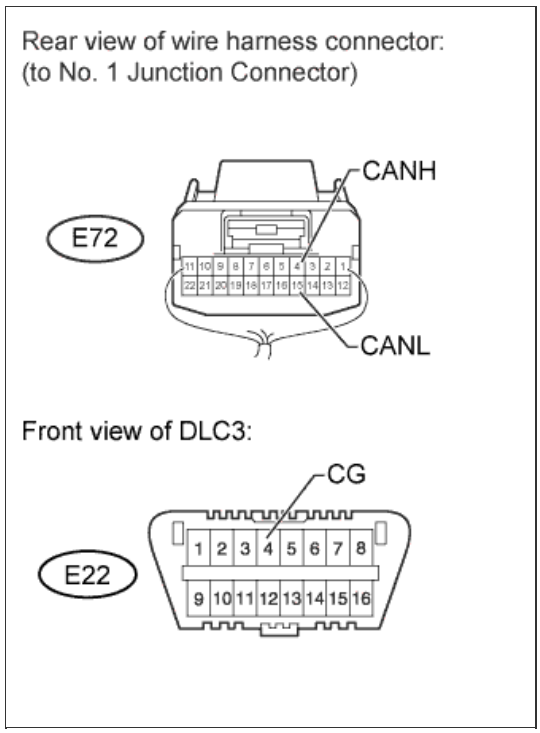
## 8.CHECK FOR SHORT TO GND IN CAN BUS WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK → REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

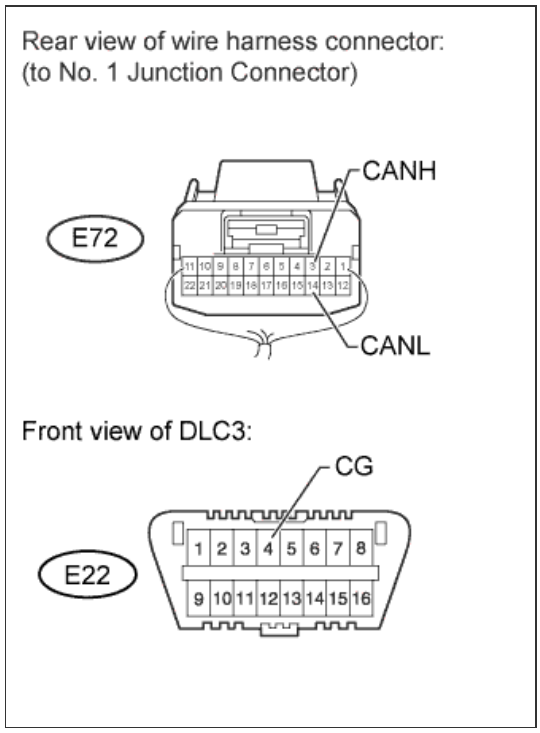
## 9.CHECK FOR SHORT TO GND IN CAN BUS WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (CANH, CANL)

OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

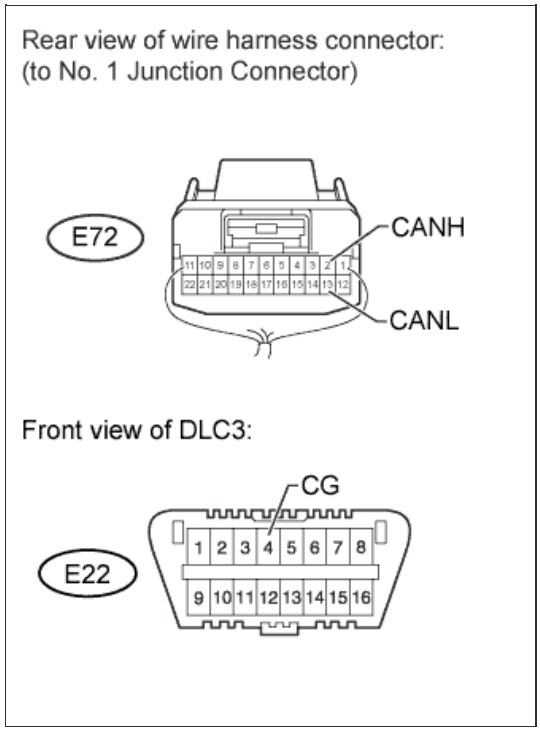
## 10.CHECK FOR SHORT TO GND IN CAN BUS WIRE (ECM)

a. Disconnect the A53 ECM connector.

b. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO ECM (CANH, CANL)

OK

REPLACE ECM (Click here)

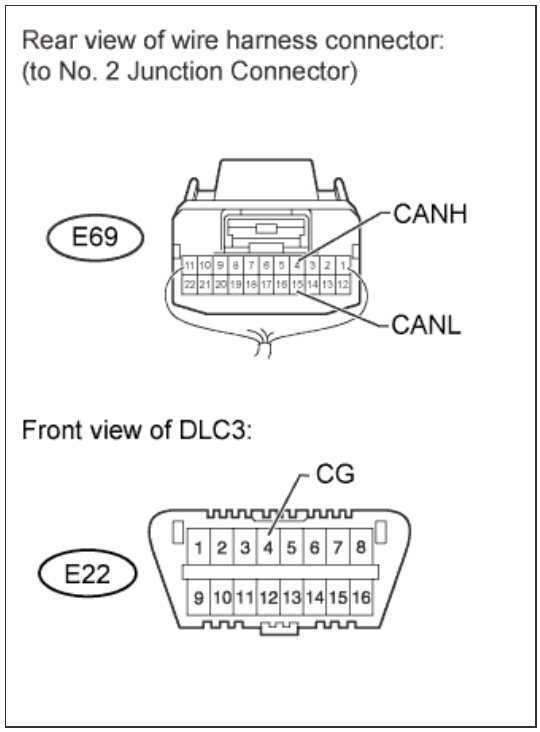
11.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-4 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-15 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-4 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-15 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector connector.

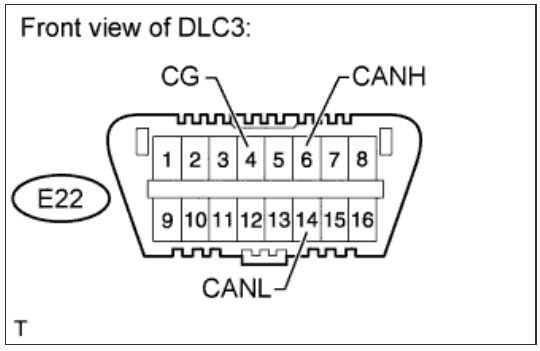
NEXT

13.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR SIDE)

a. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 22

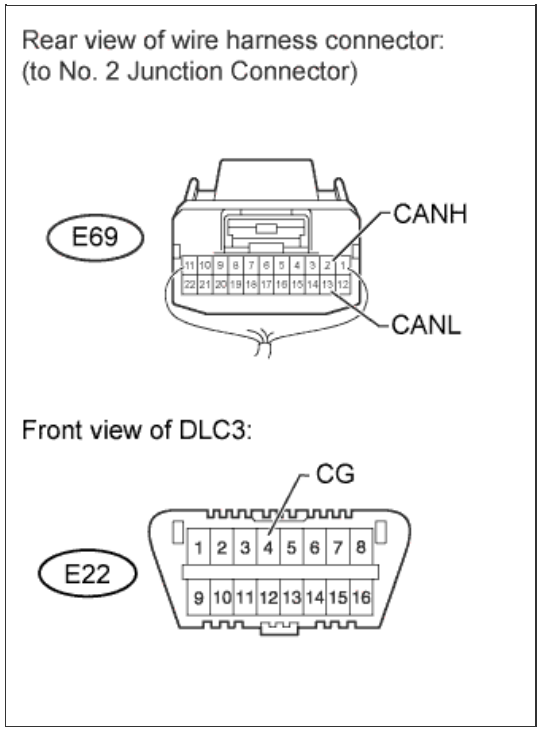
OK

## 14.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - MULTI-DISPLAY)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 18

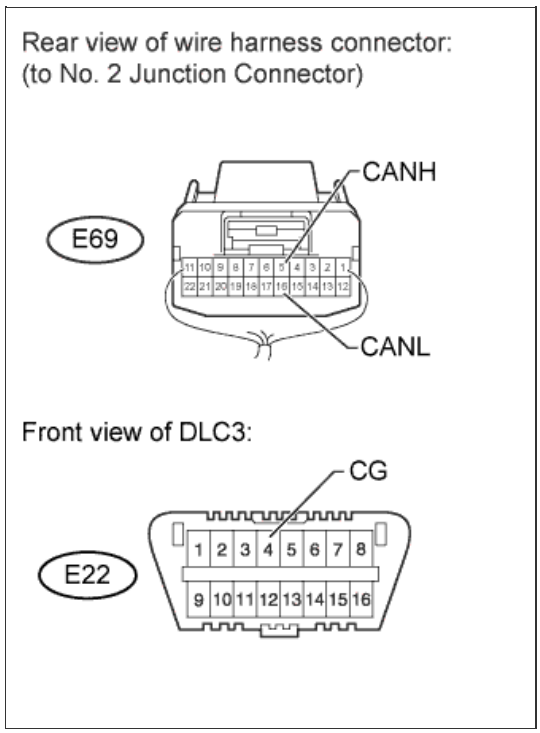
OK

## 15.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 19

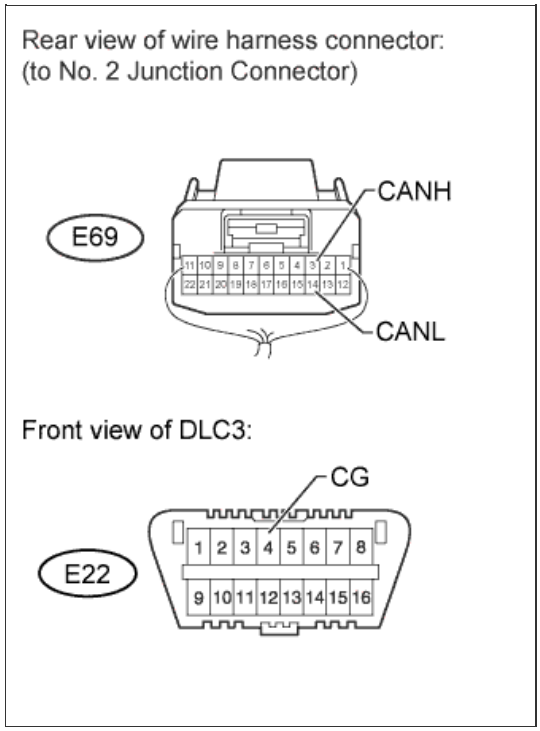
OK

## 16.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 20

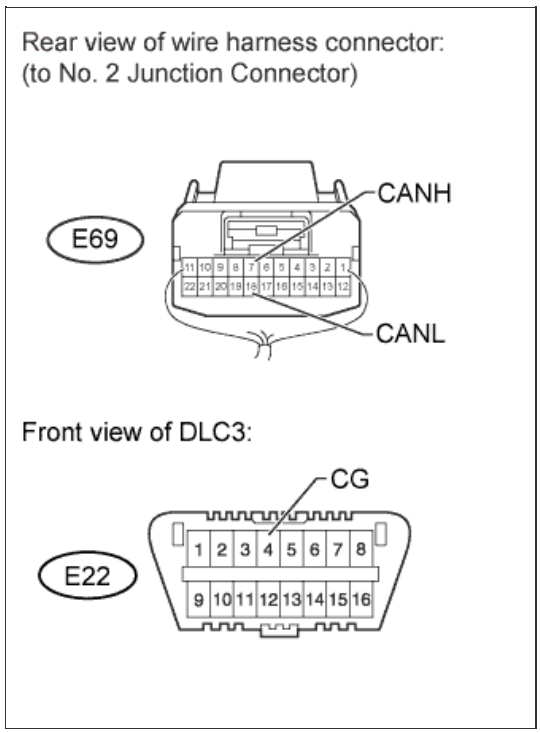
OK

## 17.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AFS ECU)

a. Measure the resistance according to the value(s) in the table below.

**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-7 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-18 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-7 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-18 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 21

OK

REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR

18.CHECK FOR SHORT TO GND IN CAN BUS WIRE (MULTI-DISPLAY)

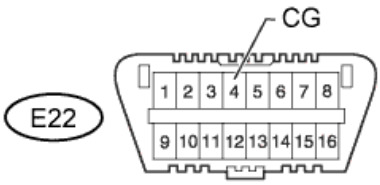
a. Disconnect the F28 multi-display connector.

b. Measure the resistance according to the value(s) in the table below.

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




Result

| Tester Connection | Switch Condition | Measured Resistance | Result | Proceed to |
|---|---|---|---|---|
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK (w/ Navigation System) | A |
| | | | OK (w/o Navigation System) | B |
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK (w/ Navigation System) | A |
| | | | OK (w/o Navigation System) | B |
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG | C |
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG | C |

B → REPLACE MULTI-DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTI-DISPLAY (CANH, CANL)

A

REPLACE MULTI-DISPLAY (Click here)

19.CHECK FOR SHORT TO GND IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

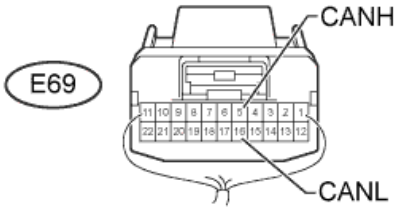
b. Measure the resistance according to the value(s) in the table below.

Result

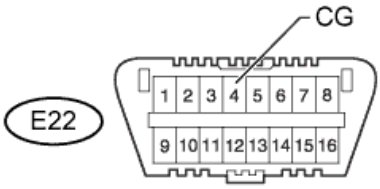
| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-5 (CANH) - E22- | Engine | | |

| | | | |
|---|---|---|---|
| 4 (CG) | switch off | Below 1 Ω | NG |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

20.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NETWORK GATEWAY ECU)

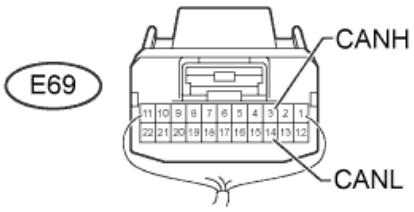
a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

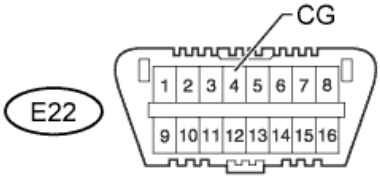
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## 21.CHECK FOR SHORT TO GND IN CAN BUS WIRE (AFS ECU)

a. Disconnect the E91 AFS ECU connector.

b. Measure the resistance according to the value(s) in the table below.

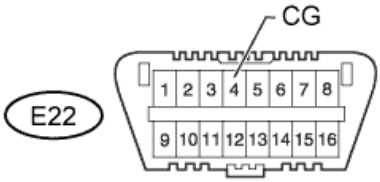
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E69-7 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-18 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E69-7 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E69-18 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 2 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE AFS ECU (Click here)

## 22.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

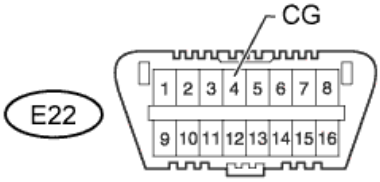
**Result**

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-1 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-12 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-1 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E75-12 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

23.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector connector.

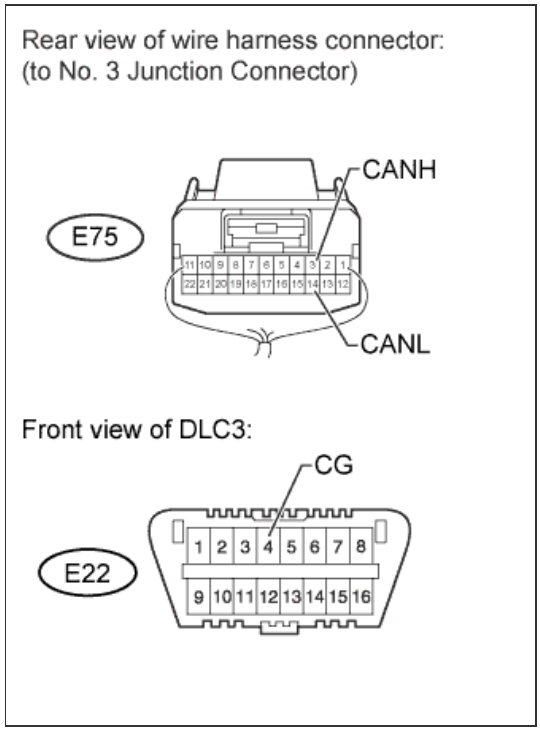
NEXT

24.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)

a. Measure the resistance according to the value(s) in the table below.

Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |




NG → Go to step 25

OK

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

25.CHECK FOR SHORT TO GND IN CAN BUS WIRE (COMBINATION METER)

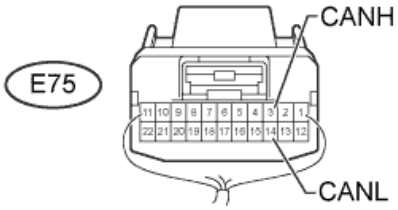
a. Disconnect the E77 combination meter connector.

b. Measure the resistance according to the value(s) in the table below.

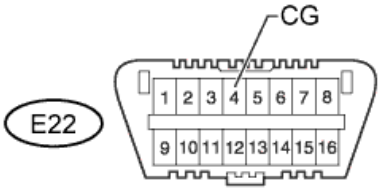
Result

| Tester Connection | Switch Condition | Measured Resistance | Proceed to |
|---|---|---|---|
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | 1 Ω or higher | OK |
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | Below 1 Ω | NG |

Rear view of wire harness connector:
(to No. 3 Junction Connector)




Front view of DLC3:




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK → REPLACE COMBINATION METER ASSEMBLY (Click here)

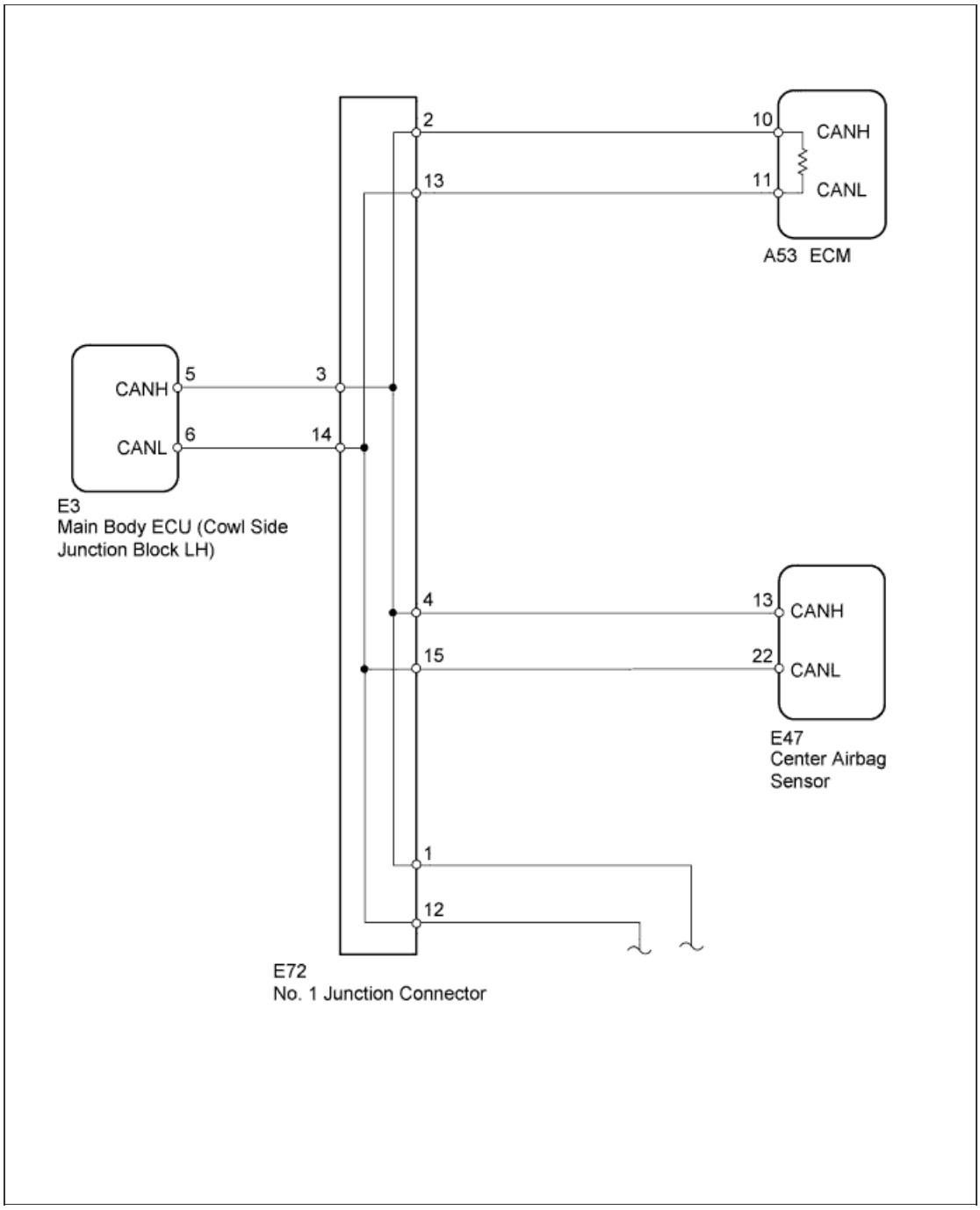
**for Preparation** Click here

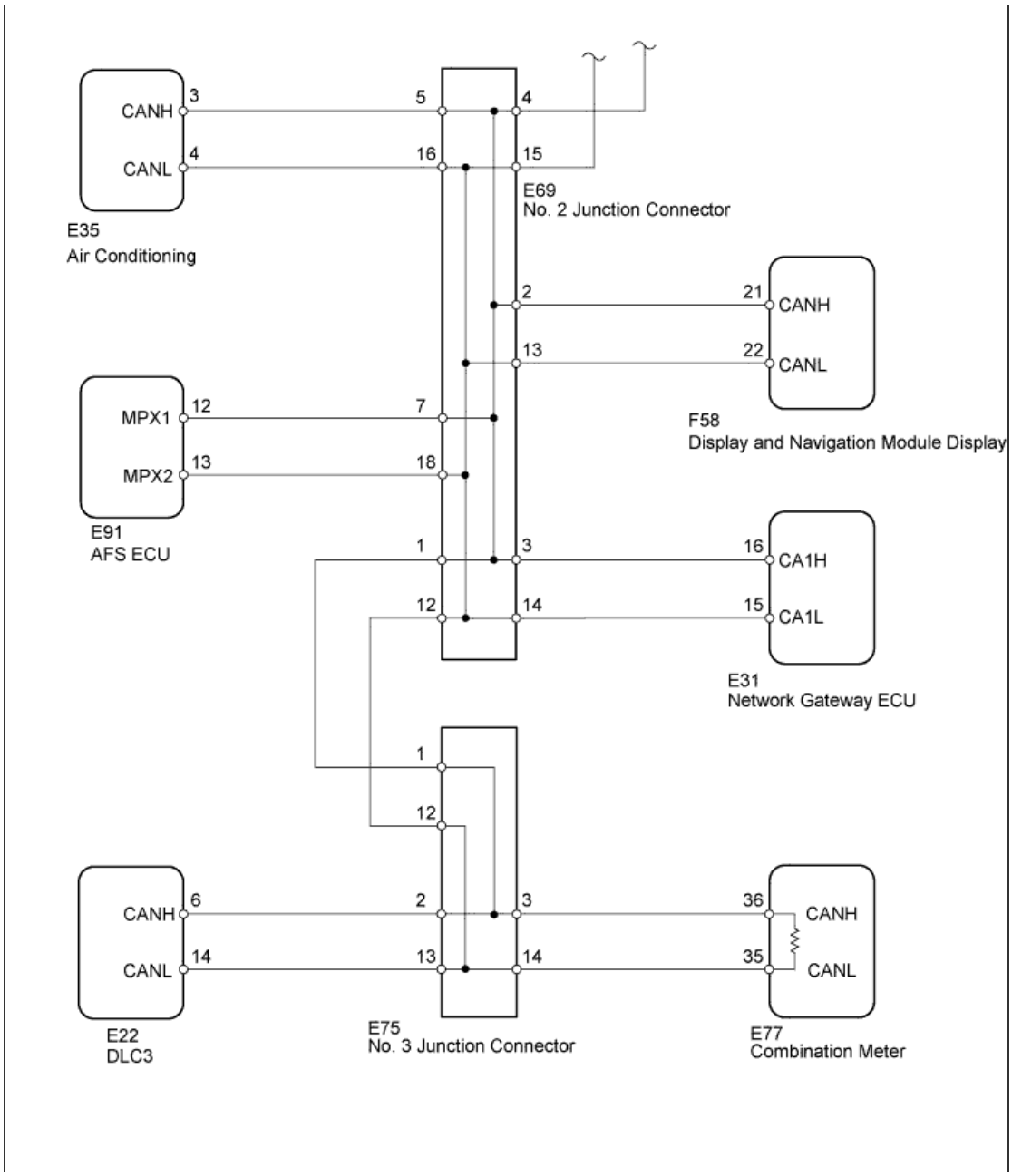
## DESCRIPTION

There may be a short circuit between the CAN bus line and GND when there is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3. | • Short to GND<br>• ECM<br>• Center airbag sensor assembly<br>• Display and navigation module display<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• AFS ECU (headlight swivel ECU assembly)<br>• Combination meter<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM


2
10
CANH
13
11
CANL
A53 ECM
CANH
5
3
CANL
6
14
E3
Main Body ECU (Cowl Side
Junction Block LH)
4
13
CANH
15
22
CANL
E47
Center Airbag
Sensor
1
12
E72
No. 1 Junction Connector




## INSPECTION PROCEDURE

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**CAUTION:**

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

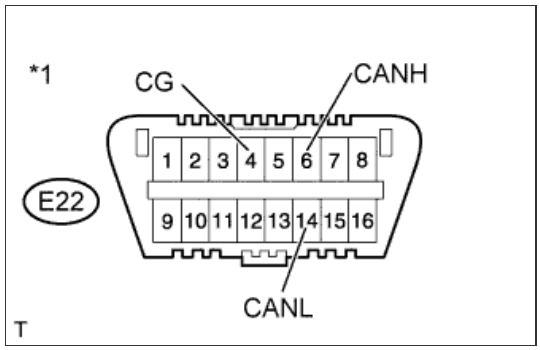
When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

**NEXT**

### 2.CHECK FOR SHORT TO GND IN CAN BUS WIRE (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

## 3.CONNECT CONNECTOR

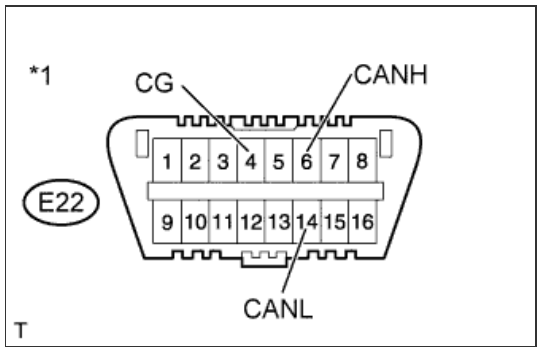
a. Reconnect the E75 No. 3 junction connector connector.

NEXT

## 4.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → Go to step 11

OK

## 5.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR)

a. Measure the resistance according to the value(s) in the table below.

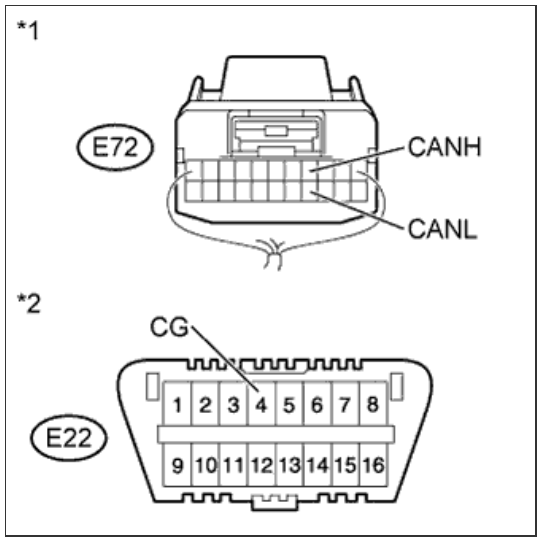
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-15 (CANL) - | Engine switch off | 200 Ω or higher |

| | |
|---|---|
| | E22-4 (CG) |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 8

OK →

## 6.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - MAIN BODY ECU)

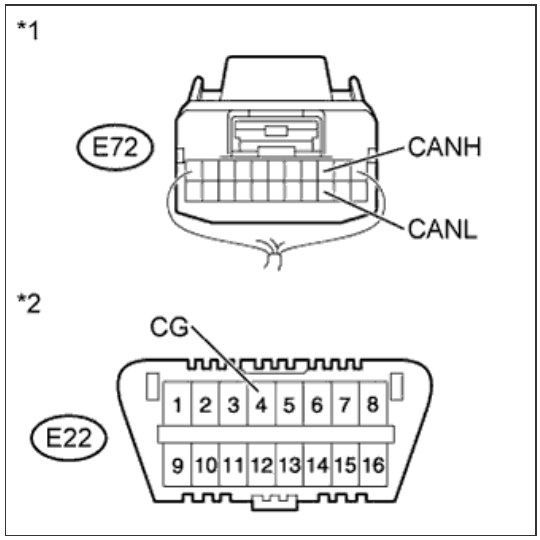
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 9

OK →

## 7.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

a. Measure the resistance according to the value(s) in the table below.
Measure the resistance according to the value(s) in the table below.

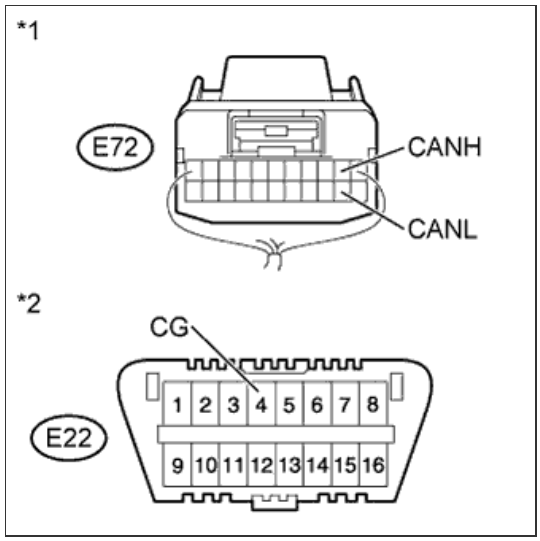
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| | Rear view of wire harness connector |

| | |
|---|---|
| *1 | (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 10

OK

REPAIR OR REPLACE NO. 1 JUNCTION CONNECTOR

## 8.CHECK FOR SHORT TO GND IN CAN BUS WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

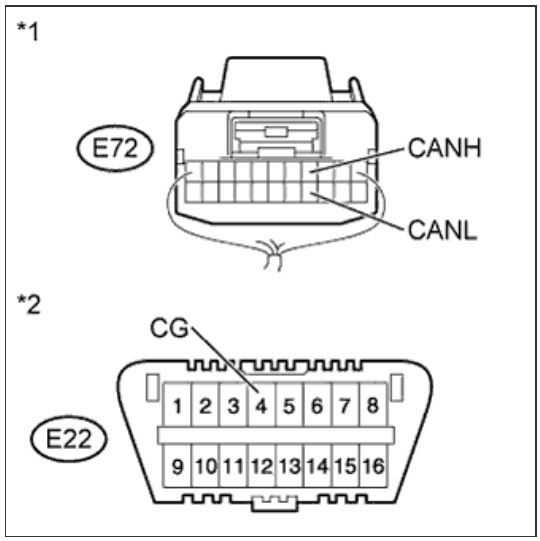
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 9.CHECK FOR SHORT TO GND IN CAN BUS WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU connector.

b. Measure the resistance according to the value(s) in the table below.

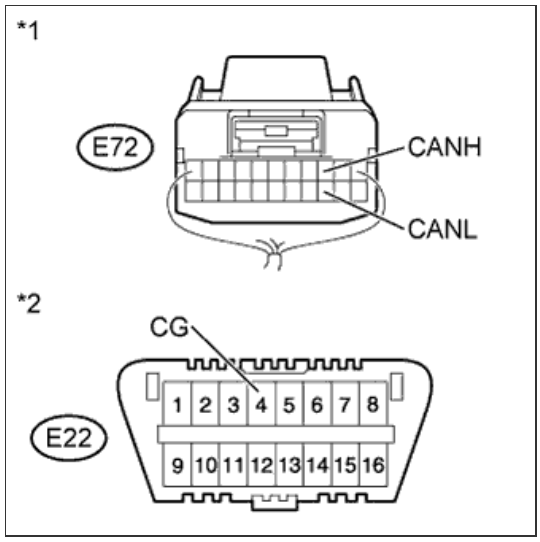
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-14 (CANL) - | | |

| | | |
|---|---|---|
| E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (CANH, CANL)

OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 10.CHECK FOR SHORT TO GND IN CAN BUS WIRE (ECM)

a. Disconnect the A53 ECM connector.

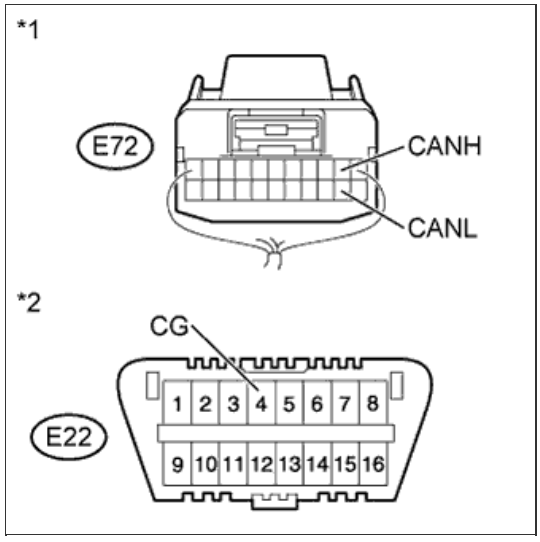
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

OK → REPLACE ECM (Click here)

## 11.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

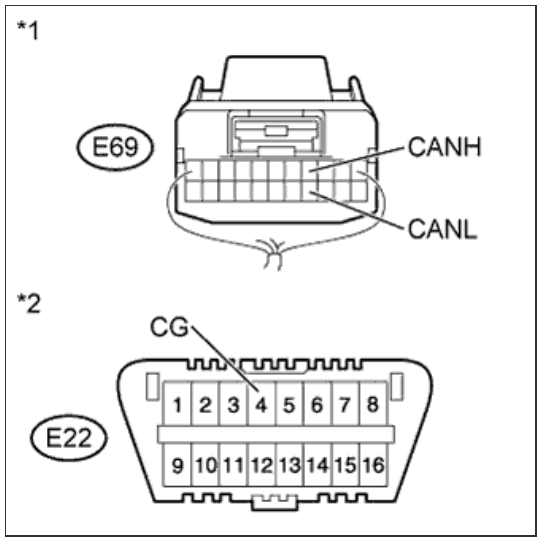
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E69-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

## 12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector connector.

NEXT

## 13.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR SIDE)

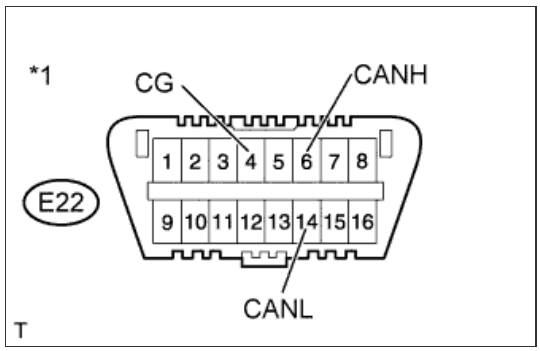
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 22

OK

## 14.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - DISPLAY AND NAVIGATION MODULE DISPLAY)

a. Measure the resistance according to the value(s) in the table below.

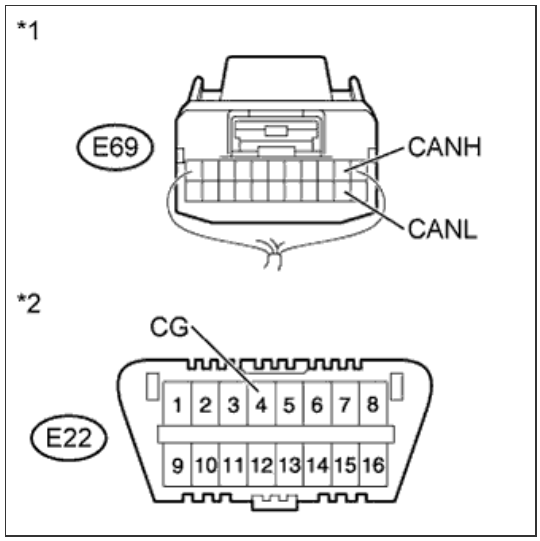
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-13 (CANL) - | Engine switch off | 200 Ω or higher |

| | |
|---|---|
| E22-4 (CG) | |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 18

OK ↓

## 15.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER)

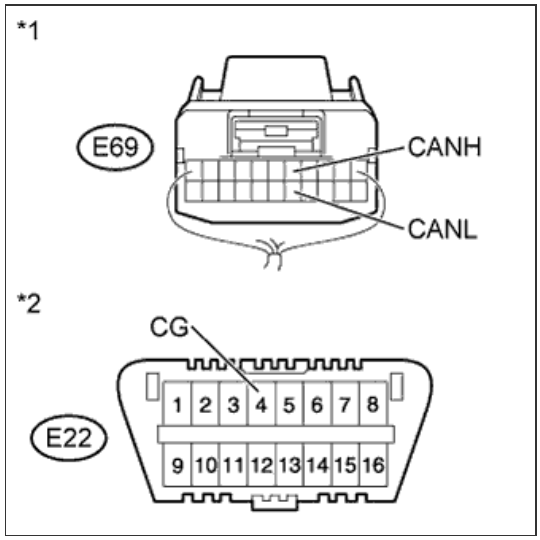
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 19

OK ↓

## 16.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

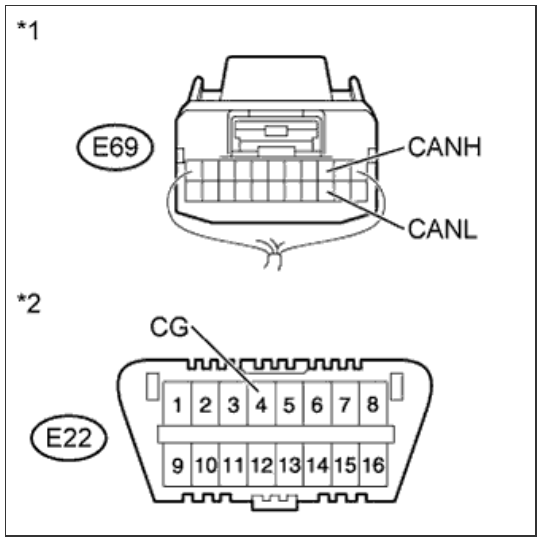
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

| | |
|---|---|
| *2 | DLC3 |




NG → Go to step 20

OK

## 17.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AFS ECU)

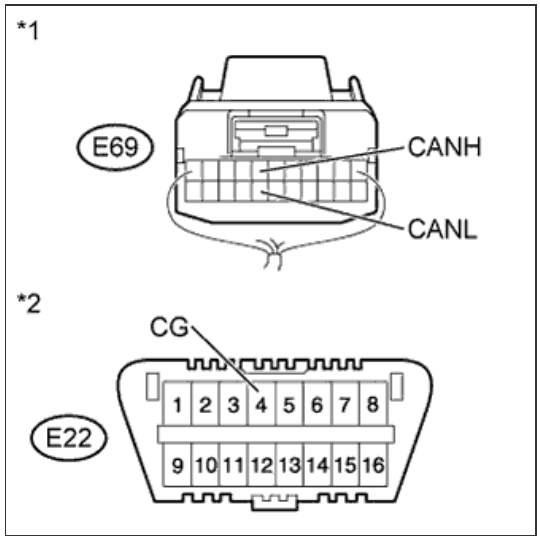
a. Measure the resistance according to the value(s) in the table below.
Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-7 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-18 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 21

OK

REPAIR OR REPLACE NO. 2 JUNCTION CONNECTOR

## 18.CHECK FOR SHORT TO GND IN CAN BUS WIRE (DISPLAY AND NAVIGATION MODULE DISPLAY)

a. Disconnect the F58 display and navigation display connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

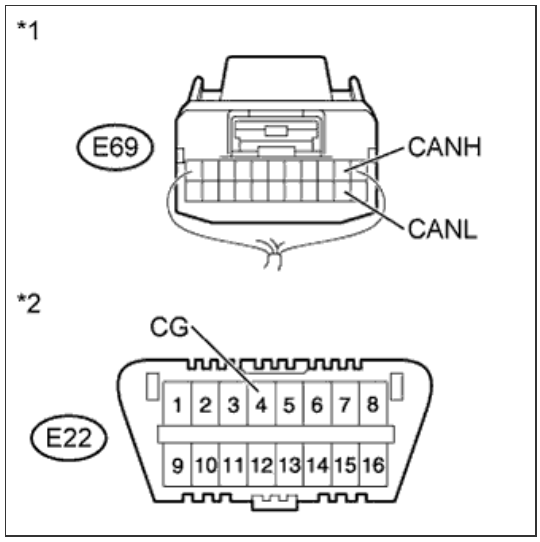
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |
| NG | C |




B → REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DISPLAY AND NAVIGATION MODULE DISPLAY (CANH, CANL)

A

REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

## 19.CHECK FOR SHORT TO GND IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

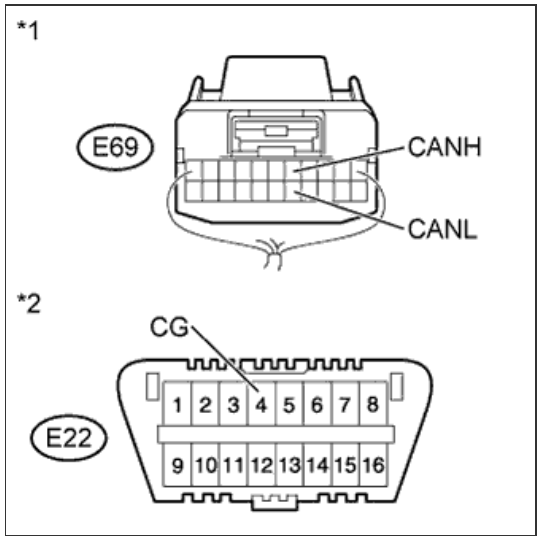
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 20.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

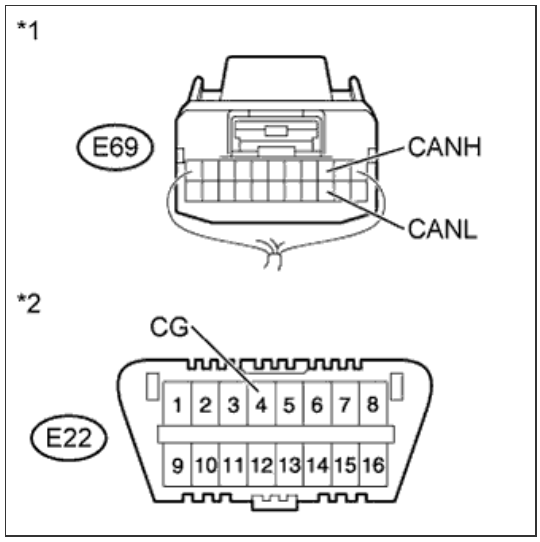
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified |
|---|---|---|

| | | Condition |
|---|---|---|
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

## 21.CHECK FOR SHORT TO GND IN CAN BUS WIRE (AFS ECU)

a. Disconnect the E91 AFS ECU connector.

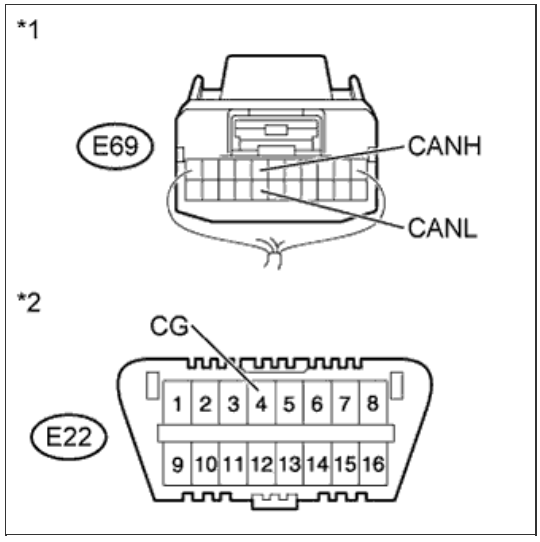
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-7 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-18 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE AFS ECU (Click here)

## 22.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector connector.

b. Measure the resistance according to the value(s) in the table below.

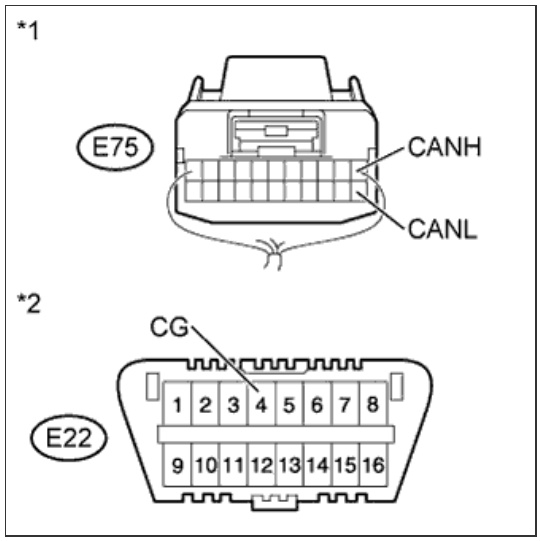
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E75-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)

OK

**23.CONNECT CONNECTOR**

a. Reconnect the E69 No. 2 junction connector connector.

NEXT

**24.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER)**

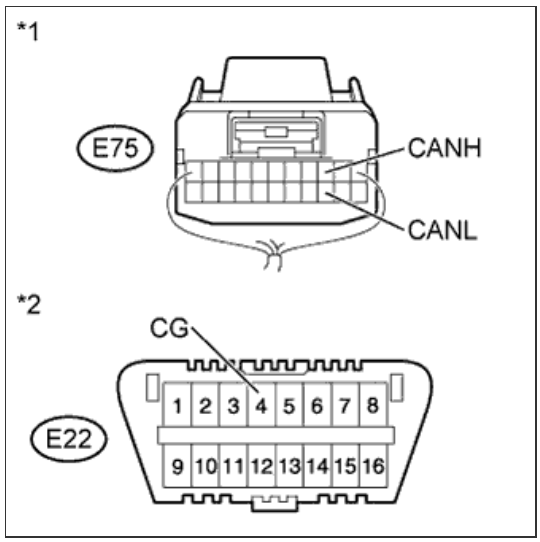
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 25

OK

REPAIR OR REPLACE NO. 3 JUNCTION CONNECTOR

**25.CHECK FOR SHORT TO GND IN CAN BUS WIRE (COMBINATION METER)**

a. Disconnect the E77 combination meter connector.

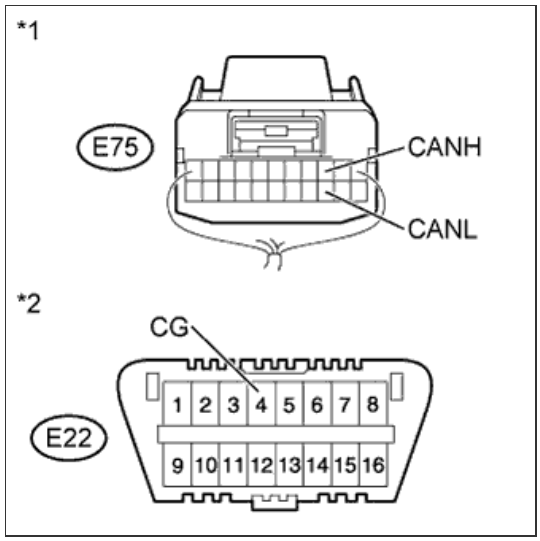
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER (CANH, CANL)

OK → REPLACE COMBINATION METER ASSEMBLY (Click here)

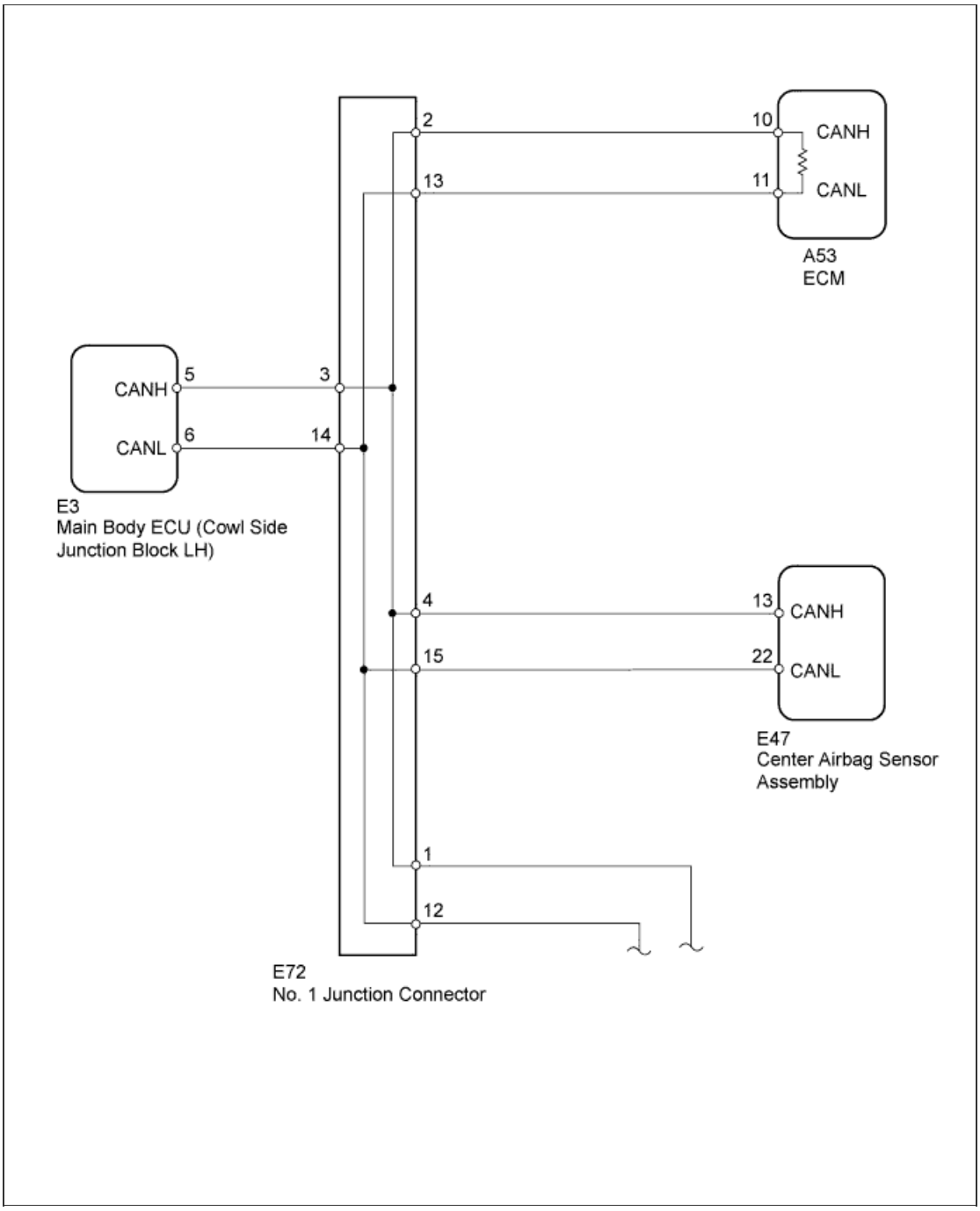
**for Preparation** Click here

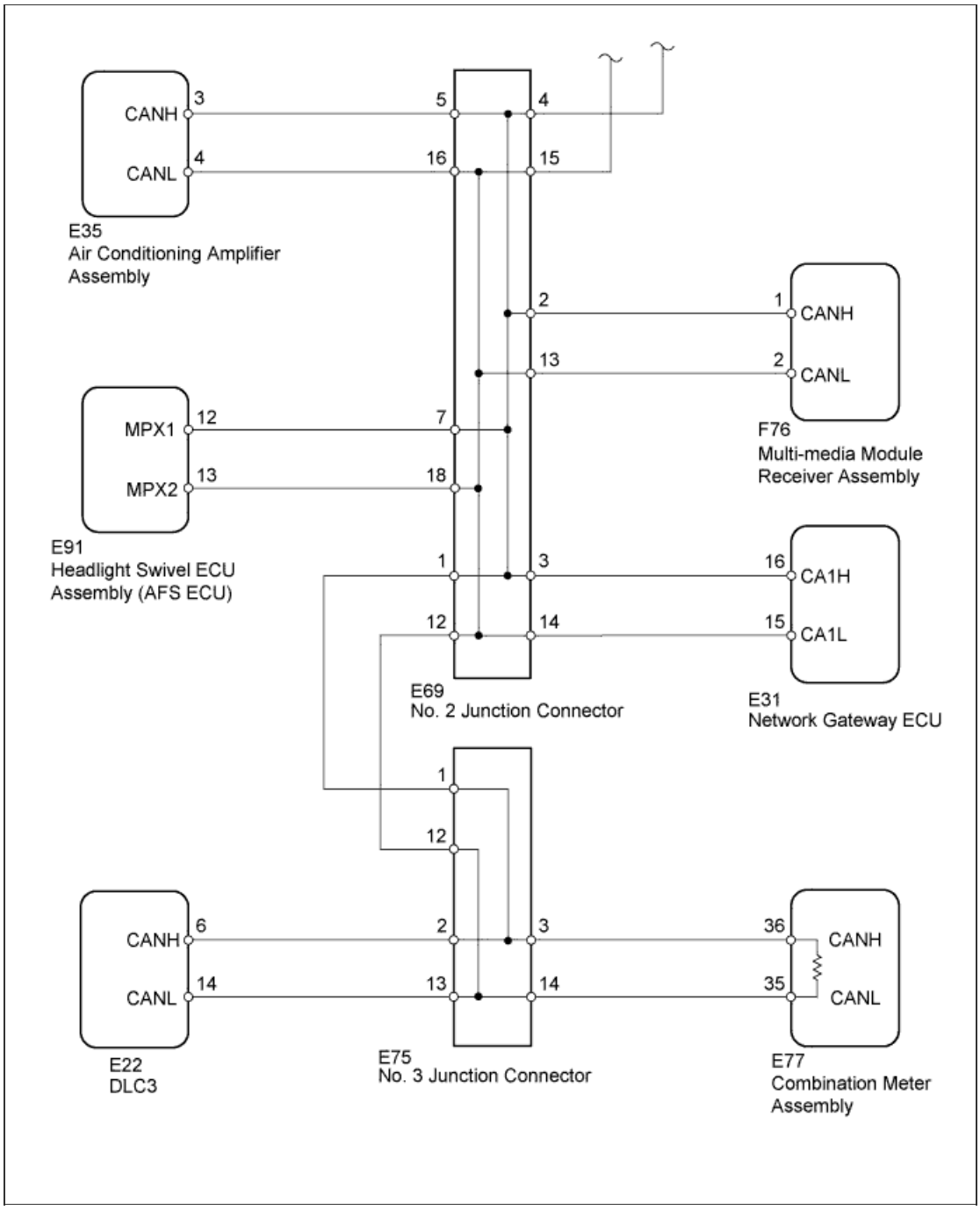
## DESCRIPTION

There may be a short circuit between the CAN bus line and GND when there is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3.

| Symptom | Trouble Area |
|---|---|
| There is resistance between terminals 6 (CANH) and 4 (CG) or terminals 14 (CANL) and 4 (CG) of the DLC3. | • Short to GND<br>• ECM<br>• Center airbag sensor assembly<br>• Multi-media module receiver assembly<br>• Air conditioning amplifier assembly<br>• Network gateway ECU<br>• Main body ECU (cowl side junction block LH)<br>• Headlight swivel ECU assembly (AFS ECU)<br>• Combination meter assembly<br>• No. 1 junction connector<br>• No. 2 junction connector<br>• No. 3 junction connector |

## WIRING DIAGRAM


2
10
CANH
13
11
CANL
A53
ECM
CANH
5
3
CANL
6
14
E3
Main Body ECU (Cowl Side
Junction Block LH)
4
13
CANH
15
22
CANL
E47
Center Airbag Sensor
Assembly
1
12
E72
No. 1 Junction Connector




## INSPECTION PROCEDURE

**NOTICE:**

The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the Precaution in the SRS (Click here).

**HINT:**

Operating the engine switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

### 1.PRECAUTION

**NOTICE:**

After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).

NEXT

### 2.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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).

NEXT

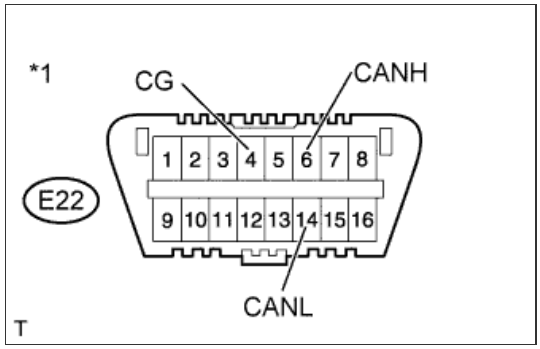
## 3.CHECK FOR SHORT TO GND IN CAN BUS WIRE (DLC3 BRANCH WIRE)

a. Disconnect the E75 No. 3 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)

OK

## 4.CONNECT CONNECTOR

a. Reconnect the E75 No. 3 junction connector.

NEXT

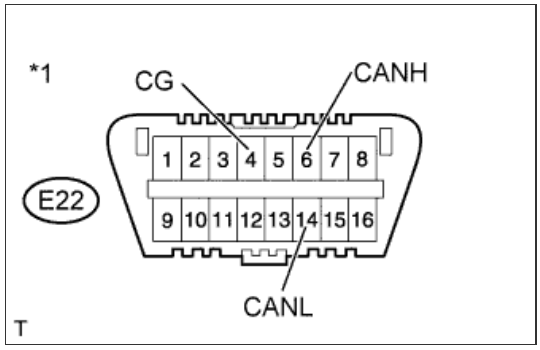
## 5.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR SIDE)

a. Disconnect the E72 No. 1 junction connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |




**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |

NG → Go to step 12

OK

## 6.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - CENTER AIRBAG SENSOR ASSEMBLY)

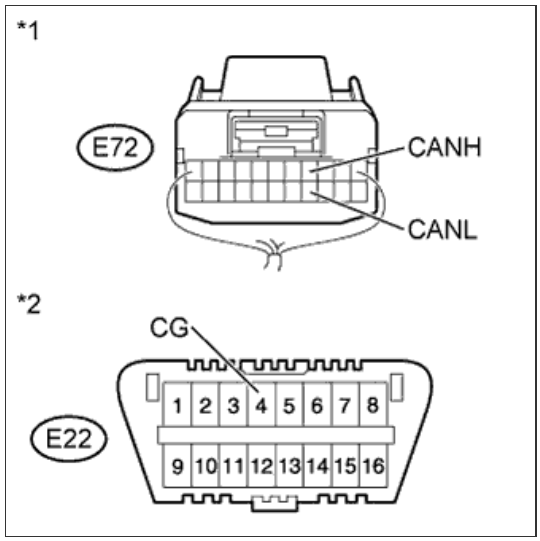
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 9

OK

## 7.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - MAIN BODY ECU)

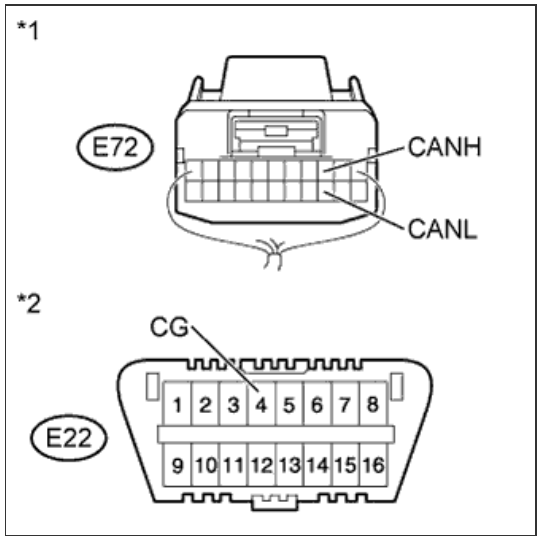
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 10

OK

## 8.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 1 JUNCTION CONNECTOR - ECM)

a. Measure the resistance according to the value(s) in the table below.

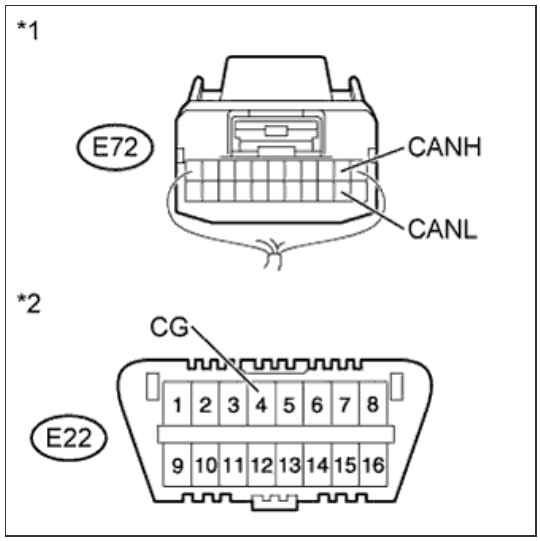
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|

| | | |
|---|---|---|
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 11

OK

REPLACE NO. 1 JUNCTION CONNECTOR

## 9.CHECK FOR SHORT TO GND IN CAN BUS WIRE (CENTER AIRBAG SENSOR ASSEMBLY)

a. Disconnect the E47 center airbag sensor assembly connector ( Click here).

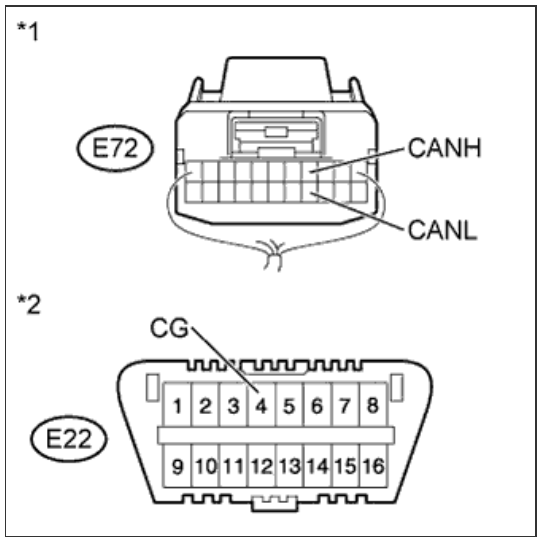
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO CENTER AIRBAG SENSOR ASSEMBLY (CANH, CANL)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 10.CHECK FOR SHORT TO GND IN CAN BUS WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Measure the resistance according to the value(s) in the table below.

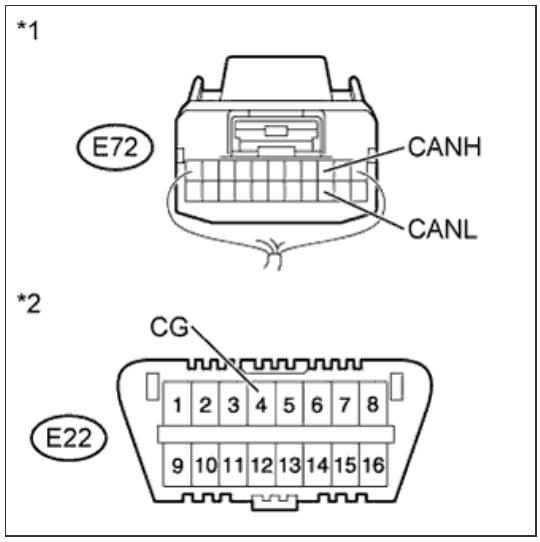
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-14 (CANL) - | | |

| | | |
|---|---|---|
| E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MAIN BODY ECU (CANH, CANL)

OK → REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 11.CHECK FOR SHORT TO GND IN CAN BUS WIRE (ECM)

a. Disconnect the A53 ECM connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

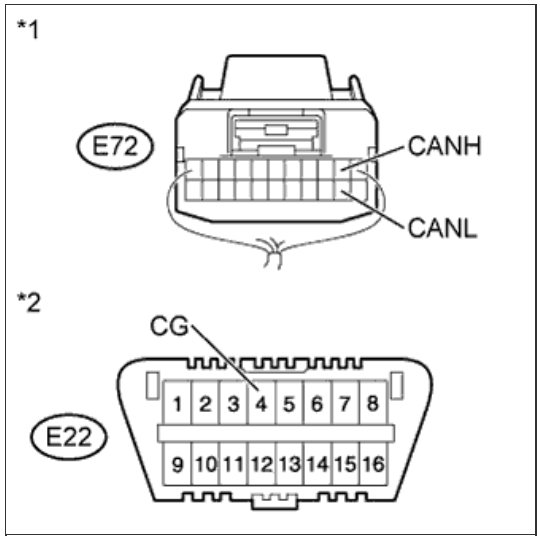
| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E72-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E72-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 1 Junction Connector) |
| *2 | DLC3 |

**Result**

| Result | Proceed to |
|---|---|
| OK (for 1UR-FE) | A |
| OK (for 3UR-FE) | B |
| NG | C |




B → REPLACE ECM (Click here)

C → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (CANH, CANL)

A → REPLACE ECM (Click here)

## 12.CONNECT CONNECTOR

a. Reconnect the E72 No. 1 junction connector.

NEXT

## 13.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NO. 1 JUNCTION CONNECTOR)

a. Disconnect the E69 No. 2 junction connector.

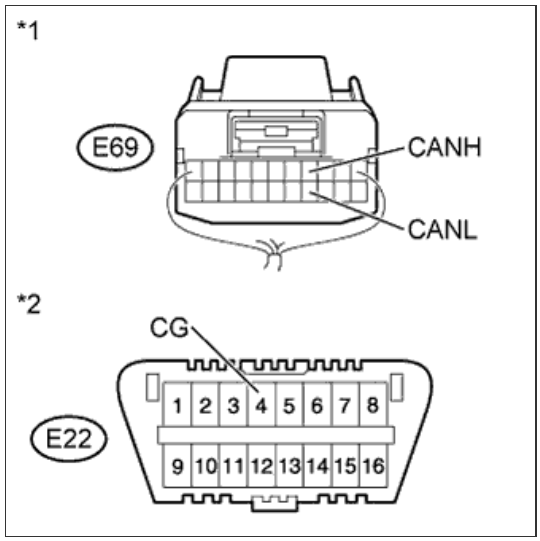
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-4 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-15 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 2 JUNCTION CONNECTOR - NO. 1 JUNCTION CONNECTOR)

OK

## 14.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR SIDE)

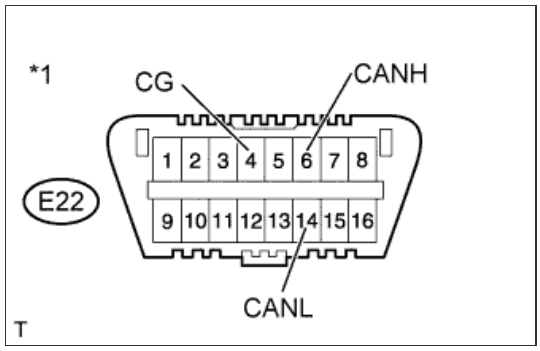
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E22-6 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E22-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | DLC3 |




NG → Go to step 23

OK

## 15.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

a. Measure the resistance according to the value(s) in the table below.

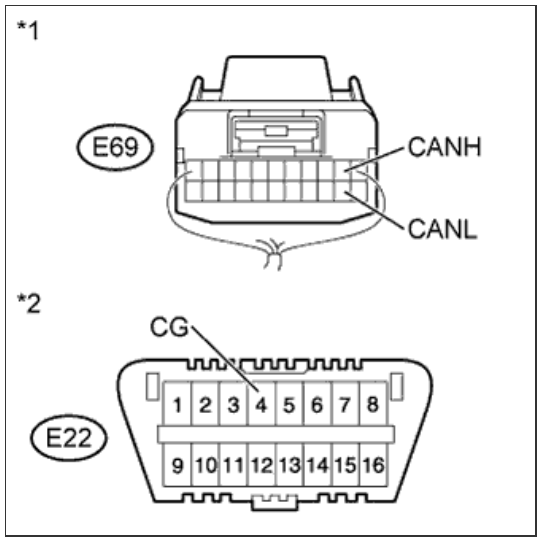
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-13 (CANL) - | Engine switch off | 200 Ω or higher |

E22-4 (CG)

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 19

OK

## 16.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AIR CONDITIONING AMPLIFIER ASSEMBLY)

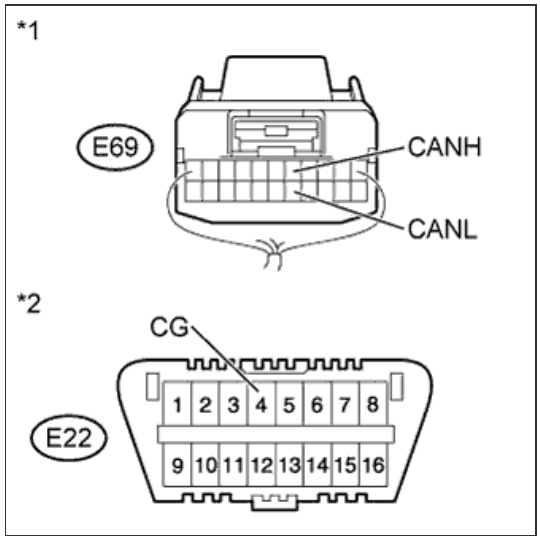
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 20

OK

## 17.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - NETWORK GATEWAY ECU)

a. Measure the resistance according to the value(s) in the table below.

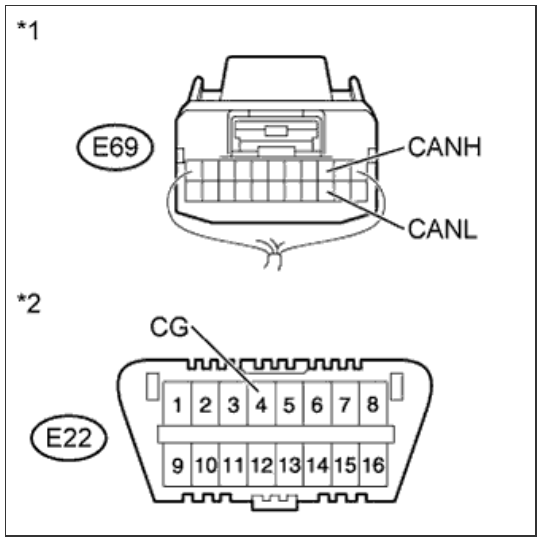
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |

| | |
|---|---|
| *2 | DLC3 |




NG → Go to step 21

OK

## 18.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 2 JUNCTION CONNECTOR - AFS ECU)

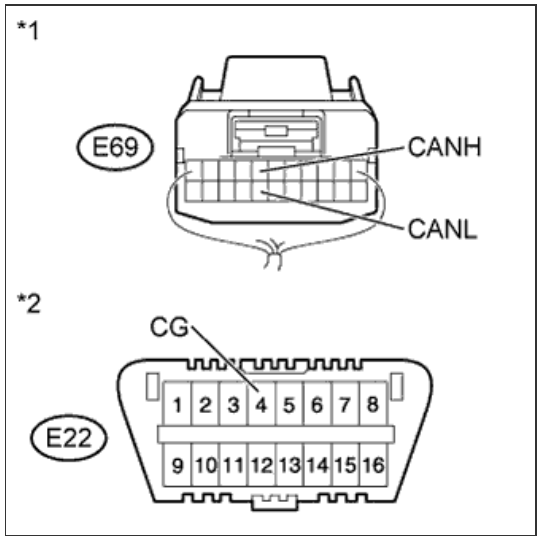
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-7 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-18 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 22

OK

REPLACE NO. 2 JUNCTION CONNECTOR

## 19.CHECK FOR SHORT TO GND IN CAN BUS WIRE (DISPLAY AND NAVIGATION MODULE DISPLAY) (MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

a. Disconnect the F76 multi-media module receiver assembly connector.

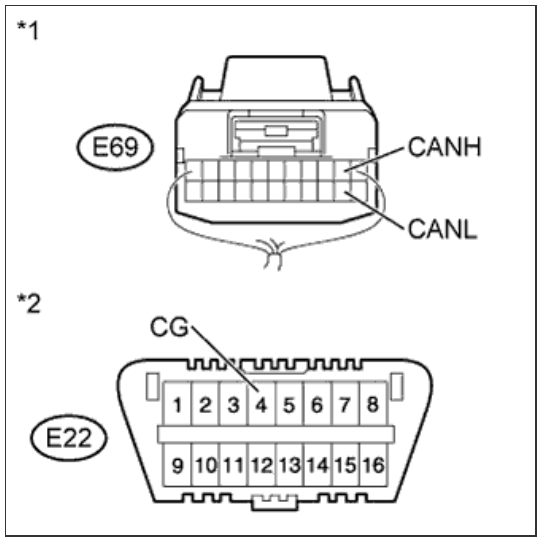
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-2 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-13 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO MULTI-MEDIA MODULE RECEIVER ASSEMBLY (CANH, CANL)

OK

REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

## 20.CHECK FOR SHORT TO GND IN CAN BUS WIRE (AIR CONDITIONING AMPLIFIER ASSEMBLY)

a. Disconnect the E35 air conditioning amplifier assembly connector.

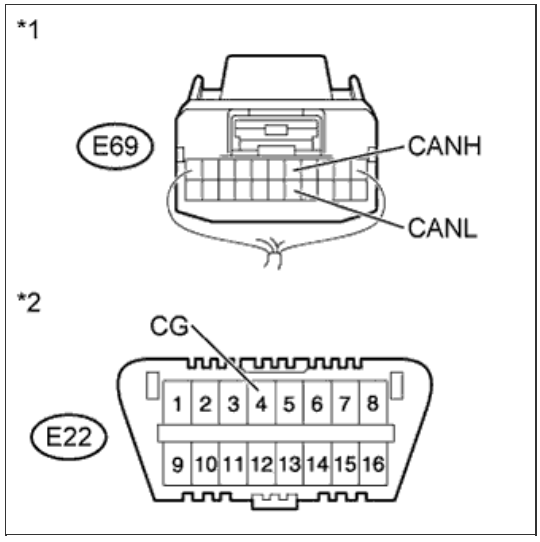
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-5 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-16 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AIR CONDITIONING AMPLIFIER ASSEMBLY (CANH, CANL)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 21.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NETWORK GATEWAY ECU)

a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

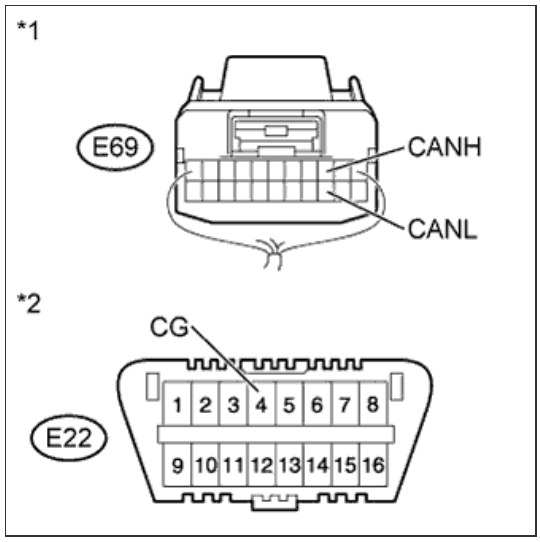
**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

| | | |
|---|---|---|
| E69-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO NETWORK GATEWAY ECU (CANH, CANL)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

22.CHECK FOR SHORT TO GND IN CAN BUS WIRE (AFS ECU)

a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

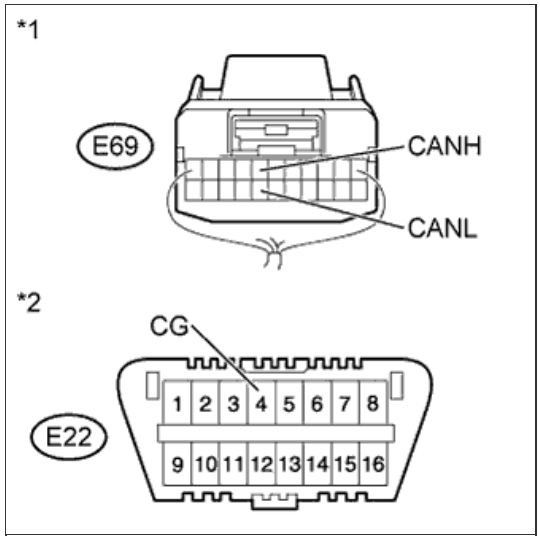
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E69-7 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E69-18 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 2 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO AFS ECU (CANH, CANL)

OK

REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) ( Click here)

23.CONNECT CONNECTOR

a. Reconnect the E69 No. 2 junction connector.

NEXT

24.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

a. Disconnect the E75 No. 3 junction connector.

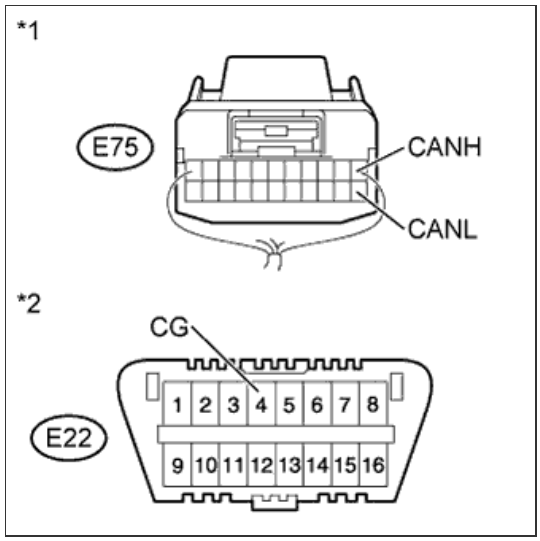
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-1 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-12 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE OR CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)

OK

**25.CHECK FOR SHORT TO GND IN CAN BUS WIRE (NO. 3 JUNCTION CONNECTOR - COMBINATION METER ASSEMBLY)**

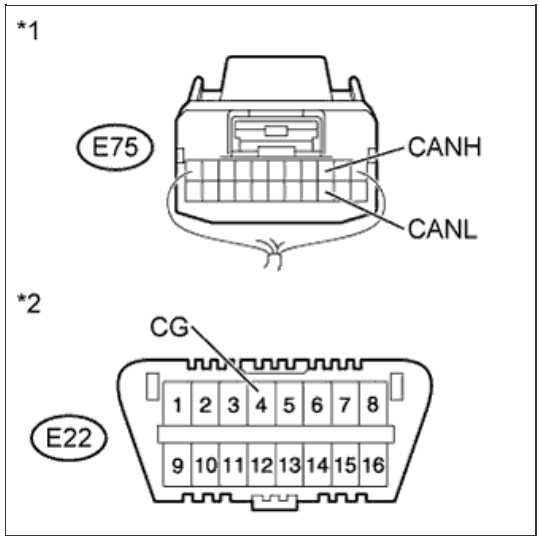
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → Go to step 26

OK

**REPLACE NO. 3 JUNCTION CONNECTOR**

**26.CHECK FOR SHORT TO GND IN CAN BUS WIRE (COMBINATION METER ASSEMBLY)**

a. Disconnect the E77 combination meter assembly connector.

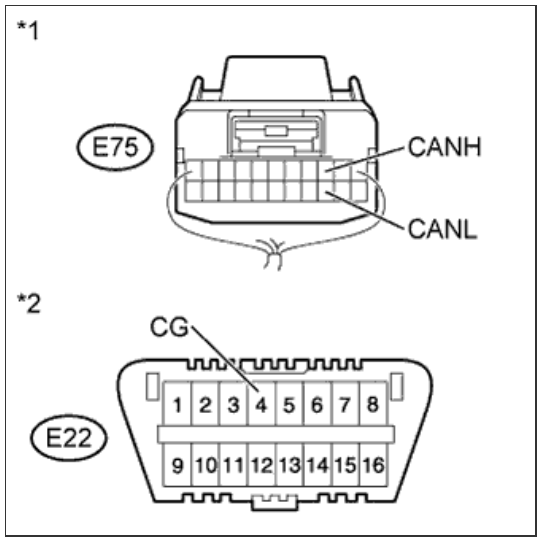
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E75-3 (CANH) - E22-4 (CG) | Engine switch off | 200 Ω or higher |
| E75-14 (CANL) - E22-4 (CG) | Engine switch off | 200 Ω or higher |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector<br>(to No. 3 Junction Connector) |
| *2 | DLC3 |




NG → REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER ASSEMBLY (CANH, CANL)

OK → REPLACE COMBINATION METER ASSEMBLY (Click here)

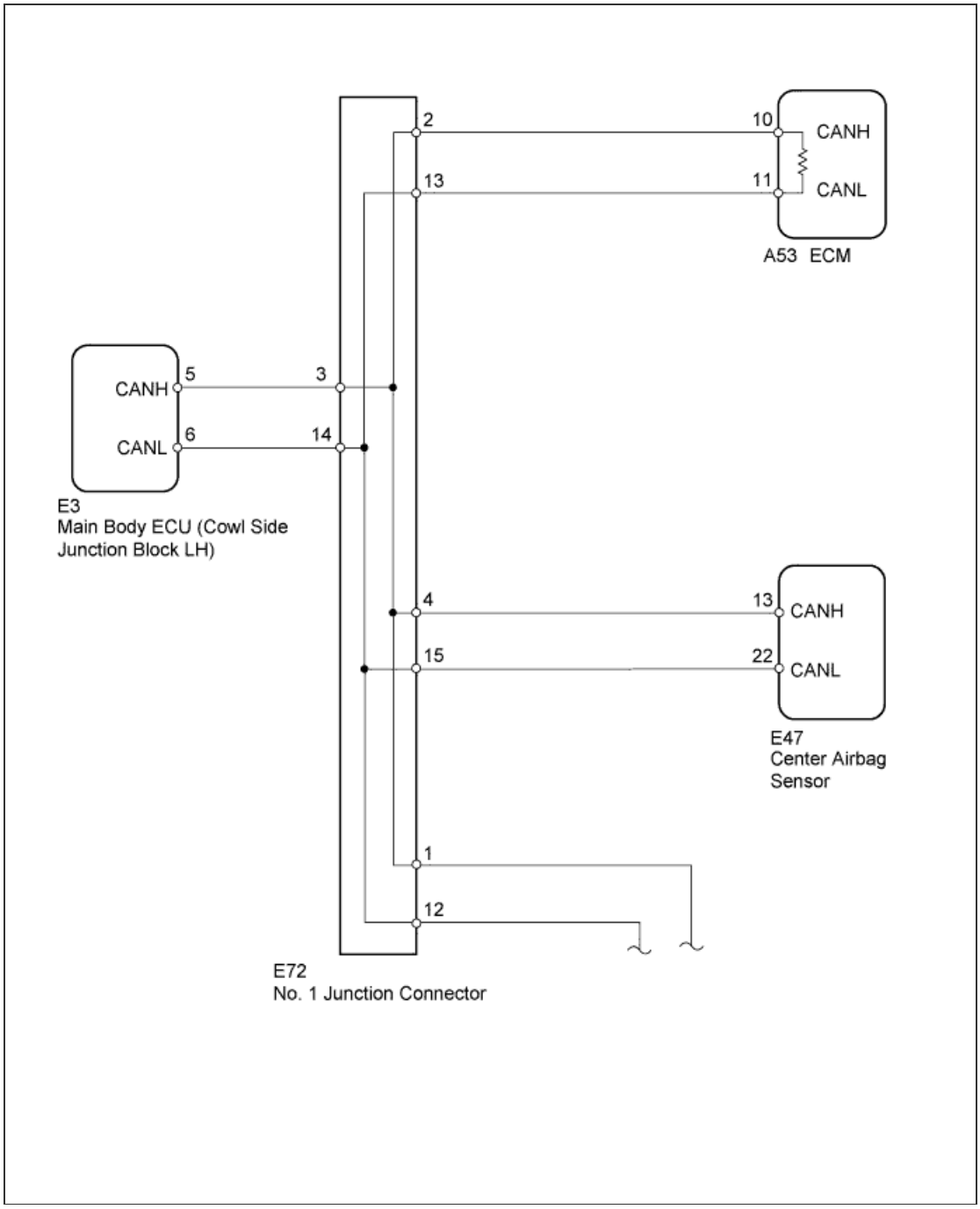
**for Preparation** Click here

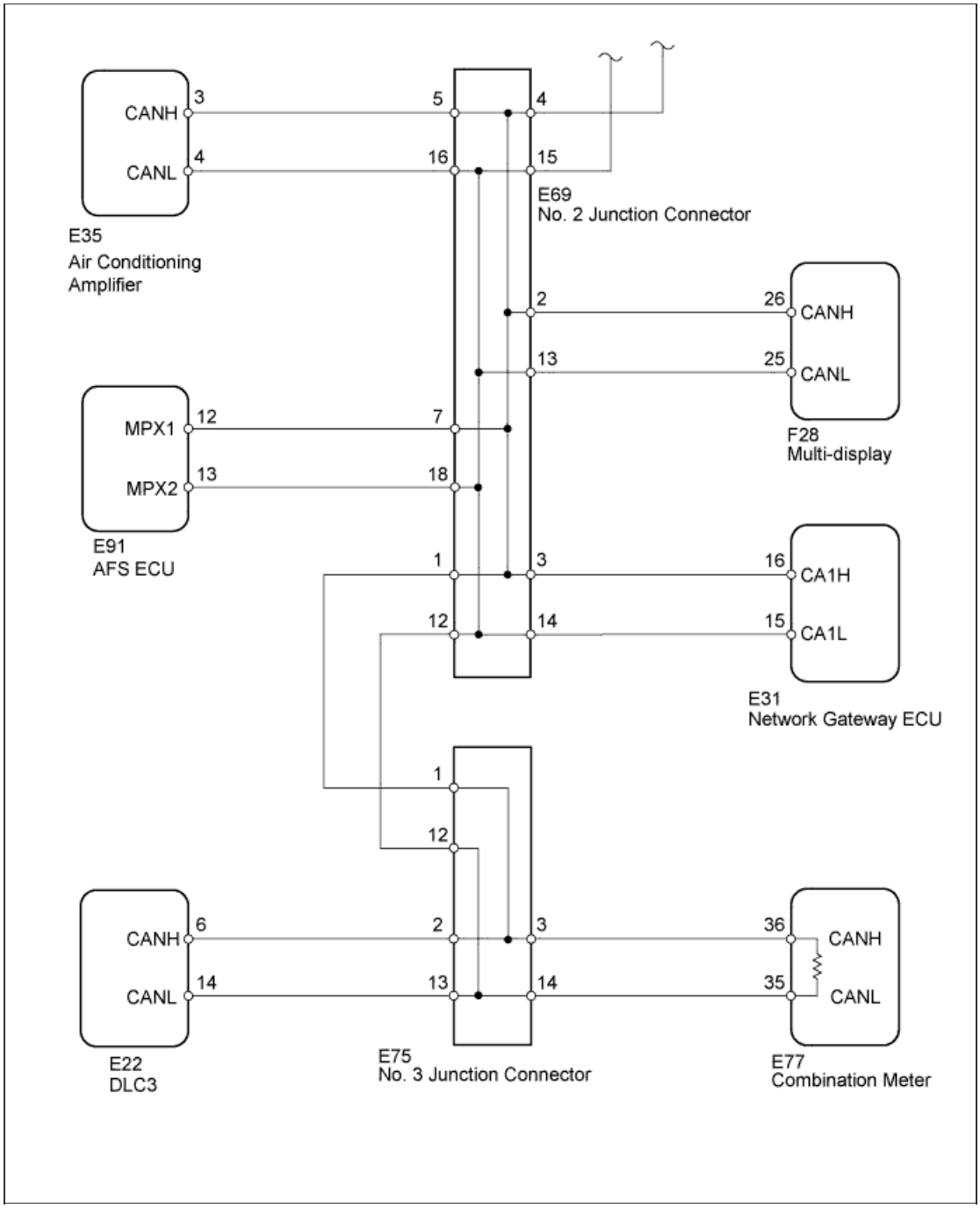
## DESCRIPTION

If 2 or more ECUs and/or sensors do not appear on the intelligent tester "Bus Check" screen, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| Symptom | Trouble Area |
|---|---|
| 2 or more ECUs and/or sensors do not appear on the intelligent tester "Bus Check" screen. | • One side of CAN branch wire is open<br>• Multi-display<br>• Center airbag sensor<br>• Air conditioning amplifier<br>• Main body ECU (cowl side junction block LH)<br>• Network gateway ECU<br>• AFS ECU |

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**HINT:**

- **Perform the following inspection for the ECUs (sensors) which are not displayed on the intelligent tester. If a malfunction cannot be identified, perform the following inspections for the ECUs (sensors) connected to the CAN communication system.**
- **Do not remove the combination meter and ECM, as they are the end parts of the circuit. If removed, CAN communication will not be possible.**
- **The open circuit confirmation of the combination meter, ECM and main wire is performed in the Check CAN Bus Line procedure of How to Proceed with Troubleshooting. This inspection only has procedures for checking for an open circuit on one side of the CAN branch wire.**

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

## 2.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MULTI-DISPLAY)

a. Disconnect the F28 multi-display connector.

b. Select "Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "AVN" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "AVN" not displayed on intelligent tester. | B |

B → Go to step 4

A

## 3.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MULTI-DISPLAY BRANCH WIRE)

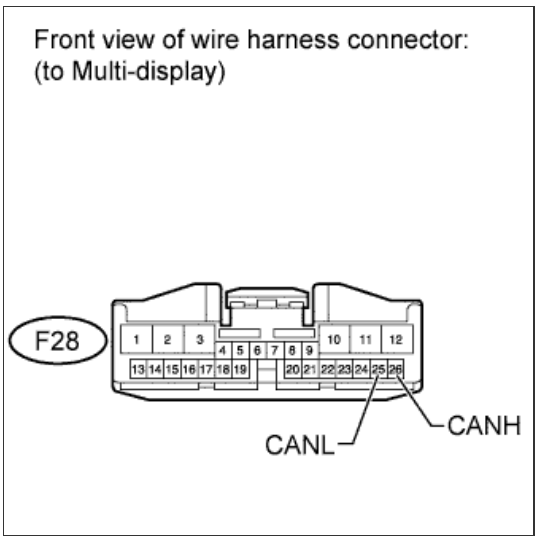
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F28-26 (CANH) - F28-25 (CANL) | Engine switch off | 54 to 69 Ω |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |
| NG | C |




B → REPLACE MULTI-DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (MULTI-DISPLAY)

A

REPLACE MULTI-DISPLAY (Click here)

## 4.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

b. Select "Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "SRS airbag" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "SRS airbag" not displayed on intelligent tester. | B |

B → Go to step 6

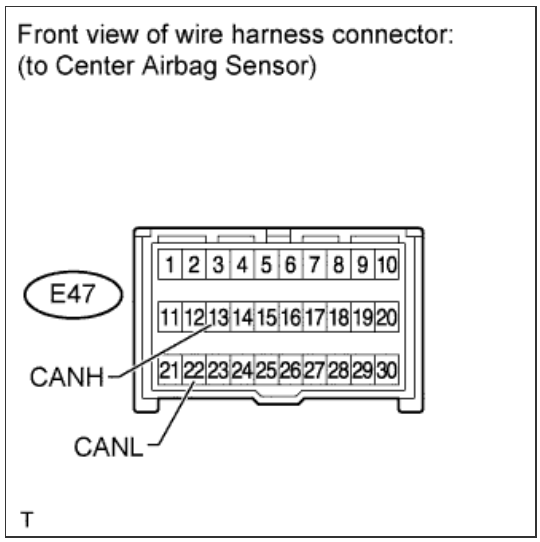
A

## 5.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR BRANCH WIRE)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (CENTER AIRBAG SENSOR)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 6.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER)

a. Disconnect the E35 air conditioning amplifier connector.

b. Select "Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Air Conditioner" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "Air Conditioner" not displayed on intelligent tester. | B |

B → Go to step 8

A

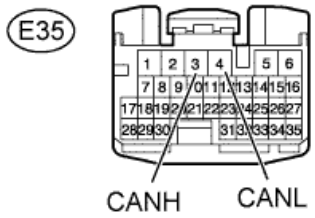
## 7.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER BRANCH WIRE)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Air Conditioning Amplifier)




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (AIR CONDITIONING AMPLIFIER)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 8.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Select "Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Main Body" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "Main Body" not displayed on intelligent tester. | B |

B → Go to step 10

A

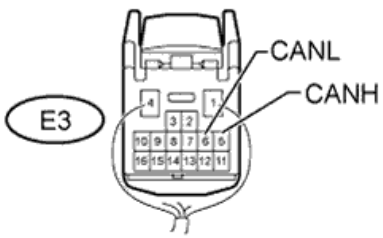
## 9.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU BRANCH WIRE)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-5 (CANH) - E3-6 (CANL) | Engine switch off | 54 to 69 Ω |

Rear view of wire harness connector:
(to Main Body ECU)




H

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (MAIN BODY ECU)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

10.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AFS ECU)

a. Disconnect the E91 AFS ECU connector.

b. Select "Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "AFS/HL Auto Leveling" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "AFS/HL Auto Leveling" not displayed on intelligent tester. | B |

B → Go to step 12

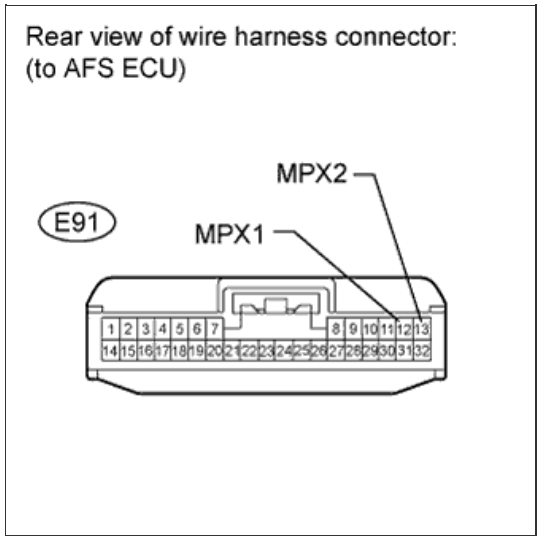
A

11.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AFS ECU BRANCH WIRE)

a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | Engine switch off | 54 to 69 Ω |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (AFS ECU)

OK

REPLACE AFS ECU (Click here)

12.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (NETWORK GATEWAY ECU BRANCH WIRE)

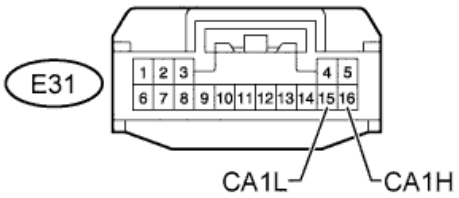
a. Disconnect the E31 network gateway ECU connector.

b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L) | Engine switch off | 54 to 69 Ω |

Front view of wire harness connector:
(to Network Gateway ECU)




T

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (NETWORK GATEWAY ECU)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

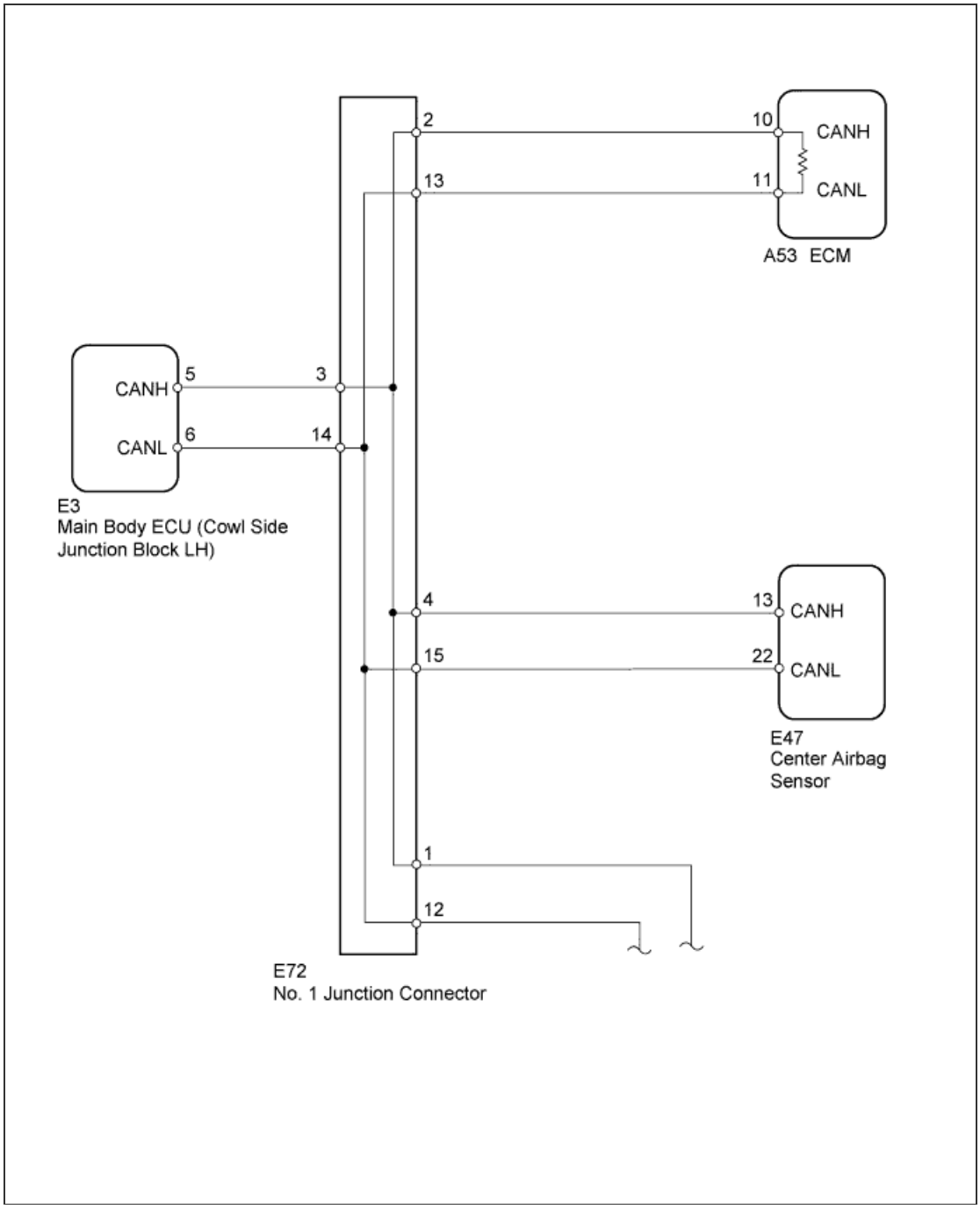
**for Preparation** Click here

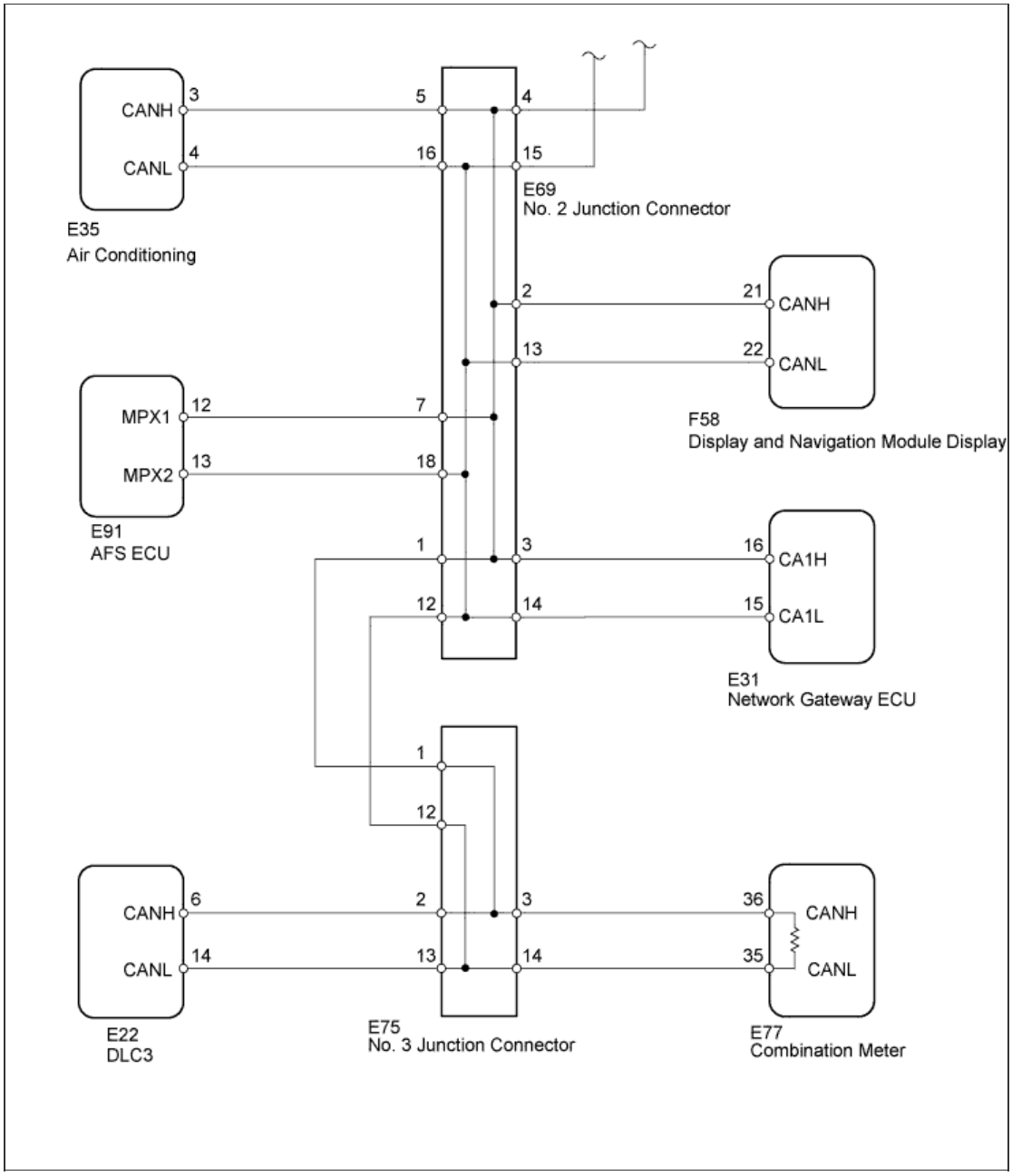
## DESCRIPTION

If 2 or more ECUs and/or sensors do not appear on the intelligent tester "Bus Check" screen, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/or sensor is open).

| Symptom | Trouble Area |
|---|---|
| 2 or more ECUs and/or sensors do not appear on the intelligent tester "Bus Check" screen. | • One side of CAN branch wire is open<br>• Display and navigation module display<br>• Center airbag sensor assembly<br>• Air conditioning amplifier assembly<br>• Main body ECU (cowl side junction block LH)<br>• Network gateway ECU<br>• AFS ECU (headlight swivel ECU assembly) |

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**HINT:**

- **Perform the following inspection for the ECUs (sensors) which are not displayed on the intelligent tester. If a malfunction cannot be identified, perform the following inspections for the ECUs (sensors) connected to the CAN communication system.**
- **Do not remove the combination meter and ECM, as they are the end parts of the circuit. If removed, CAN communication will not be possible.**
- **The open circuit confirmation of the combination meter, ECM and main wire is performed in the Check CAN Bus Line procedure of How to Proceed with Troubleshooting. This inspection only has procedures for checking for an open circuit on one side of the CAN branch wire.**

### 1.DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the main wire and the branch wire.

**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).

NEXT

## 2.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (DISPLAY AND NAVIGATION MODULE DISPLAY)

a. Disconnect the F58 display and navigation module display connector.

b. Select "Bus Check" on the intelligent tester (Click here).

**Result**

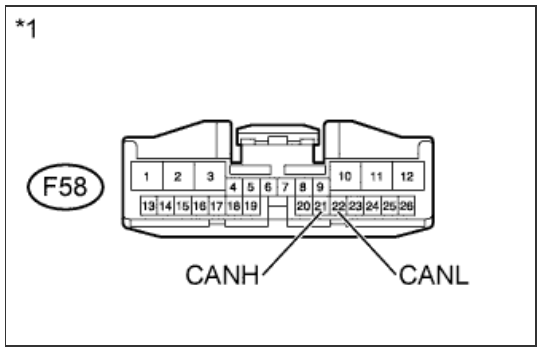
| Result | Proceed to |
|---|---|
| "AVN1" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "AVN1" not displayed on intelligent tester. | B |

B → Go to step 4

A

## 3.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (DISPLAY AND NAVIGATION MODULE DISPLAY BRANCH WIRE)

a. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F58-21 (CANH) - F58-22 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Display and Navigation Module Display) |

**Result**

| Result | Proceed to |
|---|---|
| OK (w/ Navigation System) | A |
| OK (w/o Navigation System) | B |
| NG | C |

B → REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

C → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (DISPLAY AND NAVIGATION MODULE DISPLAY)

A

REPLACE DISPLAY AND NAVIGATION MODULE DISPLAY (Click here)

## 4.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR)

a. Disconnect the E47 center airbag sensor connector.

b. Select "Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "SRS airbag" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "SRS airbag" not displayed on intelligent tester. | B |

B → Go to step 6

A

**5.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR BRANCH WIRE)**

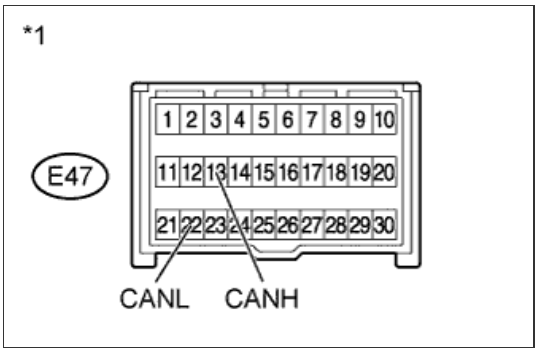
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Center Airbag Sensor) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (CENTER AIRBAG SENSOR)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

**6.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER)**

a. Disconnect the E35 air conditioning amplifier connector.

b. Select "Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Air Conditioner" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "Air Conditioner" not displayed on intelligent tester. | B |

B → Go to step 8

A

**7.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER BRANCH WIRE)**

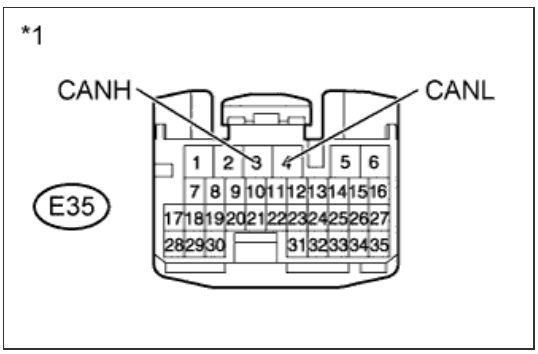
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Air Conditioning Amplifier) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR

(AIR CONDITIONING AMPLIFIER)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

8.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Select "Bus Check" on the intelligent tester (Click here).

Result

| Result | Proceed to |
|---|---|
| "Main Body" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "Main Body" not displayed on intelligent tester. | B |

B → Go to step 10

A

9.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU BRANCH WIRE)

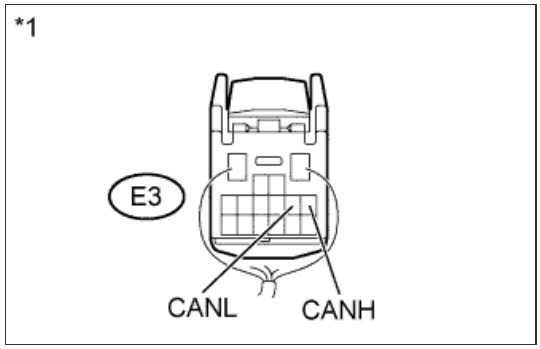
a. Measure the resistance according to the value(s) in the table below.

Standard Resistance:

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-5 (CANH) - E3-6 (CANL) | Engine switch off | 54 to 69 Ω |

Text in Illustration

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Main Body ECU) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (MAIN BODY ECU)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

10.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AFS ECU)

a. Disconnect the E91 AFS ECU connector.

b. Select "Bus Check" on the intelligent tester (Click here).

Result

| Result | Proceed to |
|---|---|
| "AFS/HL Auto Leveling" not displayed on intelligent tester. | A |
| Several ECUs and sensors other than "AFS/HL Auto Leveling" not displayed on intelligent tester. | B |

B → Go to step 12

A

## 11.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AFS ECU BRANCH WIRE)

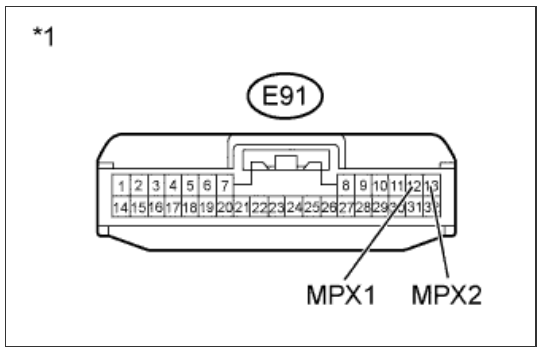
a. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to AFS ECU) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (AFS ECU)

OK → REPLACE AFS ECU (Click here)

## 12.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (NETWORK GATEWAY ECU BRANCH WIRE)

a. Disconnect the E31 network gateway ECU connector.

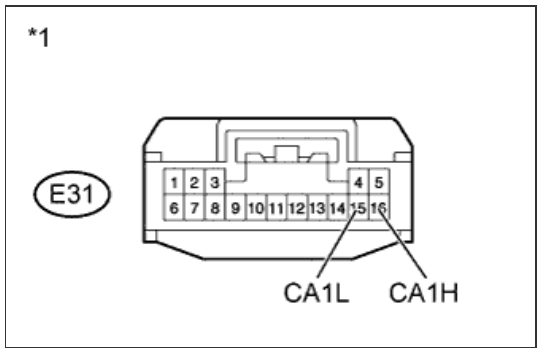
b. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Network Gateway ECU) |




NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (NETWORK GATEWAY ECU)

OK → REPLACE NETWORK GATEWAY ECU (Click here)

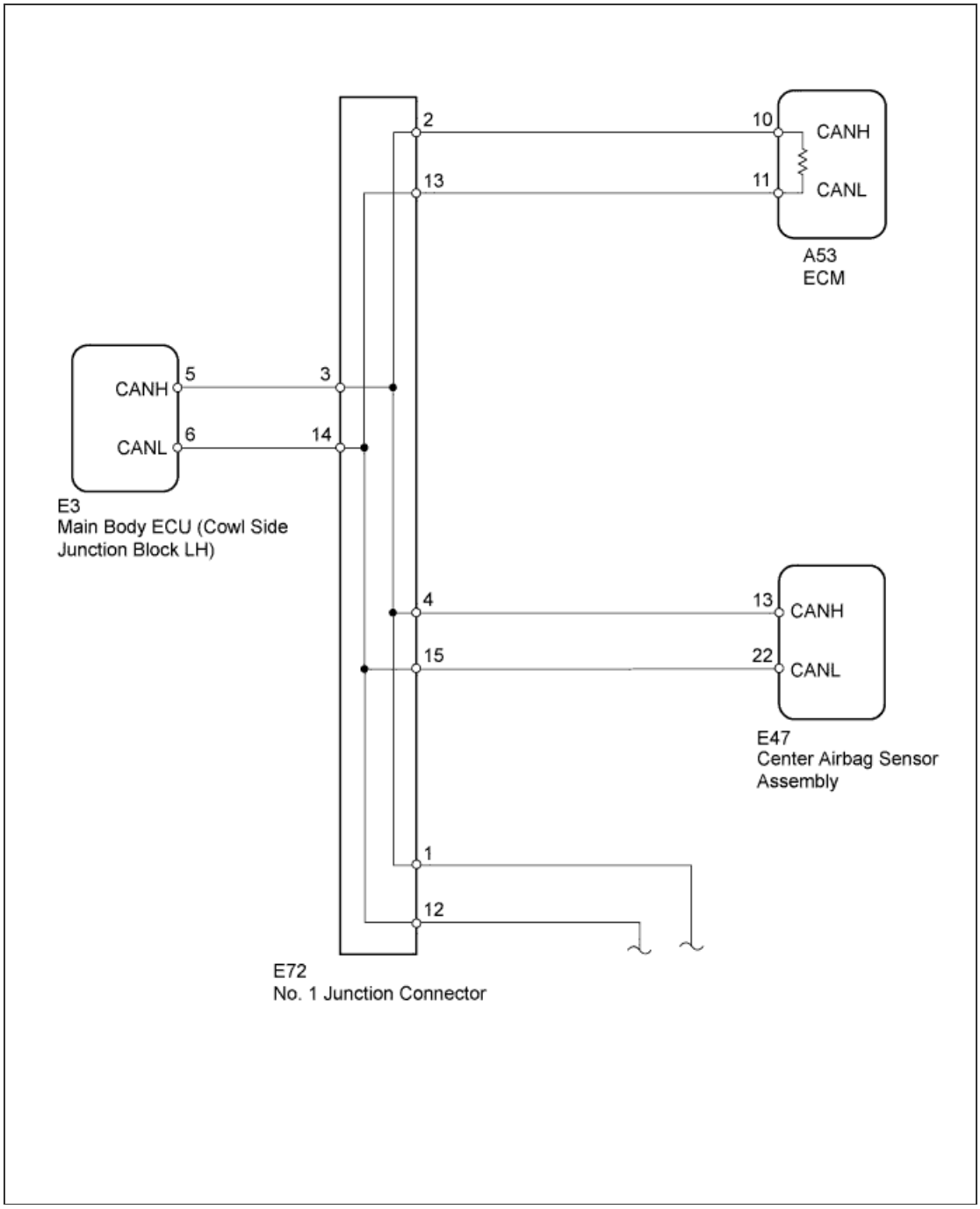
**for Preparation** Click here

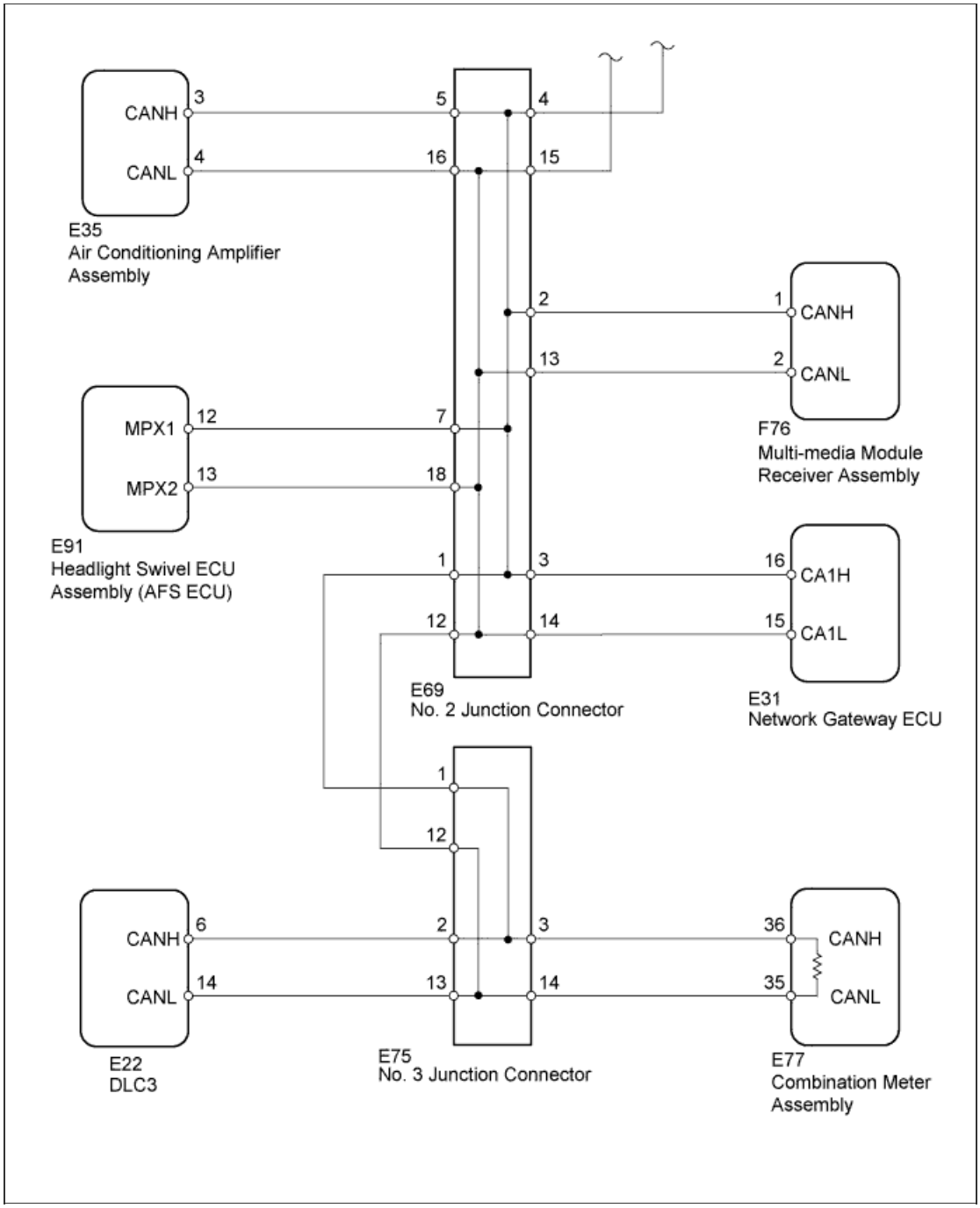
## DESCRIPTION

If 2 or more ECUs and/or sensors do not appear on the intelligent tester "Bus Check" screen, one side of the CAN branch wire may be open (One side of the CANH [branch wire]/CANL [branch wire] of the ECU and/ or sensor is open).

| Symptom | Trouble Area |
|---|---|
| 2 or more ECUs and/or sensors do not appear on the intelligent tester "Bus Check" screen. | • One side of CAN branch wire is open<br>• Center airbag sensor assembly<br>• Multi-media module receiver assembly<br>• Air conditioning amplifier assembly<br>• Main body ECU (cowl side junction block LH)<br>• Headlight swivel ECU assembly (AFS ECU)<br>• Network gateway ECU |

## WIRING DIAGRAM






## INSPECTION PROCEDURE

**NOTICE:**

- **After turning the engine switch off, waiting time may be required before disconnecting the cable from the battery terminal. Therefore, make sure to read the disconnecting the cable from the battery terminal notice before proceeding with work (Click here).**
- **The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the Precaution in the SRS (Click here).**

**HINT:**

- **Perform the following inspection for the ECUs (sensors) which are displayed on the intelligent tester. If a malfunction cannot be identified, perform the following inspections for the ECUs (sensors) connected to the CAN communication system.**
- **Do not remove the combination meter assembly and ECM as they are the end parts of the circuit. If removed, CAN communication will not be possible.**
- **The open circuit confirmation of the combination meter assembly, ECM and CAN main wire is performed in the Check CAN Bus Line procedure of "How to Proceed with Troubleshooting". This inspection only has procedures for checking for an open circuit on one side of a CAN branch wire.**

### 1.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

a. Disconnect the F76 multi-media module receiver assembly connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Display and Navigation (AVN)" is not displayed on the intelligent tester | A |
| Several ECUs and sensors in addition to "Display and Navigation (AVN)" are displayed on the intelligent tester | B |

B → Go to step 3

A

**2.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MULTI-MEDIA MODULE RECEIVER ASSEMBLY CAN BRANCH WIRE)**

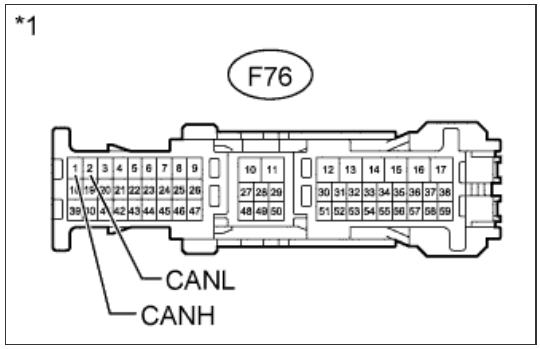
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| F76-1 (CANH) - F76-2 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Multi-media Module Receiver Assembly) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (MULTI-MEDIA MODULE RECEIVER ASSEMBLY)

OK

REPLACE MULTI-MEDIA MODULE RECEIVER ASSEMBLY (Click here)

**3.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR ASSEMBLY)**

a. Disconnect the E47 center airbag sensor assembly connector ( Click here).

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Airbag" is not displayed on the intelligent tester | A |
| Several ECUs and sensors in addition to "Airbag" are displayed on the intelligent tester | B |

B → Go to step 5

A

## 4.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (CENTER AIRBAG SENSOR ASSEMBLY CAN BRANCH WIRE)

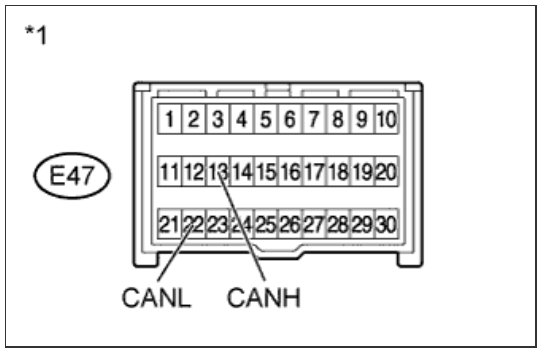
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E47-13 (CANH) - E47-22 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Center Airbag Sensor Assembly) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (CENTER AIRBAG SENSOR ASSEMBLY)

OK

REPLACE CENTER AIRBAG SENSOR ASSEMBLY (Click here)

## 5.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER ASSEMBLY)

a. Disconnect the E35 air conditioning amplifier assembly connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Air Conditioning Amplifier" is not displayed on the intelligent tester | A |
| Several ECUs and sensors in addition to "Air Conditioning Amplifier" are displayed on the intelligent tester | B |

B → Go to step 7

A

## 6.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (AIR CONDITIONING AMPLIFIER ASSEMBLY CAN BRANCH WIRE)

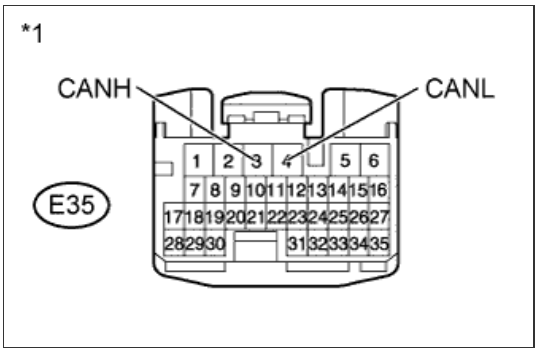
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E35-3 (CANH) - E35-4 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Air Conditioning Amplifier Assembly) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (AIR CONDITIONING AMPLIFIER ASSEMBLY)

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY (Click here)

## 7.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU)

a. Disconnect the E3 main body ECU (cowl side junction block LH) connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Main Body" is not displayed on the intelligent tester | A |
| Several ECUs and sensors in addition to "Main Body" are displayed on the intelligent tester | B |

B → Go to step 9

A

## 8.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (MAIN BODY ECU CAN BRANCH WIRE)

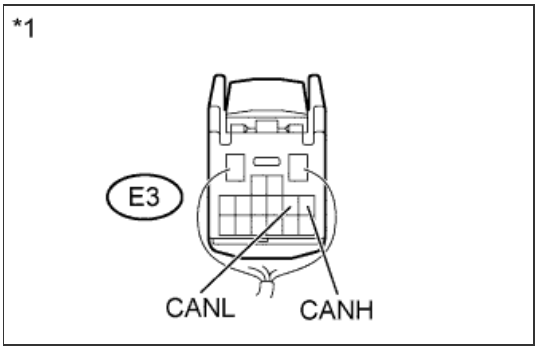
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E3-5 (CANH) - E3-6 (CANL) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Rear view of wire harness connector (to Main Body ECU [Cowl Side Junction Block LH]) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (MAIN BODY ECU)

OK

REPLACE MAIN BODY ECU (COWL SIDE JUNCTION BLOCK LH)

## 9.CHECK FOR OPEN IN ONE SIDE OF CAN BRANCH WIRE (AFS ECU)

a. Disconnect the E91 headlight swivel ECU assembly (AFS ECU) connector.

b. Select "CAN Bus Check" on the intelligent tester (Click here).

**Result**

| Result | Proceed to |
|---|---|
| "Headlight swivel (AFS)" is not displayed on the intelligent tester | A |
| Several ECUs and sensors in addition to "Headlight swivel (AFS)" are displayed on the intelligent tester | B |

B → Go to step 11

A

## 10.CHECK FOR OPEN IN ONE SIDE OF CAN BRANCH WIRE (AFS ECU CAN BRANCH WIRE)

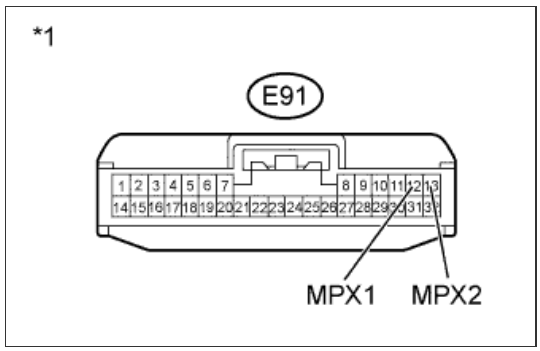
a. Disconnect the cable from the negative (-) battery terminal before measuring the resistances of the CAN main wire and the CAN branch wire.

**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. Measure the resistance according to the value(s) in the table below.

**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E91-12 (MPX1) - E91-13 (MPX2) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

| | |
|---|---|
| *1 | Front view of wire harness connector (to Headlight Swivel ECU Assembly [AFS ECU]) |

NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (AFS ECU)

OK

REPLACE HEADLIGHT SWIVEL ECU ASSEMBLY (AFS ECU) (Click here)

## 11.CHECK FOR OPEN IN ONE SIDE OF BRANCH WIRE (NETWORK GATEWAY ECU CAN BRANCH WIRE)

a. Disconnect the cable from the negative (-) battery terminal before measuring the

resistances of the CAN main wire and the CAN branch wire.

**CAUTION:**

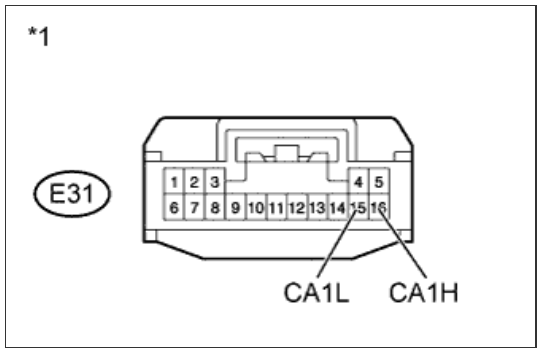
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected (Click here).

b. Disconnect the E31 network gateway ECU connector.

c. Measure the resistance according to the value(s) in the table below.




**Standard Resistance:**

| Tester Connection | Switch Condition | Specified Condition |
|---|---|---|
| E31-16 (CA1H) - E31-15 (CA1L) | Engine switch off | 54 to 69 Ω |

**Text in Illustration**

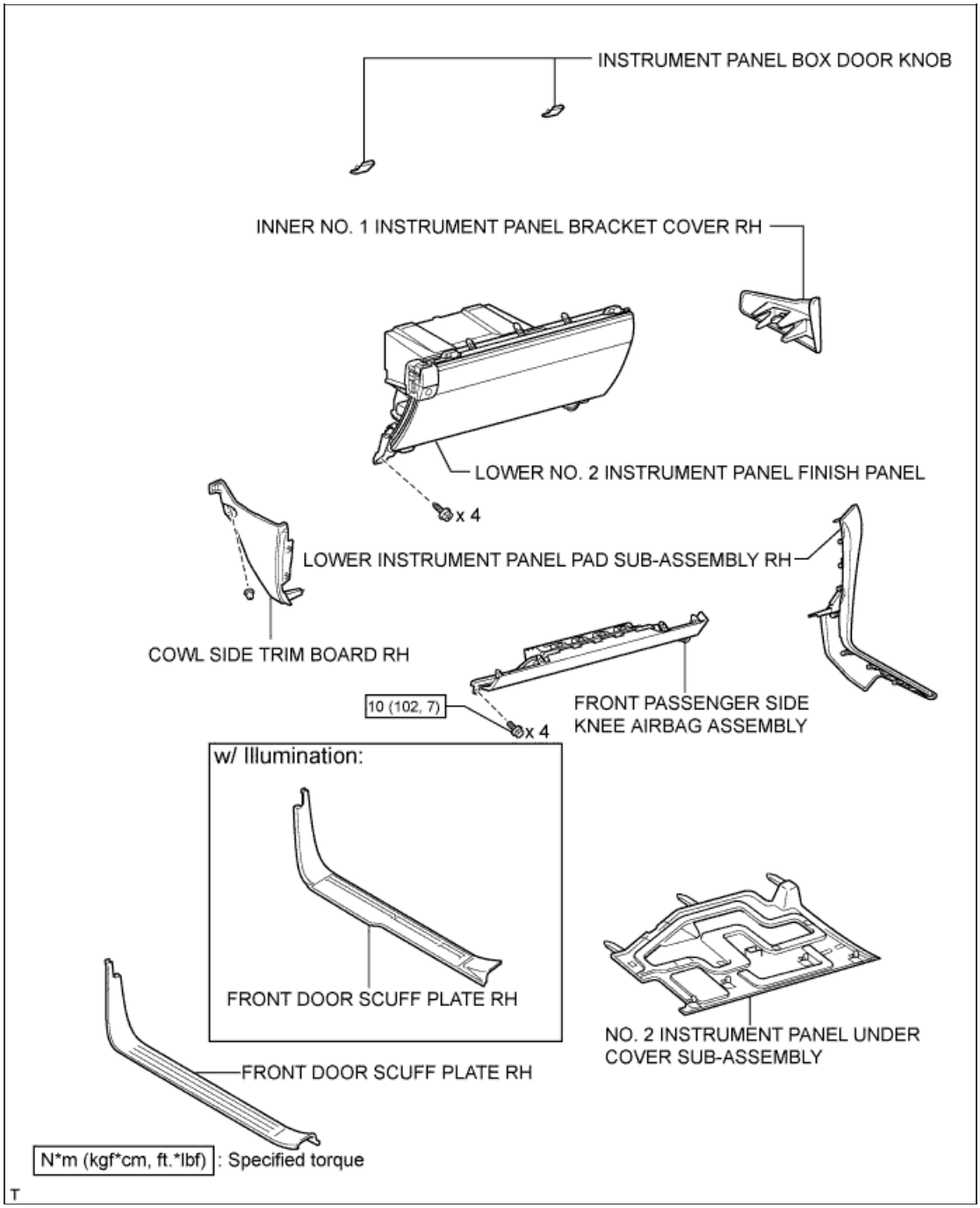
| | |
|---|---|
| *1 | Front view of wire harness connector (to Network Gateway ECU) |

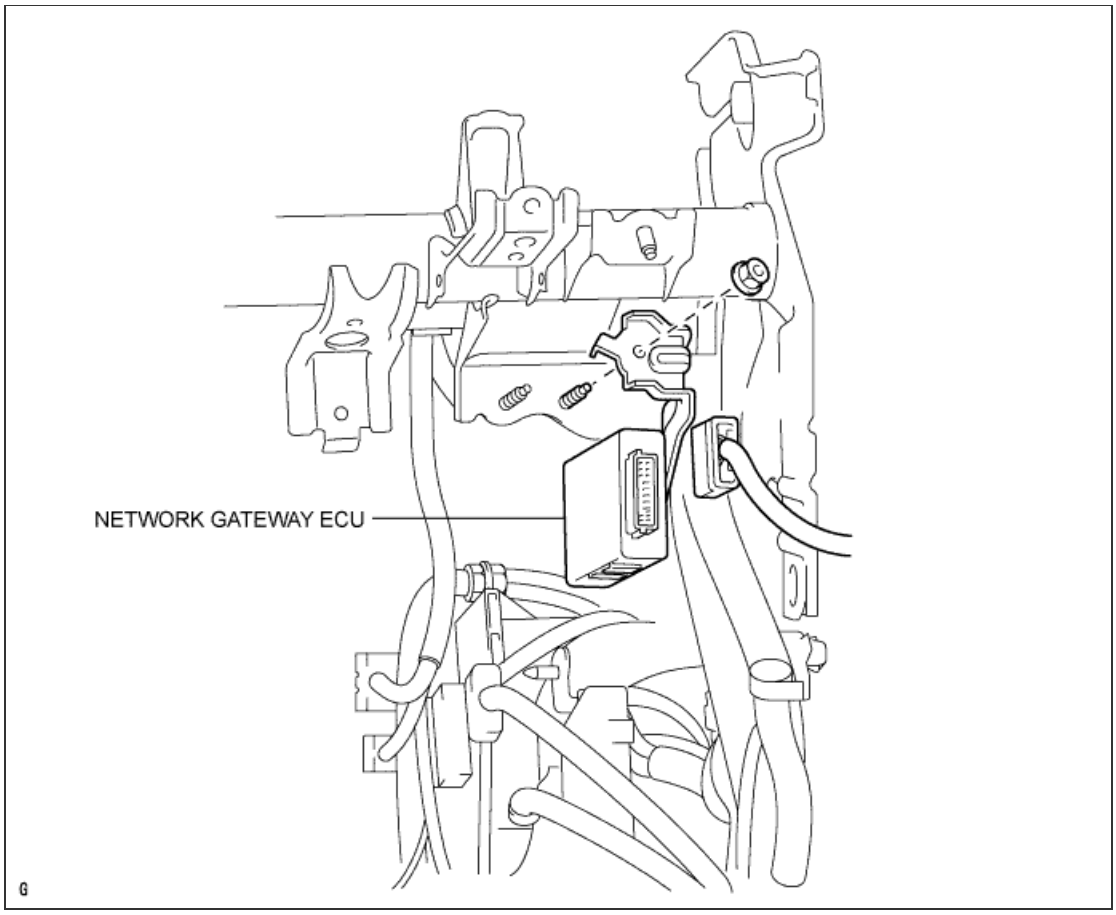
NG → REPAIR OR REPLACE CAN BRANCH WIRE OR CONNECTOR (NETWORK GATEWAY ECU)

OK

REPLACE NETWORK GATEWAY ECU (Click here)

**for Preparation** Click here

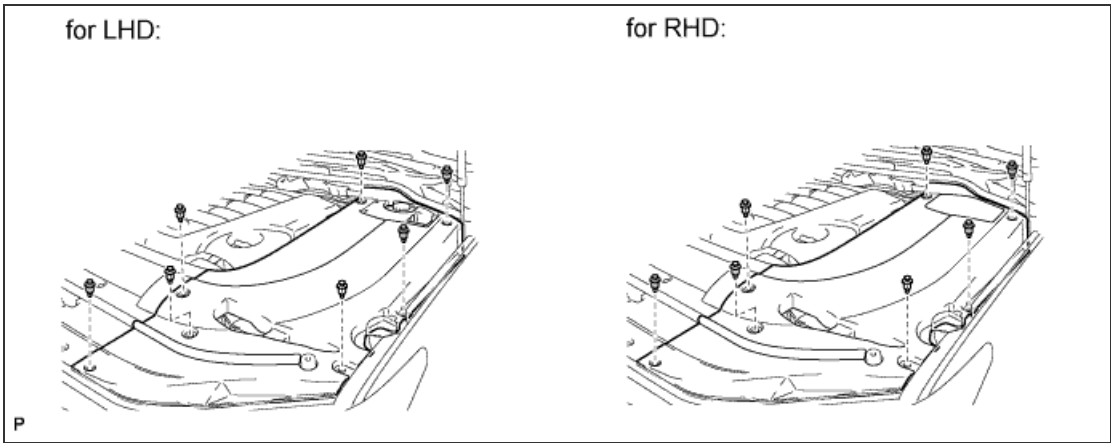



NETWORK GATEWAY ECU
G

**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:**

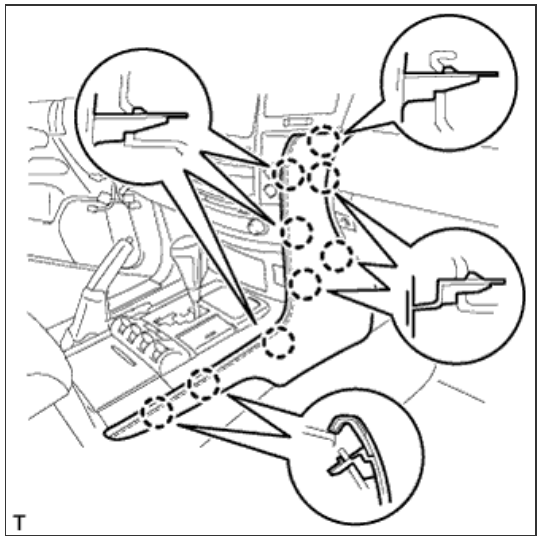
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

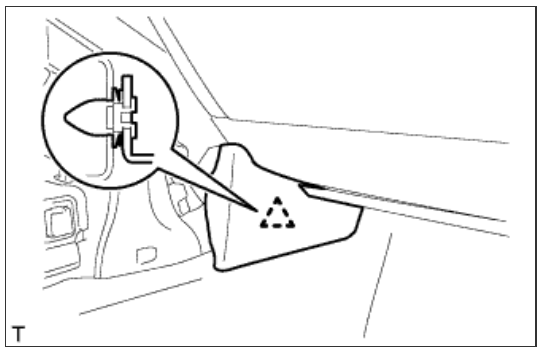
## 3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Detach the 9 claws and remove the panel pad.



## 4. REMOVE INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

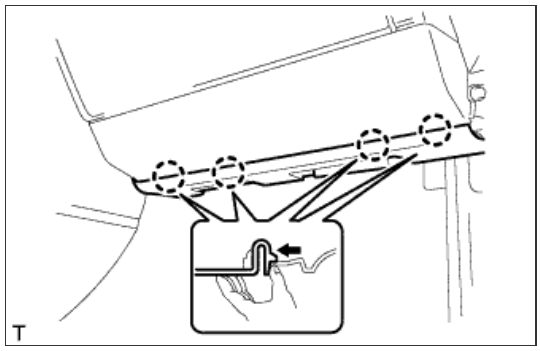
a. Detach the clip and remove the cover.




## 5. REMOVE NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Detach the 4 claws.

b. Remove the under cover and disconnect the connector.




## 6. REMOVE FRONT DOOR SCUFF PLATE RH

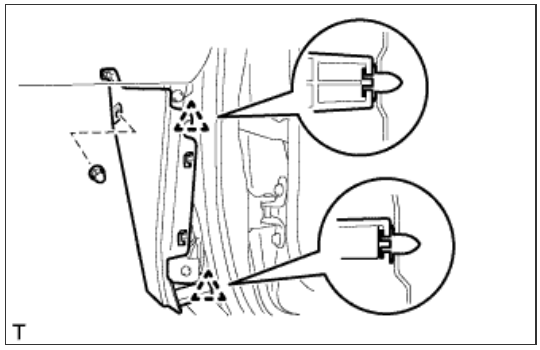
**HINT:**

Use the same procedures described for the LH side.

## 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 PASSENGER SIDE KNEE AIRBAG ASSEMBLY

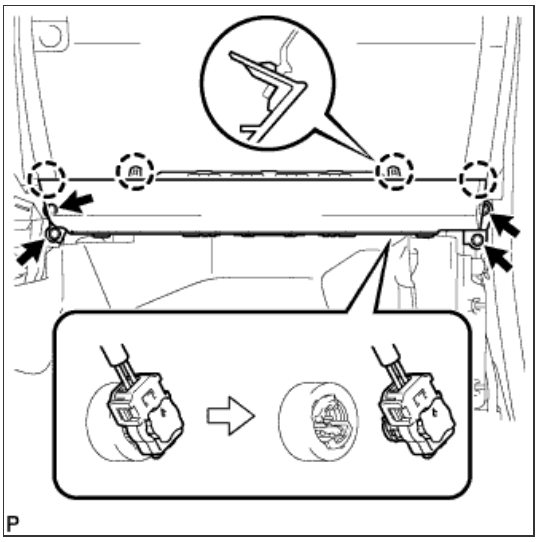
a. Remove the 4 bolts.

b. Detach the 4 claws and remove the front passenger side knee airbag.

c. Disconnect the connector.

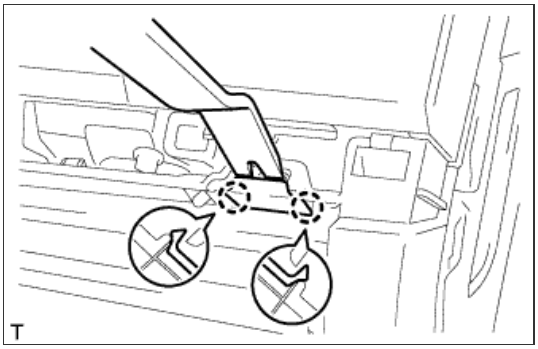
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.




## 9. REMOVE INSTRUMENT PANEL BOX DOOR KNOB

a. Using a moulding remover, detach the 2 claws and remove the knob.

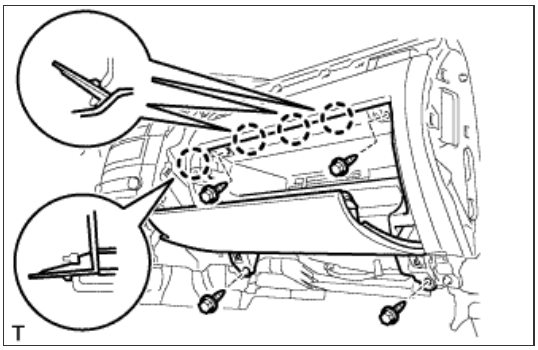



## 10. REMOVE LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Remove the 4 bolts.

b. Detach the 4 claws.

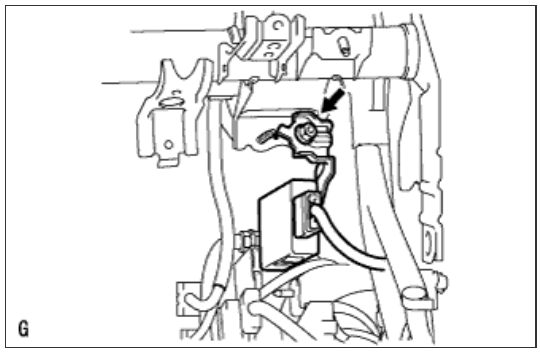
c. Remove the finish panel and then disconnect the connector.




## 11. REMOVE NETWORK GATEWAY ECU

a. Disconnect the connector.

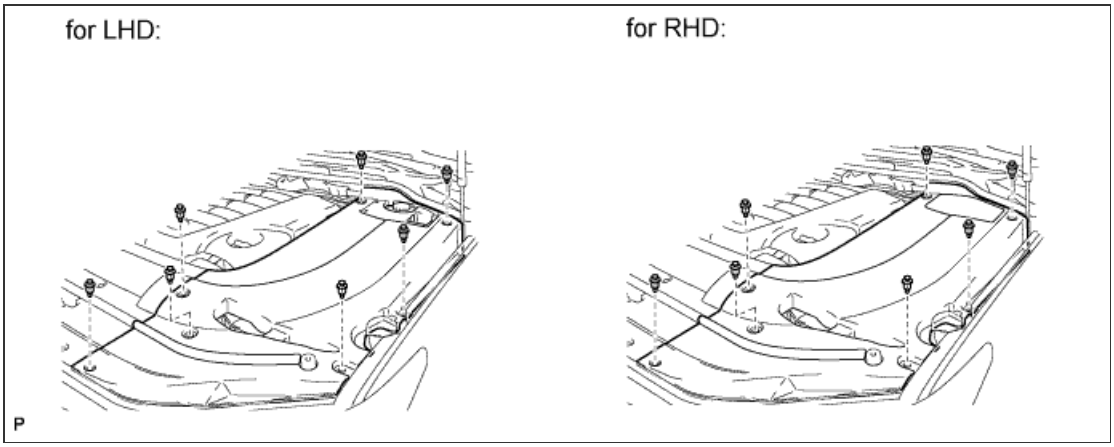
b. Remove the nut and ECU.


G

**for Preparation** Click here

## 1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover LH.




## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

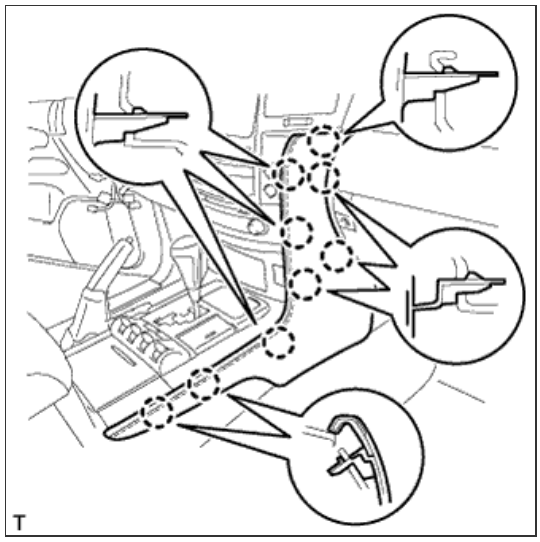
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **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.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

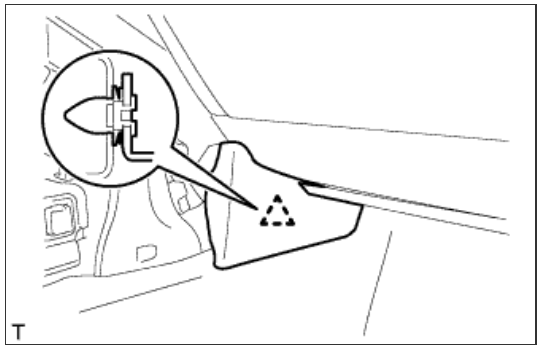
## 3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Detach the 9 claws and remove the panel pad.




### 4. REMOVE INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

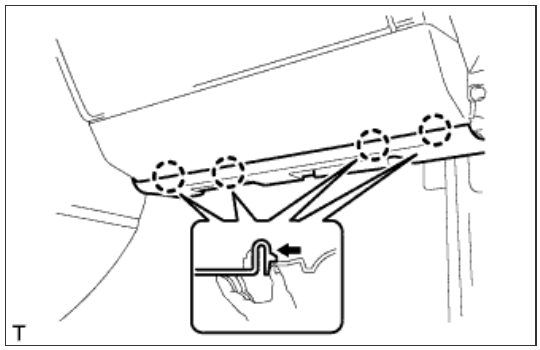
a. Detach the clip and remove the cover.




### 5. REMOVE NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Detach the 4 claws.

b. Remove the under cover and disconnect the connector.




### 6. REMOVE FRONT DOOR SCUFF PLATE RH

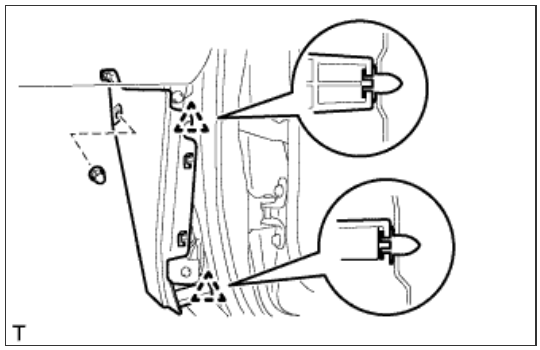
**HINT:**

Use the same procedures described for the LH side.

### 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 PASSENGER SIDE KNEE AIRBAG ASSEMBLY

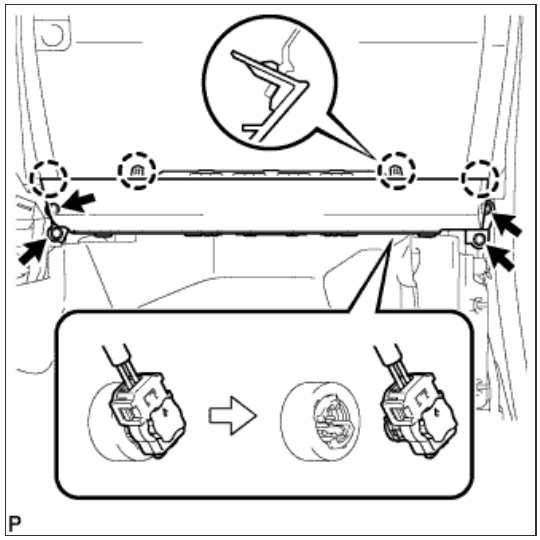
a. Remove the 4 bolts.

b. Detach the 4 claws and remove the front passenger side knee airbag.

c. Disconnect the connector.

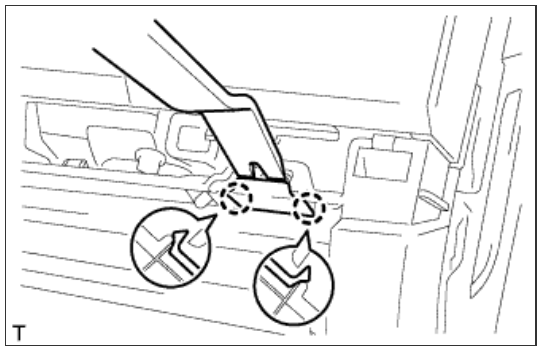
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.




## 9. REMOVE INSTRUMENT PANEL BOX DOOR KNOB

a. Using a moulding remover, detach the 2 claws and remove the knob.

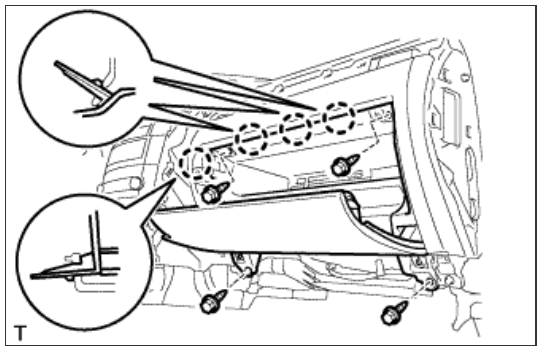



## 10. REMOVE LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Remove the 4 bolts.

b. Detach the 4 claws.

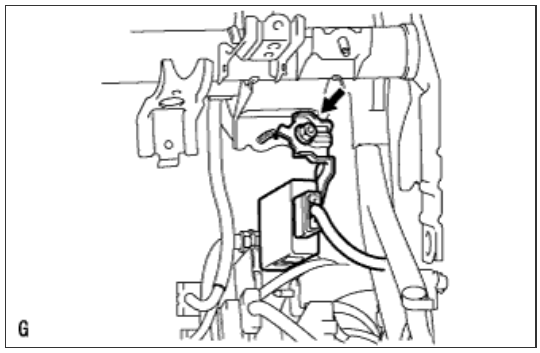
c. Remove the finish panel and then disconnect the connector.




## 11. REMOVE NETWORK GATEWAY ECU

a. Disconnect the connector.

b. Remove the nut and ECU.

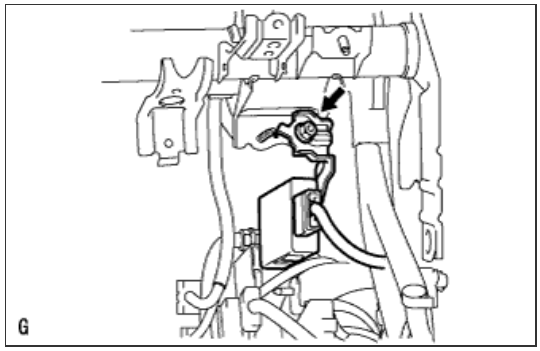


**for Preparation** Click here

## 1. INSTALL NETWORK GATEWAY ECU

a. Install the ECU with the nut.

b. Connect the connector.

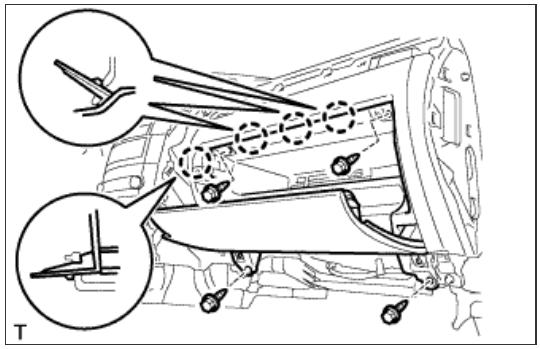



## 2. INSTALL LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Connect the connector.

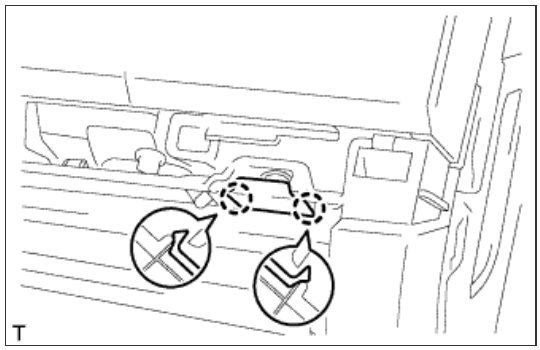
b. Attach the 4 claws to install the finish panel.

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. Connect the connector.

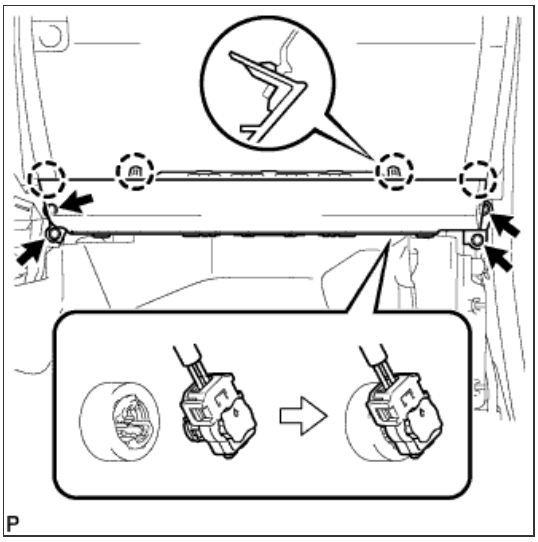
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Attach the 4 claws to install the front passenger side knee airbag.

c. Install the 4 bolts.

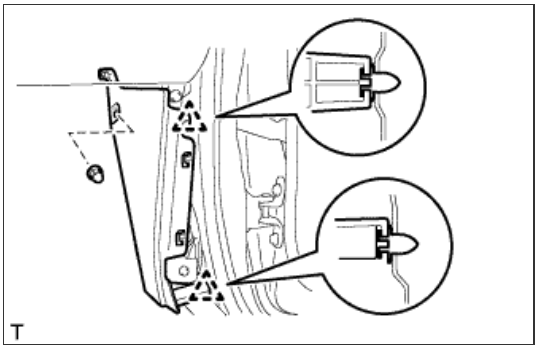
**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**




## 5. INSTALL COWL SIDE TRIM BOARD RH

a. Attach the 2 clips to install the trim board.

b. Install the cap nut.




## 6. INSTALL FRONT DOOR SCUFF PLATE RH

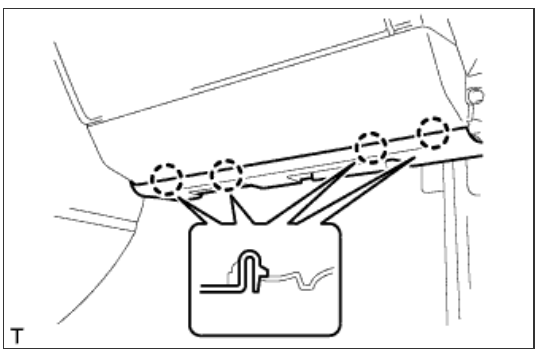
**HINT:**

Use the same procedures described for the LH side.

## 7. INSTALL NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

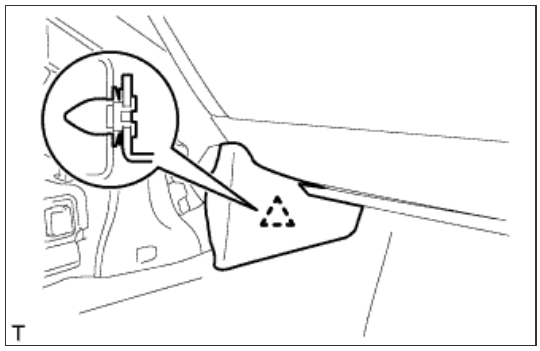
a. Connect the connector.

b. Attach the 4 claws to install the under cover.



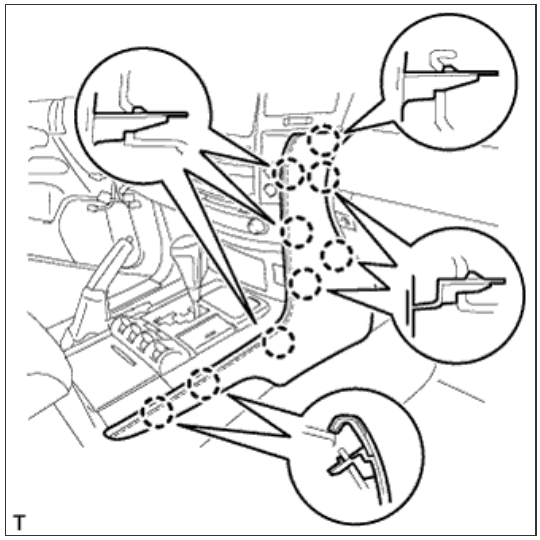

## 8. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

a. Attach the clip to install the cover.




## 9. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Attach the 9 claws to install the panel pad.



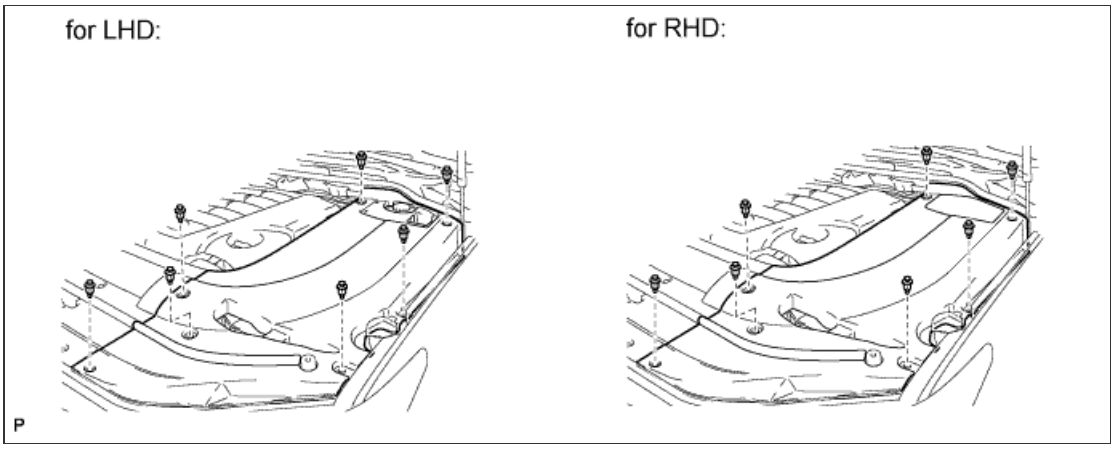

## 10. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 11. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.



**12. CHECK SRS WARNING LIGHT**

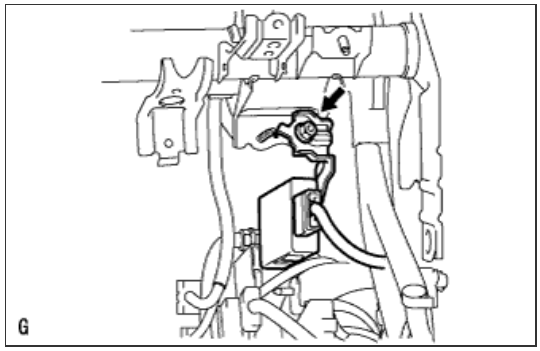
a. Check the SRS warning light (Click here).

**for Preparation** Click here

## 1. INSTALL NETWORK GATEWAY ECU

a. Install the ECU with the nut.

b. Connect the connector.

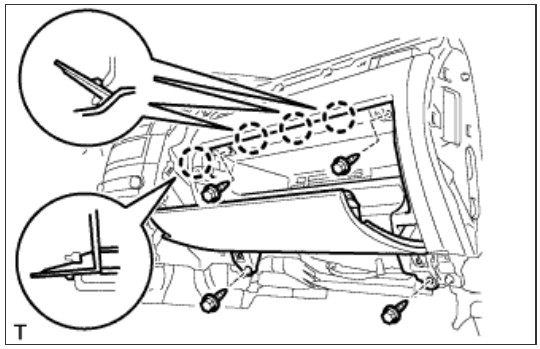



## 2. INSTALL LOWER NO. 2 INSTRUMENT PANEL FINISH PANEL

a. Connect the connector.

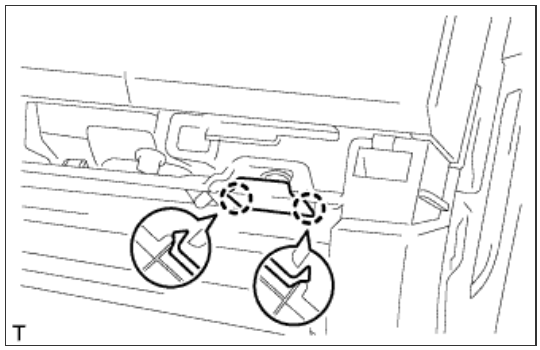
b. Attach the 4 claws to install the finish panel.

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. Connect the connector.

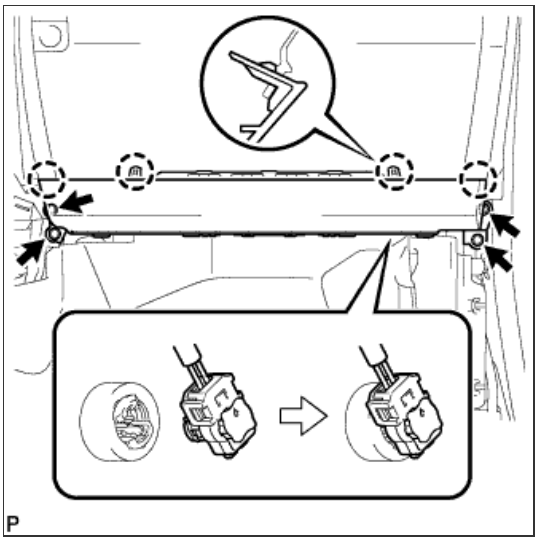
**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Attach the 4 claws to install the front passenger side knee airbag.

c. Install the 4 bolts.

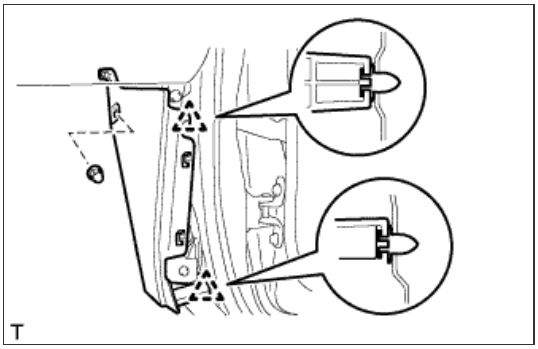
**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**




## 5. INSTALL COWL SIDE TRIM BOARD RH

a. Attach the 2 clips to install the trim board.

b. Install the cap nut.




## 6. INSTALL FRONT DOOR SCUFF PLATE RH

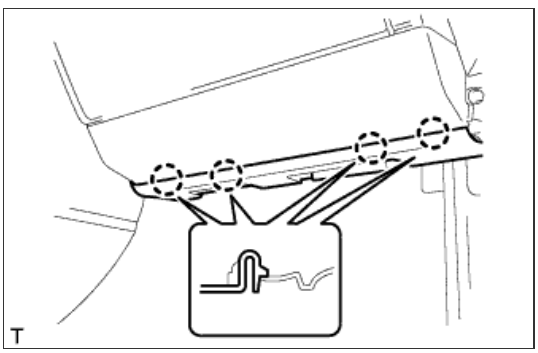
**HINT:**

Use the same procedures described for the LH side.

## 7. INSTALL NO. 2 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

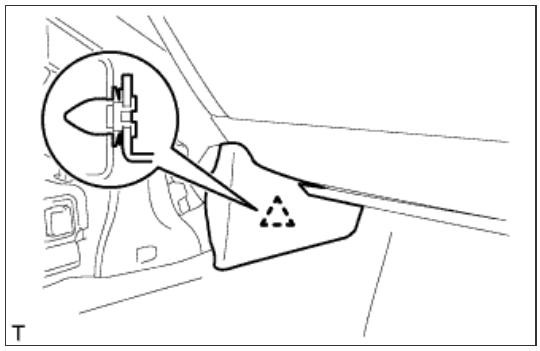
a. Connect the connector.

b. Attach the 4 claws to install the under cover.



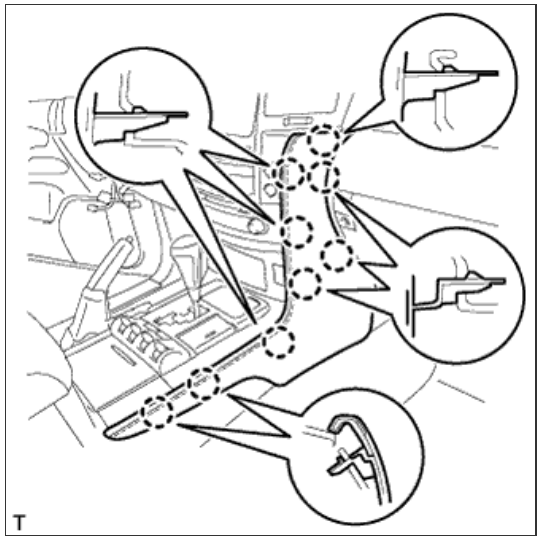

## 8. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

a. Attach the clip to install the cover.




### 9. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Attach the 9 claws to install the panel pad.




### 10. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

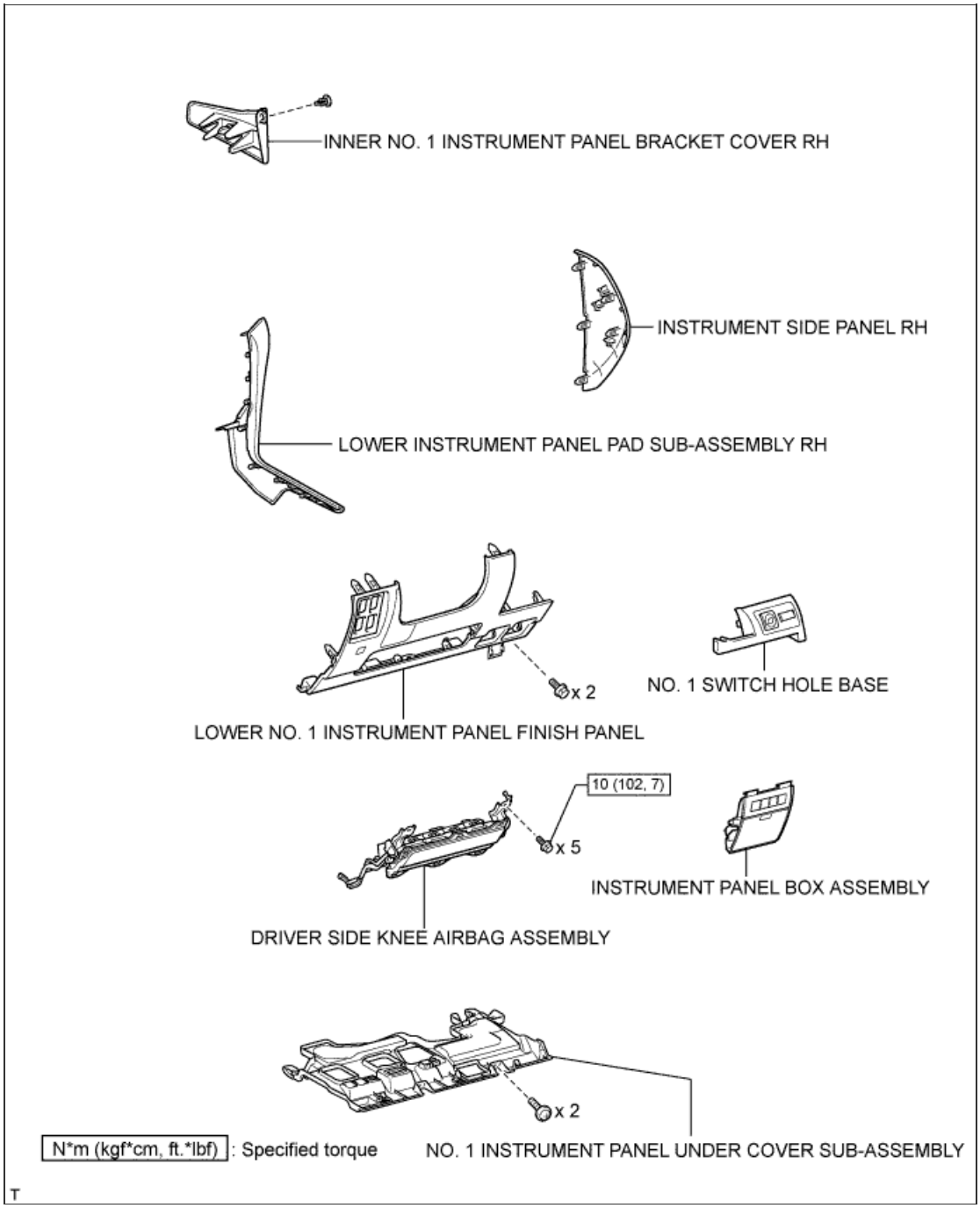
### 11. INSTALL ENGINE ROOM SIDE COVER LH

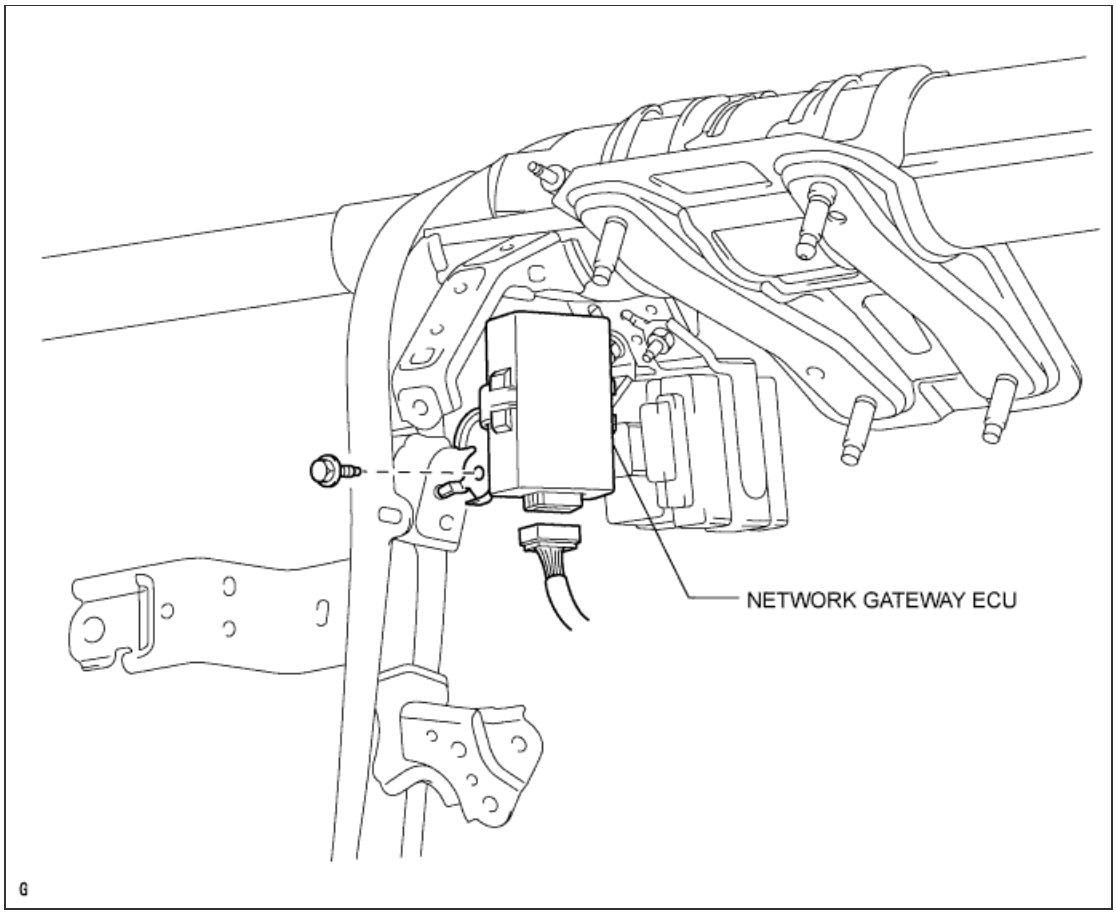
a. Install the engine room side cover LH with the 7 clips.

### 12. CHECK SRS WARNING LIGHT

(Click here)

**for Preparation** Click here

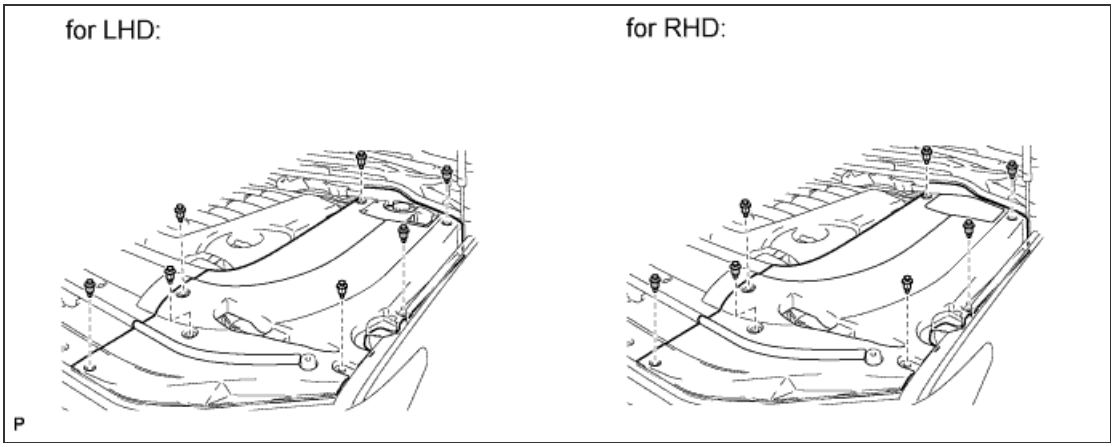



NETWORK GATEWAY ECU
G

**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:**

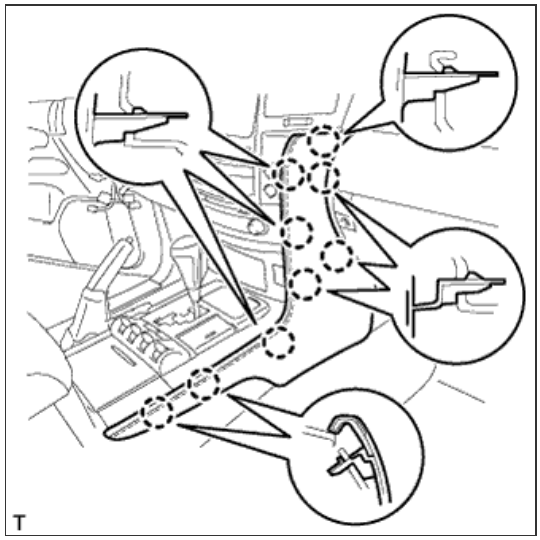
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

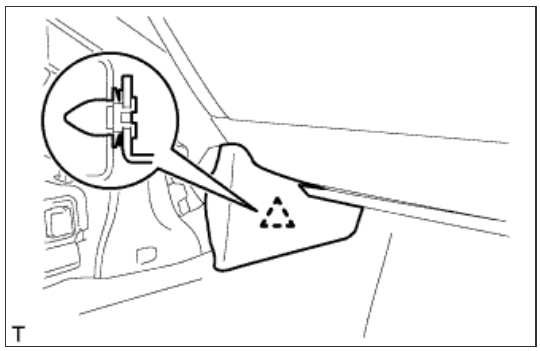
## 3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Detach the 9 claws and remove the panel pad.



### 4. REMOVE INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

a. Detach the clip and remove the cover.




### 5. REMOVE INSTRUMENT SIDE PANEL RH

a. w/o Airbag Cut Off Switch:

i. Place protective tape as shown in the illustration.

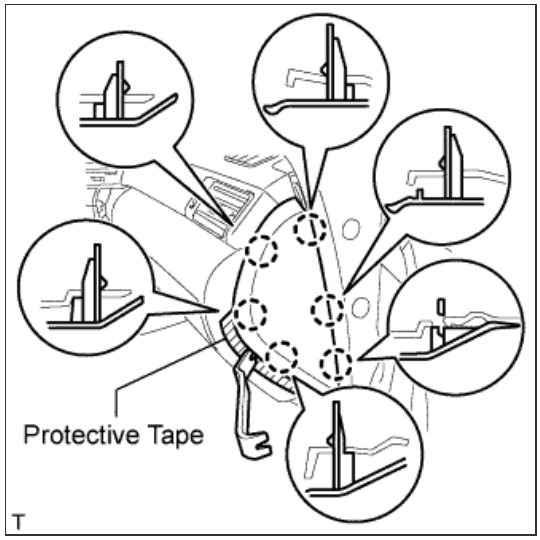
ii. Using a moulding remover, detach the 6 claws and remove the side panel.

b. w/ Airbag Cut Off Switch:

i. Place protective tape as shown in the illustration.

ii. Using a moulding remover, detach the 6 claws.

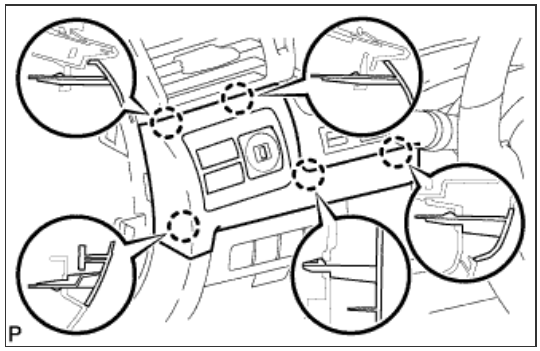
iii. Remove the side panel and disconnect the connector.




### 6. REMOVE NO. 1 SWITCH HOLE BASE

a. Detach the 5 claws.

b. Disconnect the connectors and remove the switch hole base.

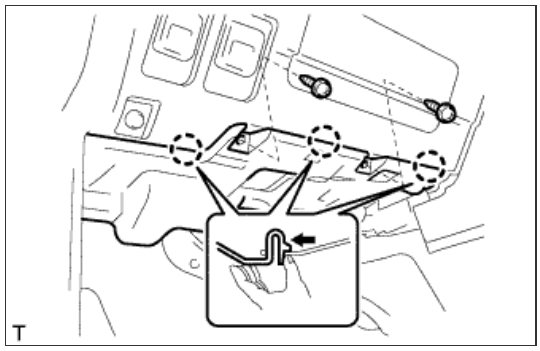



### 7. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Remove the 2 screws.

b. Detach the 3 claws.

c. Remove the under cover and disconnect the connectors.

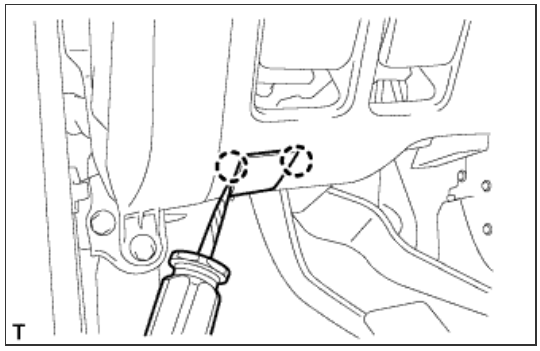



## 8. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

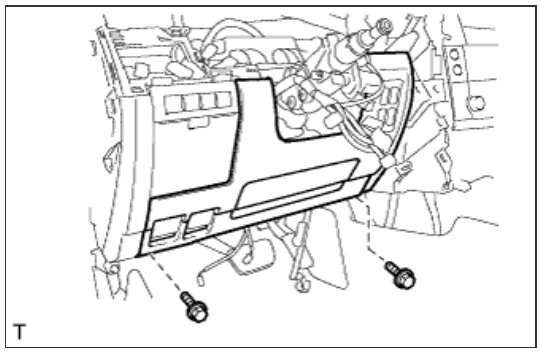
a. Using a screwdriver, detach the 2 claws and open the hole cover.

**HINT:**

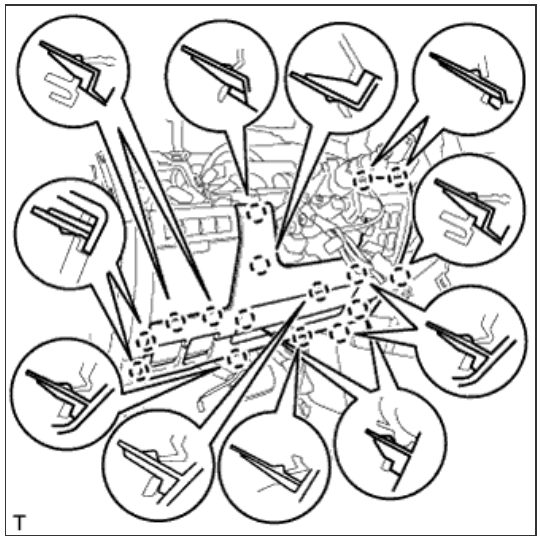
Tape the screwdriver tip before use.



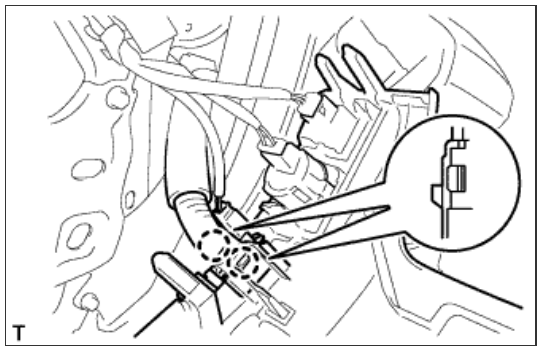

b. Remove the 2 bolts.




c. Detach the 16 claws.

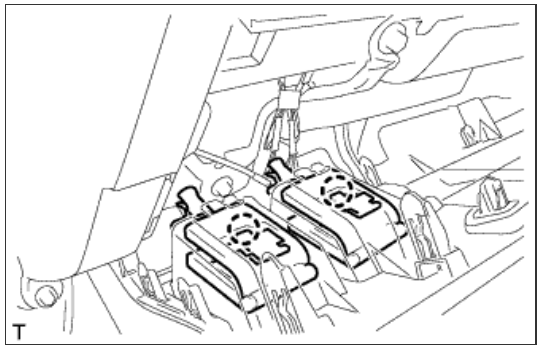



d. Detach the 2 claws and remove the sensor.




e. Detach the 2 claws and disconnect the 2 control cables.

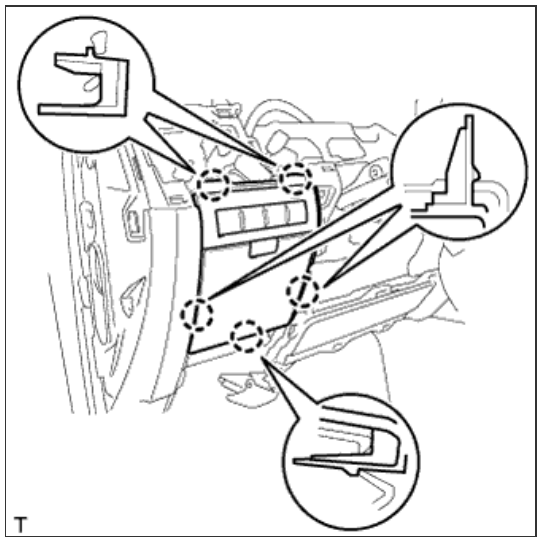
f. Remove the finish panel and then disconnect the connectors.




## 9. REMOVE INSTRUMENT PANEL BOX ASSEMBLY

a. Detach the 5 claws.

b. Remove the box and then disconnect the connectors.



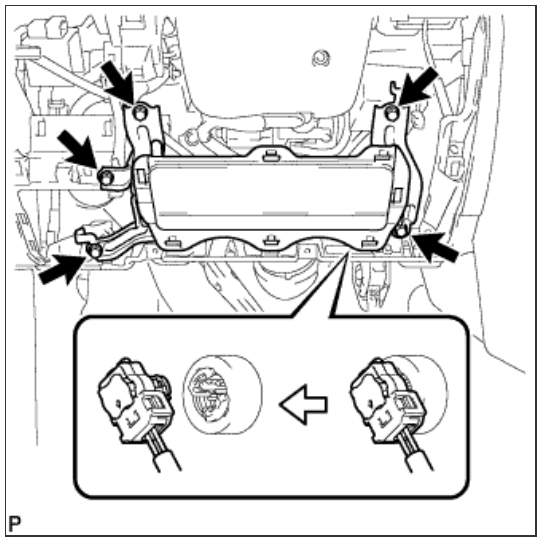

## 10. REMOVE DRIVER SIDE KNEE AIRBAG ASSEMBLY

a. Remove the 5 bolts and driver side knee airbag.

b. Disconnect the connector.

**NOTICE:**

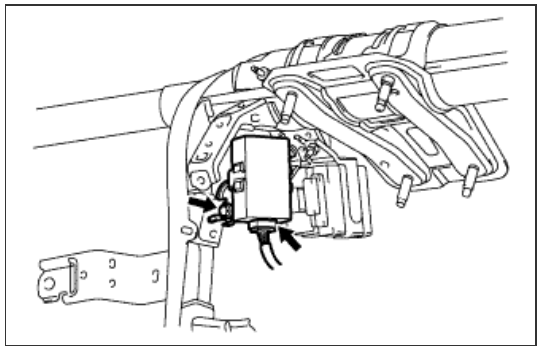
When handling the airbag connector, take care not to damage the airbag wire harness.




### 11. REMOVE NETWORK GATEWAY ECU

a. Disconnect the connector.

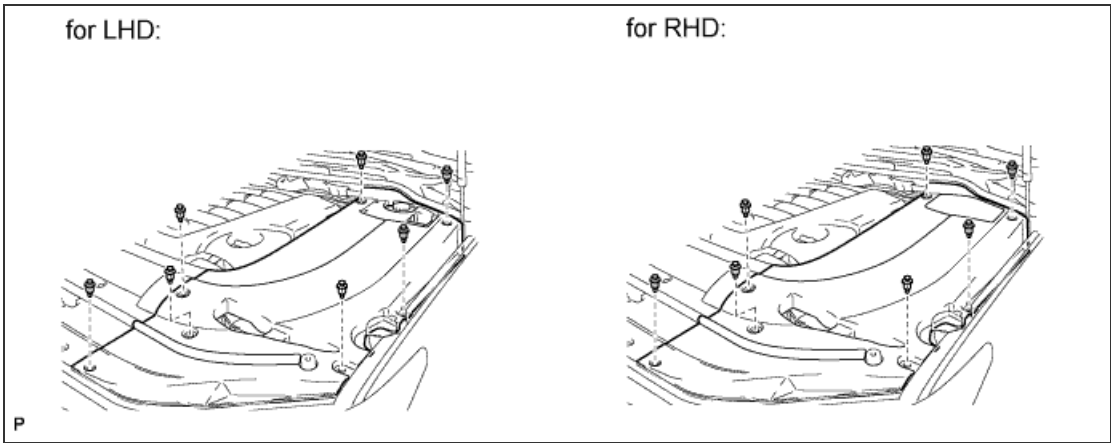
b. Remove the bolt and ECU.



**for Preparation** Click here

## 1. REMOVE ENGINE ROOM SIDE COVER LH

a. Remove the 7 clips and engine room side cover LH.




## 2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

**CAUTION:**

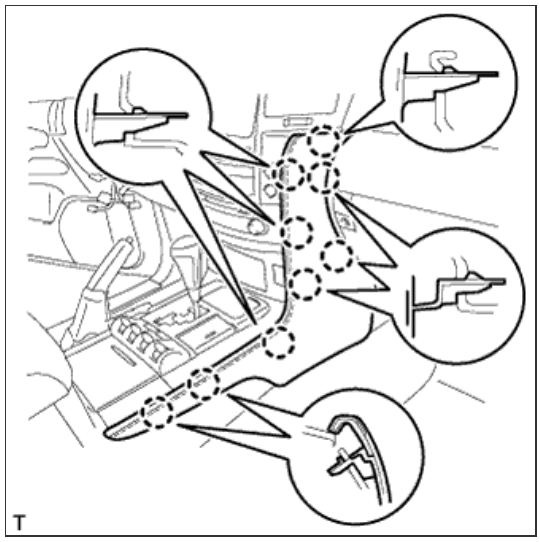
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

**NOTICE:**

- **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.**
- **When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).**

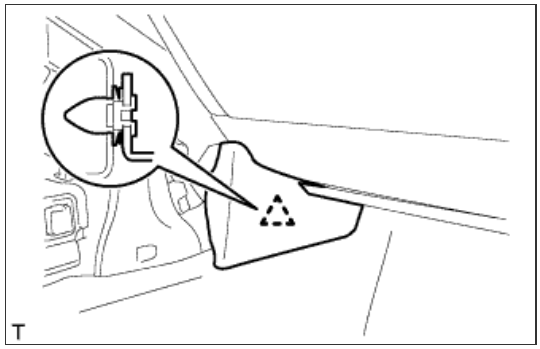
## 3. REMOVE LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Detach the 9 claws and remove the panel pad.




## 4. REMOVE INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

a. Detach the clip and remove the cover.




## 5. REMOVE INSTRUMENT SIDE PANEL RH

a. w/o Airbag Cut Off Switch:

   i. Place protective tape as shown in the illustration.

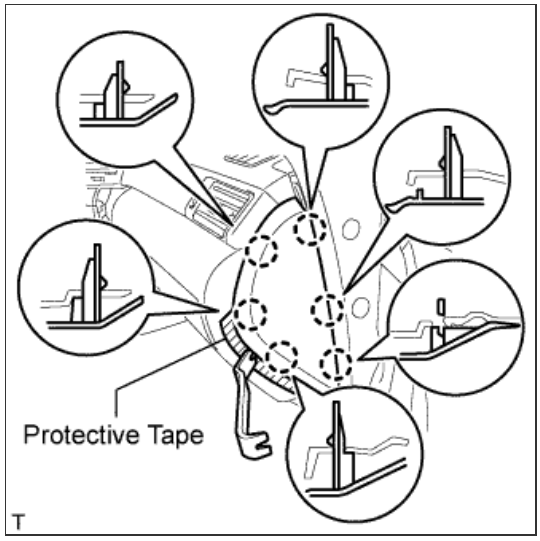
   ii. Using a moulding remover, detach the 6 claws and remove the side panel.

b. w/ Airbag Cut Off Switch:

   i. Place protective tape as shown in the illustration.

   ii. Using a moulding remover, detach the 6 claws.

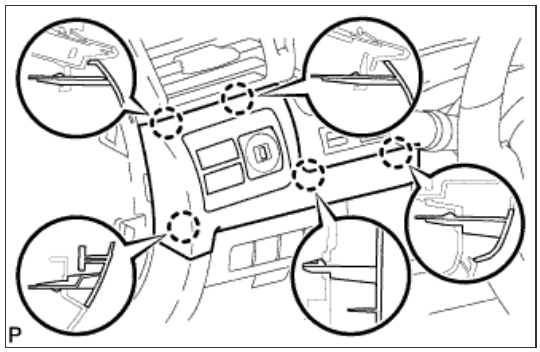
   iii. Remove the side panel and disconnect the connector.




## 6. REMOVE NO. 1 SWITCH HOLE BASE

a. Detach the 5 claws.

b. Disconnect the connectors and remove the switch hole base.

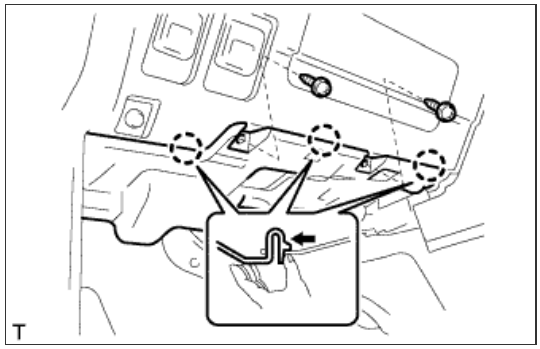



## 7. REMOVE NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Remove the 2 screws.

b. Detach the 3 claws.

c. Remove the under cover and disconnect the connectors.

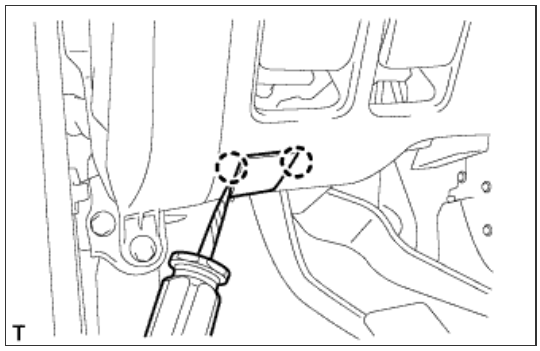



## 8. REMOVE LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

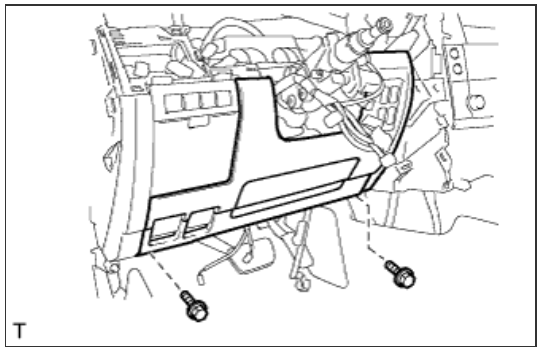
a. Using a screwdriver, detach the 2 claws and open the hole cover.

**HINT:**

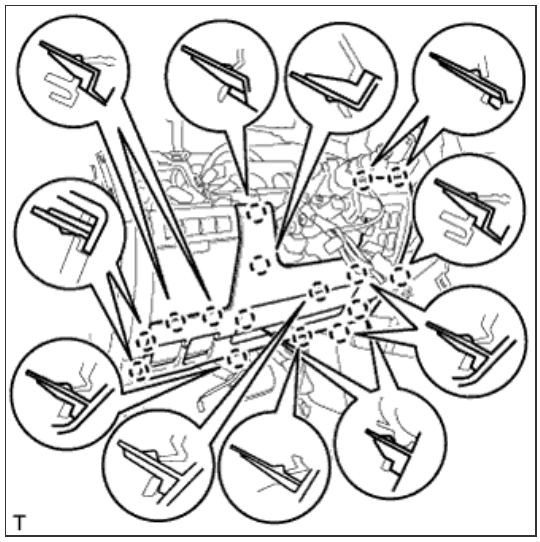
Tape the screwdriver tip before use.



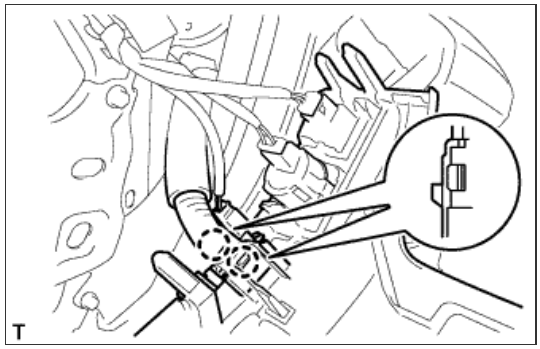

b. Remove the 2 bolts.




c. Detach the 16 claws.

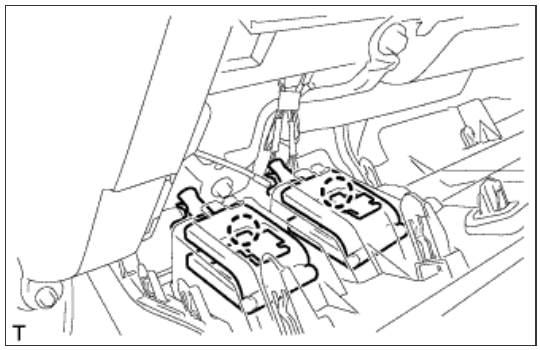



d. Detach the 2 claws and remove the sensor.




e. Detach the 2 claws and disconnect the 2 control cables.

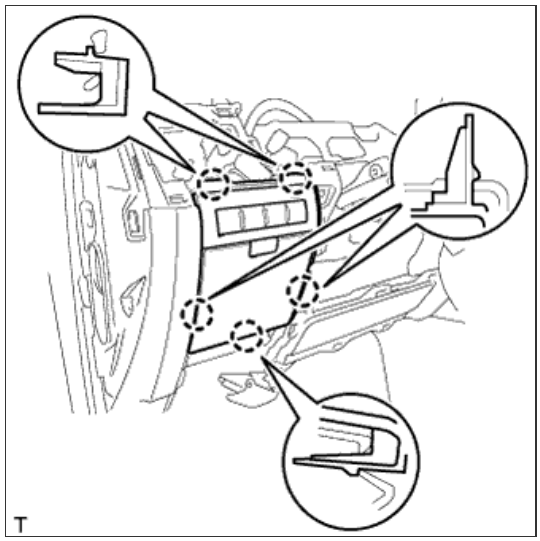
f. Remove the finish panel and then disconnect the connectors.




## 9. REMOVE INSTRUMENT PANEL BOX ASSEMBLY

a. Detach the 5 claws.

b. Remove the box and then disconnect the connectors.



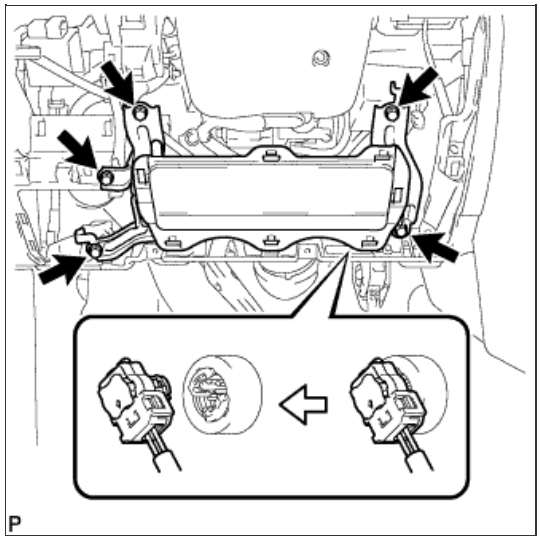
## 10. REMOVE DRIVER SIDE KNEE AIRBAG ASSEMBLY

a. Remove the 5 bolts and driver side knee airbag.

b. Disconnect the connector.

**NOTICE:**

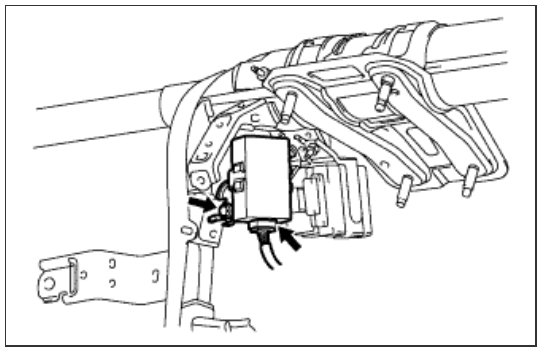
When handling the airbag connector, take care not to damage the airbag wire harness.




## 11. REMOVE NETWORK GATEWAY ECU

a. Disconnect the connector.

b. Remove the bolt and ECU.

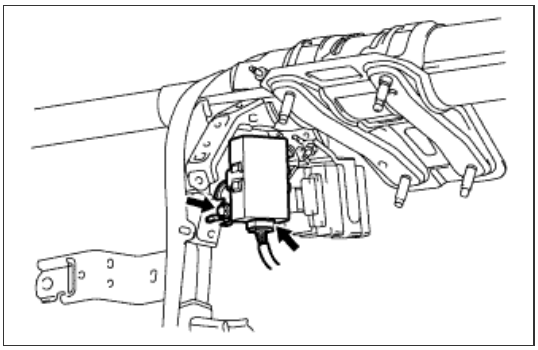


**for Preparation** Click here

## 1. INSTALL NETWORK GATEWAY ECU

a. Install the ECU with the bolt.

b. Connect the connector.



## 2. INSTALL DRIVER SIDE KNEE AIRBAG ASSEMBLY

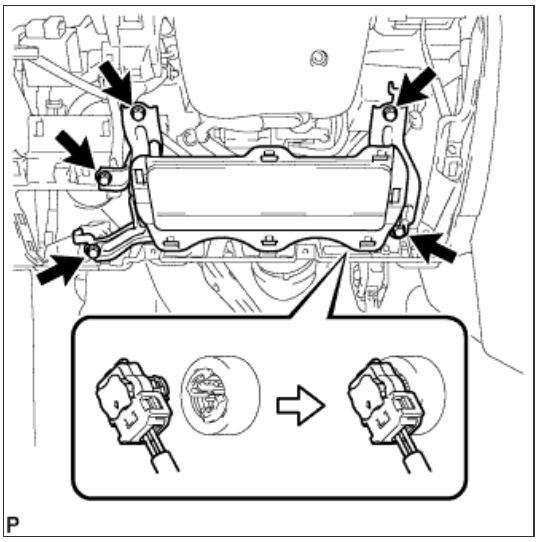
a. Connect the connector.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Install the driver side knee airbag with the 5 bolts.

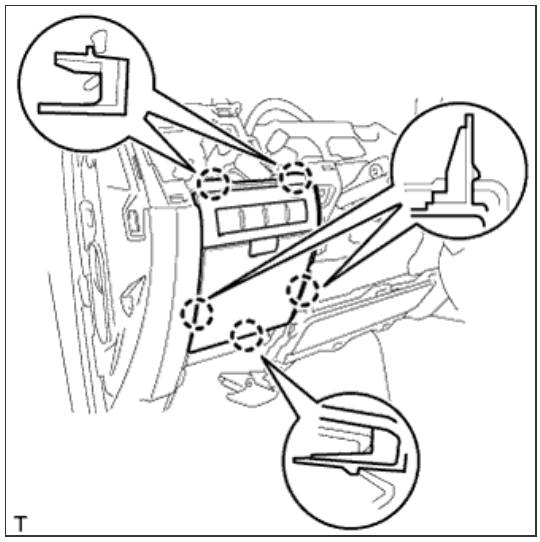
**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**




## 3. INSTALL INSTRUMENT PANEL BOX ASSEMBLY

a. Connect the connectors.

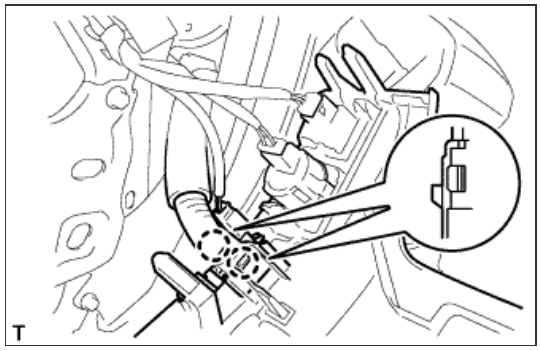
b. Attach the 5 claws to install the box.



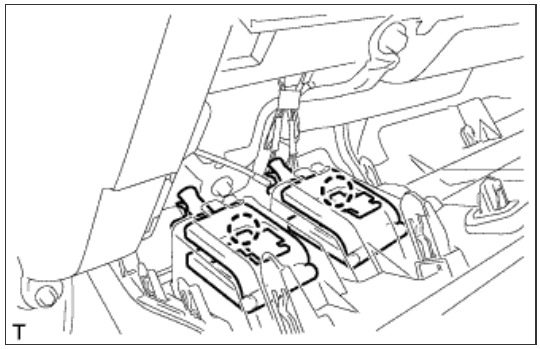

### 4. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

a. Connect the connectors.

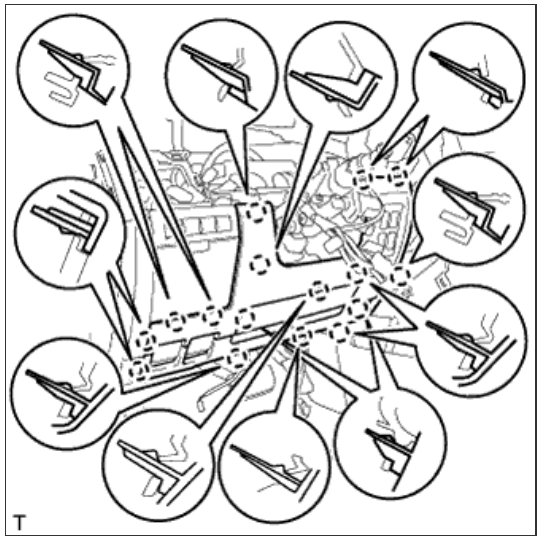
b. Attach the 2 claws to install the sensor.



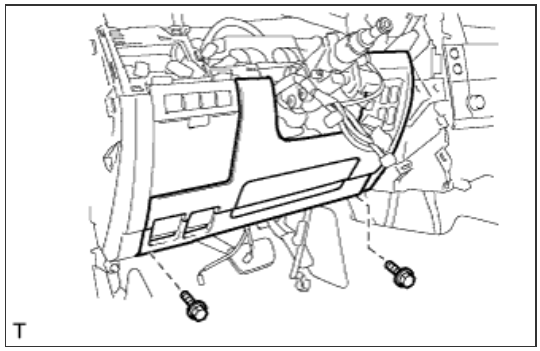

c. Attach the 2 claws to connect the 2 control cables.



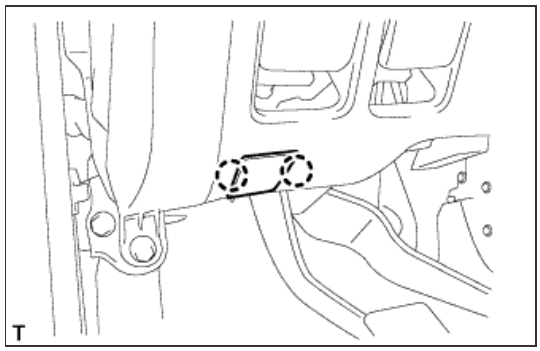

d. Attach the 16 claws to install the finish panel.



e. Install the 2 bolts.




f. Attach the 2 claws to close the hole cover.

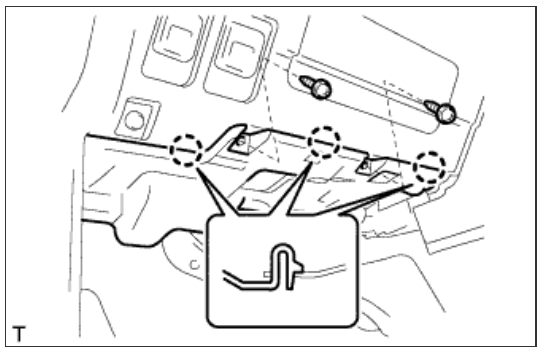



## 5. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Connect the connectors.

b. Attach the 3 claws to install the under cover.

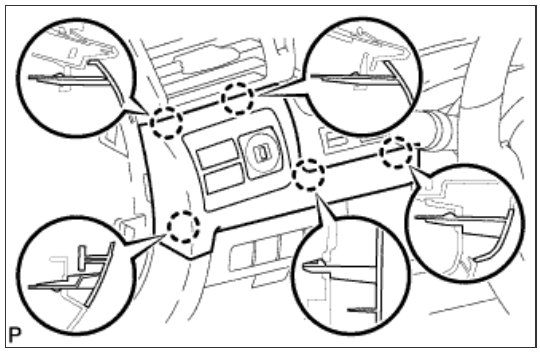
c. Install the 2 screws.




## 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 RH

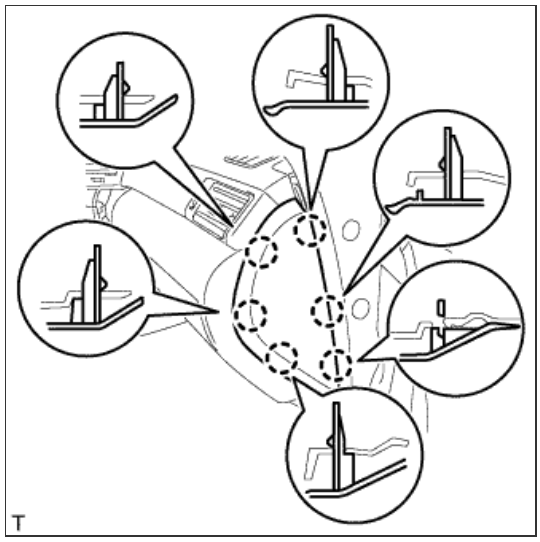
a. w/o Airbag Cut Off Switch:

i. Attach the 6 claws to install the side panel.

b. w/ Airbag Cut Off Switch:

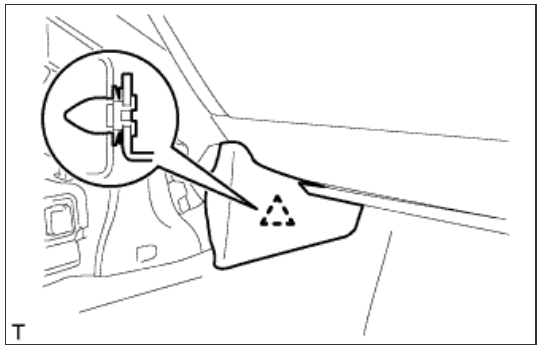
i. Connect the connector.

ii. Attach the 6 claws to install the side panel.



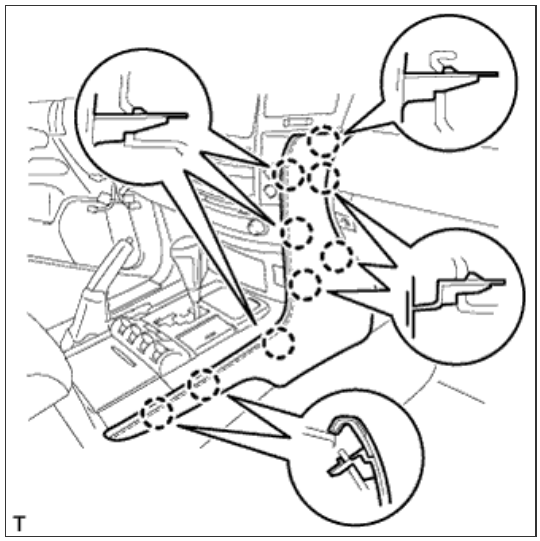

## 8. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

a. Attach the clip to install the cover.




## 9. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Attach the 9 claws to install the panel pad.



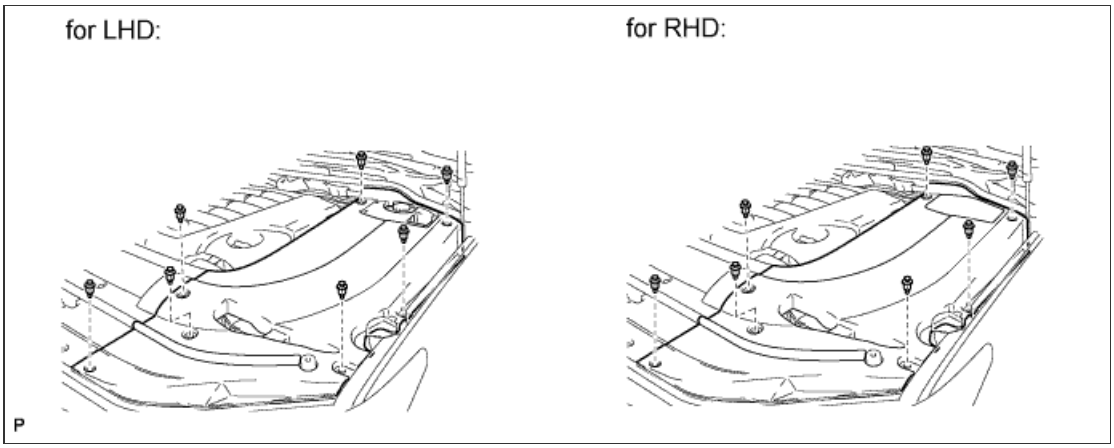

## 10. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

## 11. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover with the 7 clips.




## 12. CHECK SRS WARNING LIGHT

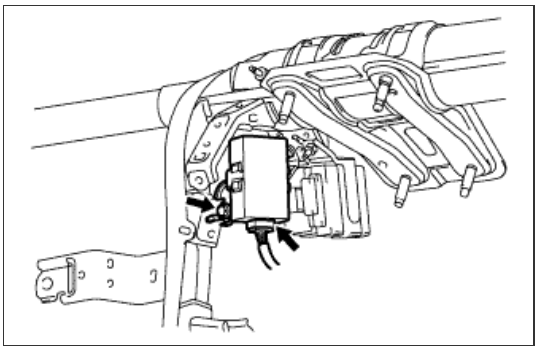
a. Check the SRS warning light (Click here).

**for Preparation** Click here

## 1. INSTALL NETWORK GATEWAY ECU

a. Install the ECU with the bolt.

b. Connect the connector.



## 2. INSTALL DRIVER SIDE KNEE AIRBAG ASSEMBLY

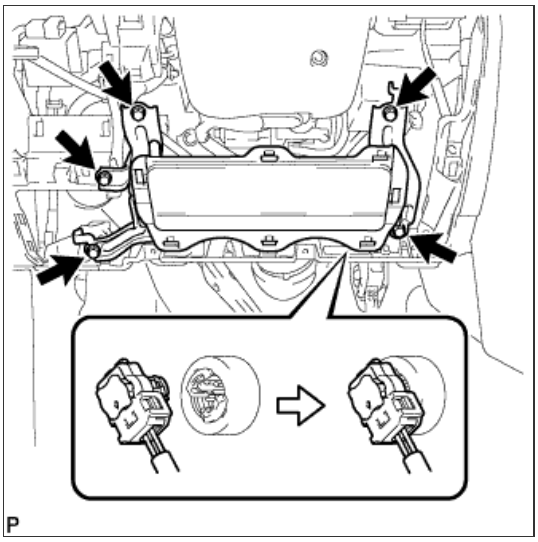
a. Connect the connector.

**NOTICE:**

When handling the airbag connector, take care not to damage the airbag wire harness.

b. Install the driver side knee airbag with the 5 bolts.

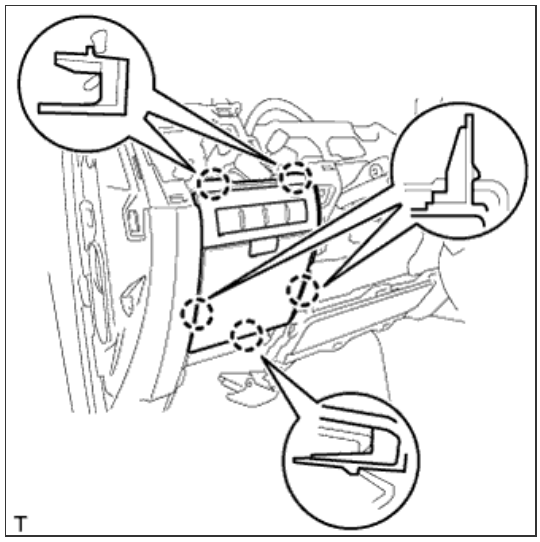
**Torque:**
**10 N*m{ 102 kgf*cm , 7 ft.*lbf }**




## 3. INSTALL INSTRUMENT PANEL BOX ASSEMBLY

a. Connect the connectors.

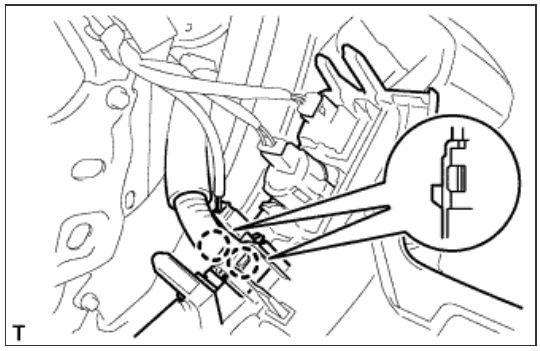
b. Attach the 5 claws to install the box.



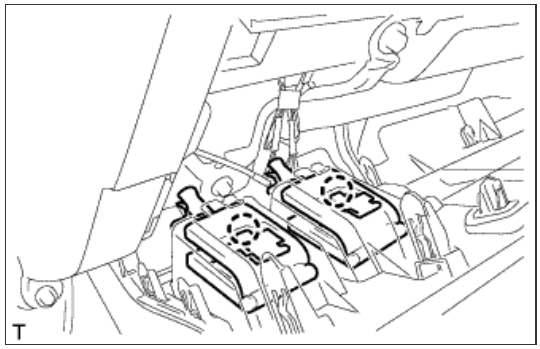

### 4. INSTALL LOWER NO. 1 INSTRUMENT PANEL FINISH PANEL

a. Connect the connectors.

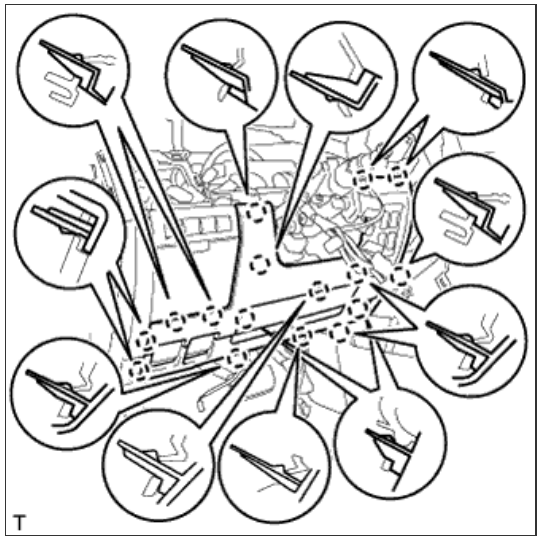
b. Attach the 2 claws to install the sensor.



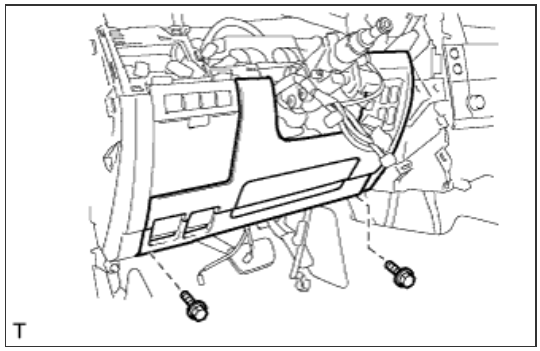

c. Attach the 2 claws to connect the 2 control cables.



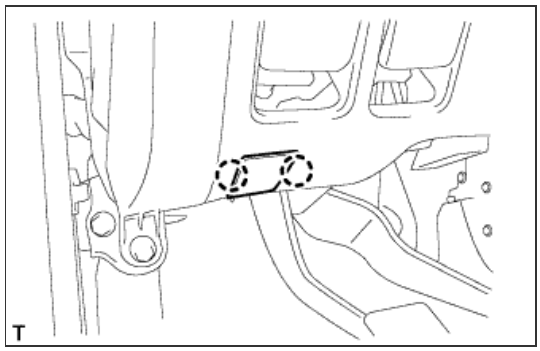

d. Attach the 16 claws to install the finish panel.



e. Install the 2 bolts.




f. Attach the 2 claws to close the hole cover.

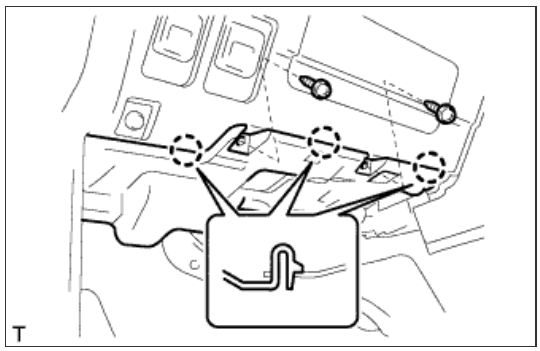



## 5. INSTALL NO. 1 INSTRUMENT PANEL UNDER COVER SUB-ASSEMBLY

a. Connect the connectors.

b. Attach the 3 claws to install the under cover.

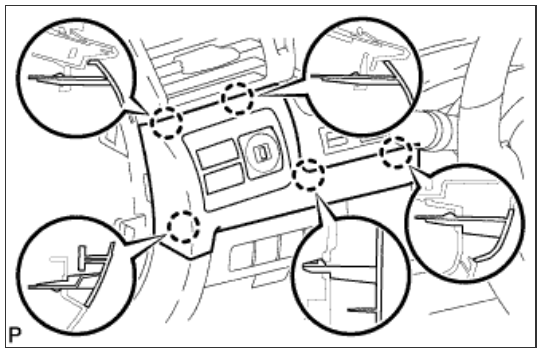
c. Install the 2 screws.




## 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 RH

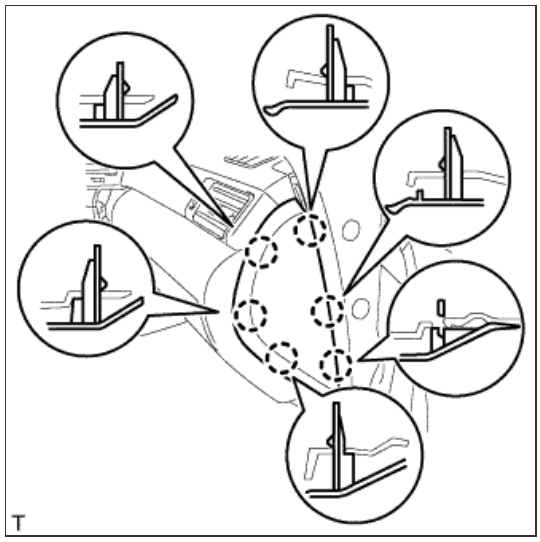
a. w/o Airbag Cut Off Switch:

i. Attach the 6 claws to install the side panel.

b. w/ Airbag Cut Off Switch:

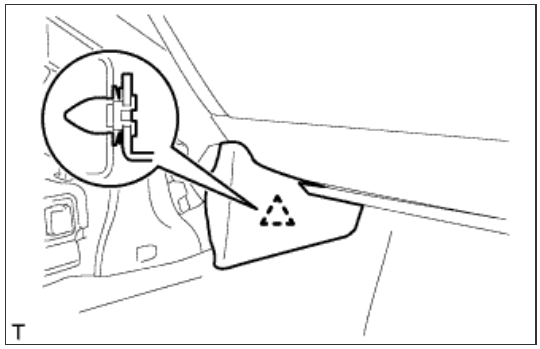
i. Connect the connector.

ii. Attach the 6 claws to install the side panel.



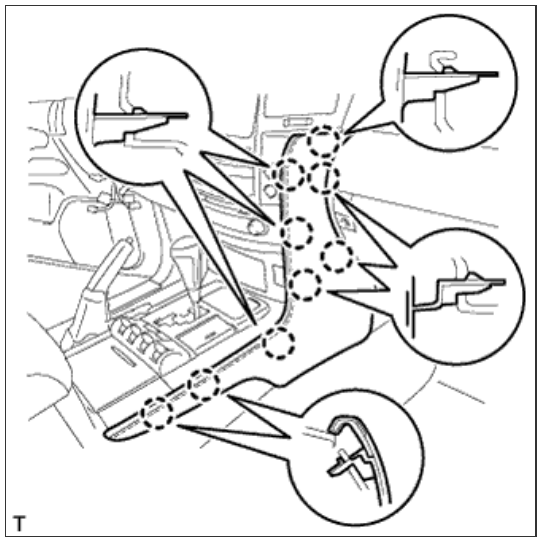

## 8. INSTALL INNER NO. 1 INSTRUMENT PANEL BRACKET COVER RH

a. Attach the clip to install the cover.




## 9. INSTALL LOWER INSTRUMENT PANEL PAD SUB-ASSEMBLY RH

a. Attach the 9 claws to install the panel pad.




## 10. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

**NOTICE:**

When disconnecting the cable, some systems need to be initialized after the cable is reconnected ( Click here).

### 11. INSTALL ENGINE ROOM SIDE COVER LH

a. Install the engine room side cover LH with the 7 clips.

### 12. CHECK SRS WARNING LIGHT

(Click here)